



# **Sandy Mush Game Land Management Plan**



**2015 – 2025**

## **NC WILDLIFE'S CROWN JEWELS**

North Carolina's game land system is based on science-driven management practices and is an exceptional asset for the people of the State of North Carolina. The 2 million acres of NCWRC owned and managed land create HIGH Ecosystem value in flood protection with positive effects on property values and air and water quality, while helping to prevent additional restrictive environmental regulations.

The primary purpose of our game lands is the conservation of North Carolina wildlife species and the provision of public hunting, trapping and fishing opportunities. Our game lands are important players in the preservation of rare, threatened and endangered species. Prescribed burning and early successional habitat management allow for healthy habitats for thriving wildlife. Fields left fallow and disked on alternating years promote natural herbaceous regeneration. Water levels of impounded wetlands are drawn down at appropriate times to create conditions beneficial to waterfowl. Protection of stream buffers ensures that precious fish species are protected and encouraged along with thriving game fishes. Heritage forest land is worked and preserved and rare forestlands are protected.

The game lands also provide broad expanses of public recreational opportunities. North Carolina has more acreage of managed game lands than all states east of the Mississippi, with the exceptions of Florida and Michigan, both of which include lake and ocean frontage as managed land. There is overwhelming public endorsement of conserving the land along with documentation of the economic benefits of doing so. According to the outdoor recreation industry, over \$3.3 billion is spent annually on wildlife related recreation in our state alone. As North Carolina transitions from a traditional economy based on tobacco, furniture and textiles to a global economy driven by knowledge-based enterprises, our managed public game lands help preserve our economy and our way of life.

Game lands include:

- A great treasure in the largest intact and least disturbed bottomland forest ecosystem in the mid-Atlantic Region and some of the oldest cypress-tupelo trees on the East Coast, many at least 800 years old;
- One of the largest, most intact remnants of longleaf pine ecosystems in North Carolina, a high priority wildlife habitat in the Lands Management program. Among the species dependent upon this type of habitat are bobwhite quail, a variety of songbirds, fox squirrels and the federally endangered red-cockaded woodpecker;
- The densest populations of black bear, white-tailed deer and turkey, and the highest density of nesting birds in the state. Most of our 32 black bear sanctuaries are on game lands;
- A system of floating waterfowl blinds, 19 public hunting blinds for disabled sportsmen, 32 public boating access areas, 33 public fishing areas, six wildlife observation platforms, four public WRC shooting ranges with plans to build and manage many more as opportunities occur;
- And some of the finest examples of multiple conservation collaborations in the country.

As in the past, it is anticipated that future projected expenditures will be funded by North Carolina's apportionment of Pittman Robertson Federal Assistance in Wildlife Restoration funding and license receipts, as well as from contributions from various conservation partners. The opportunity provided by these managed public game lands to our mission of conserving North Carolina's wildlife and habitat for future generations is priceless.

North Carolina Wildlife Resources Commission staff contributed extensively to the development and preparation of this plan through their various fields of professional expertise. All content, management strategies, recommendations, goals, and needs for change were developed using the best available science and professional working knowledge of Sandy Mush Game Land, including its habitats, and terrestrial and aquatic species. Careful consideration has been given to all input received from the public, external agencies, and organizations that have an interest in or use the game land, to ensure a that comprehensive management program is administered. The successful implementation of the plan will depend on the continued feedback and support from all interested parties.

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## Executive Summary

Sandy Mush Game Land consists of 2,767 acres lying along the Blue Ridge Escarpment in Buncombe and Madison counties and is owned by the State of North Carolina with the N.C. Wildlife Resources Commission being the primary custodian. The property contains three significant and designated waterways which include, the French Broad River, Sandymush creek, and Turkey creek. The game land is a popular destination for the public and is actively used by hunters, fishermen, and wildlife watchers. Popular game species occurring on the game land include deer, wild turkey, and mourning dove. The game land is 71% forested with oak forests being the most predominant forest type (44%). Fifteen endangered, threatened, or rare species are found on Sandy Mush Game Land. Management goals for the game land include providing for a diversity of habitat types and forest age classes through science based land management that are properly interspersed and positioned across the landscape, conserve popular sport fish and game species at huntable/fishable levels, provide quality habitat for endangered, threatened, and rare species, and provide sufficient infrastructure and opportunity to allow all game lands users a quality experience while on the game land. To ensure these goals are met WRC will need to collect various types of information regarding wildlife species and game land users, secure funding to accomplish management goals, acquire additional properties as they become available, maintain and develop regulations that promote sustained use of natural resources, and develop relationships with conservation partners that help meet management goals.

# Table of Contents

	<u>Page</u>
<b>I. Introduction</b>	<b>6</b>
A. Mission Statement	6
B. Game Land Program Management Objectives	6
C. Game Land Program History	6
D. Purpose and Need for Plan	7
E. Regional Context	7
F. Regional Conservation Partnerships	8
G. Goals	8
H. Measures of Success	8
<b>II. General Game Land Information</b>	<b>9</b>
A. Location	9
B. Purpose of Game Land	9
C. History of Game Land	10
D. Landscape Context	11
E. Surrounding Land Use	11
F. Physical Attributes	11
G. Climate	11
H. Soils	12
I. Hydrology	12
J. Habitats	13
K. Unique Values and Designations	13
<b>III. Habitat Types</b>	<b>15</b>
A. Forested Habitats	15
a. Oak Forests	15
b. Cove Forests	18
c. Dry Coniferous Woodlands	20
d. Flood Plain Forests	22
e. Open Over-story Early Successional Forests	23
B. Open Habitats	25
a. Herbaceous Early Succession	26
b. Shrub Early Succession	28
c. Woody Early Succession	29
C. Aquatic Habitats	30
a. Riverine and Aquatic Communities	30

# Table of Contents

	<u>Page</u>
b. Bogs and Associated Wetlands	34
D. Geologic Habitats	35
E. Developed Habitats	36
<b>IV. Forest Management</b>	<b>36</b>
A. Prescribed Fire	37
B. Timber Harvest	38
C. Reforestation	39
D. Herbicide Treatments	39
E. KG Blading	40
F. Mechanical Release	41
G. Forest Management Needs	41
<b>V. Game Land Infrastructure</b>	<b>42</b>
A. Roads	42
a. Existing Road Conditions	42
b. Future Road Improvements	43
c. New Road Construction	45
d. Road Maintenance	46
B. Parking Areas	46
C. Gates	48
D. Structures	48
E. Drainage Structures	49
a. Dams	49
b. Impoundments	49
c. Culverts	49
F. Recreational Use Facilities	51
a. Boating Access Areas	51
b. Fishing Piers	51
c. Shooting Ranges	51
d. Camping Areas	51
e. Trails	52
f. Recreational Use Facilities Maintenance	52
<b>VI. Game Land Use and Development</b>	<b>53</b>
A. Public Use	53
a. Hunting/ Trapping	53

# Table of Contents

	<u>Page</u>
b. Fishing	54
c. Wildlife Viewing	54
d. Other Outdoor Recreation	55
B. Enforcement and Regulations	57
C. Partnerships and Collaborations	58
D. Research and Surveys	58
E. Acquisition Plan	60
F. Assets	61
<b>VII. Public Comment</b>	<b>65</b>
<b>VIII. References Cited</b>	<b>79</b>

## Appendixes

I. NCWRC Mountain Eco- Region Map	81
II. Area Map	82
III. Game Land Map	83
IV. Aerial Map	84
V. Topography Map	85
VI. Slope Map	86
VII. Habitats Map	87
VIII. Habitat Types Map	88
IX. EEP Buffers Map	89
X. Management Units Map	90
XI. Infrastructure Map 1	91
XII. Infrastructure Map 2	92
XIII. Infrastructure Map 3	93
XIV. Priority Acquisition Properties Map	94
XV. Oak Forests Map	95
XVI. Early Succession Map	96
XVII. Prescribed Burn Units Map	97
XVIII. Timber Sale Units Map	98
XIX. Deeds	99
XX. Easements	125
XXI. Memorandum of Agreement	168

# INTRODUCTION

## GAME LAND PROGRAM MISSION STATEMENT

Consistent with the original establishment legislation (G.S. 143-239) for the North Carolina Wildlife Resources Commission (NCWRC), the mission of the game lands program is to enhance, facilitate, and augment delivery of comprehensive and sound wildlife conservation programs. Inherent in delivery of a land conservation program consistent with this mission is the feasibility and desirability of multiple uses on lands owned by the state within the game land system. In addition to hunting, fishing, trapping, and wildlife viewing as primary uses, we recognize the desirability of providing opportunities for other activities on state-owned game lands that are feasible and consistent with the agency's mission, and compatible with these traditional uses.

## GAME LAND PROGRAM MANAGEMENT OBJECTIVES

- To provide, protect, and actively manage habitats and habitat conditions to benefit aquatic and terrestrial wildlife resources
- To provide public opportunities for hunting, fishing, trapping, and wildlife viewing
- To provide for other resource-based game land uses to the extent that such uses are compatible with the conservation of natural resources and can be employed without displacing primary users
- To provide an optimally sustainable yield of forest products where feasible and appropriate as directed by wildlife management objectives

## GAME LAND PROGRAM HISTORY

Prior to 1971, public hunting areas in North Carolina were limited to designated and tightly controlled Wildlife Management Areas. The current Game Lands Program was established in 1971. This change involved the expanding the area of game lands from about 700,000 acres to 1.5 million acres, changing regulations, and reducing fees for hunters and fishermen (Dean 1971). The old Wildlife Management Areas were incorporated into the new Game Lands Program, but the new program also allowed NCWRC to lease/incorporate additional lands as game lands to expand the land base. Beginning in the 1980's, land owners (both corporate and private) realized they could lease their properties for higher rates to hunting clubs and private individuals and began to remove their properties from the Game Lands Program. Fortunately, the Natural Heritage Trust Fund was established in 1987 and the Clean Water Management Trust Fund in 1996. These funds provided money for the fee simple acquisition of select properties, many of which have been incorporated into the Game Lands Program. These Funds greatly compensated for the loss of game lands leased from the private sector and currently approximately 2 million acres are enrolled in the Game Lands Program.

While operating under the Management Area system, NCWRC staff was housed on each management area. These personnel were assigned both law enforcement and habitat management duties on their respective areas. Under the administration of the Game Lands Program, NCWRC depots were strategically established in the vicinity of all game lands in the

state. These depots housed equipment and habitat development crews which were assigned to the management of multiple game lands. All law enforcement on these properties then became assigned to the new Division of Law Enforcement. With some minor organizational changes, this system remained intact until 2012. In 2012, land management staff in the Division of Wildlife Management and certain similar positions in the Division of Inland Fisheries were merged with Division of Engineering staff into the Division of Engineering and Lands Management. This organizational change was made to deliver a more comprehensive and efficient wildlife and fisheries management program on all public lands and waters in the state. Depots remained at former locations with the establishment of new depots/crews at certain remote locations to improve the efficiency of NCWRC programs.

## PURPOSE AND NEED FOR PLAN

A comprehensive game land management plan is needed for Sandy Mush Game Land to implement the NCWRC Strategic Plan and accomplish game land program objectives in a timely and efficient manner. Another major driver for the development of this plan was the creation of the North Carolina Wildlife Action Plan (WAP) in 2005. The NCWAP is a comprehensive wildlife conservation plan that prioritizes species native to North Carolina for which there is a concern of population decline either due to known declines or suspected declines (i.e. Species of Greatest Conservation Need [SGCN]). Approval of this plan by the United State Fish and Wildlife Service makes the agency eligible for State Wildlife Grant funding to address SGCN species through inventory, monitoring, and/or research. For the purposes of this plan a ten year planning horizon was used, with the need for review and amendments to the plan being made as needed.

## REGIONAL CONTEXT

Sandy Mush Game Land (SMGL) lies within the NCWRC Mountain Ecoregion and the Northern Mountains work area (*Appendix I*). This work area includes 20 counties or portions of counties within the Blue Ridge Mountains and along the transition zone between the Blue Ridge Mountains and the Piedmont. Approximately 4,200 mi<sup>2</sup> of the work area lies within the Blue Ridge physiographic province (Griffith et al., 2002), with the remaining 2,690 mi<sup>2</sup> contained within the Piedmont physiographic province. The work area contains portions or all of the following river basins: Broad (998 mi<sup>2</sup>), Catawba (1,594 mi<sup>2</sup>), French Broad (1,433 mi<sup>2</sup>), New (753 mi<sup>2</sup>), Roanoke (15 mi<sup>2</sup>), Watauga (205 mi<sup>2</sup>), and Yadkin (1,901 mi<sup>2</sup>). Thirteen game lands containing approximately 415,991 acres are located within the work area. Approximately 97% of game lands within the work area are contained in the Blue Ridge physiographic province, with the remainder in the Piedmont province (Griffith et al., 2002).

The State of North Carolina, with NCWRC as the primary custodian, owns in fee simple 66,641 acres of game lands within the Northern Mountains work area. Approximately 347,504 acres of game lands within the work area are owned by the USDA Forest Service and managed as game lands under a cooperative agreement. The remaining 1,846 acres of game lands are leased from other governmental agencies or the private sector. The work area also contains 13 public boating access areas, 50 public fishing access areas, and 3 fish hatcheries; with staff located strategically at 7 work depots throughout the Ecoregion. Seventeen permanent staff under the direction of an Ecoregion supervisor are stationed in the Northern Mountains work area, which also includes two wildlife foresters.

## REGIONAL CONSERVATION PARTNERSHIPS

The Game Lands Program is vital to many conservation efforts and partnerships within the Mountain Ecoregion. NCWRC enjoys a long standing alliance with the USDA Forest Service with wildlife resources on forest service lands cooperatively managed by both agencies. The Natural Heritage and Clean Water Management Trust Funds along with the Ecosystem Enhancement Program have all provided significant and critical funding for the acquisition of key properties that have been added to the Game Lands Program. Many of the properties acquired with these funding sources have been established as or have enhanced existing State Natural Heritage Areas and/or have been dedicated as Nature Preserves by the N.C. Natural Heritage Program. Many nonprofit land conservancies within the ecoregion have played vital roles to acquire properties that have been added to the Game Lands Program such as Southern Appalachian Highlands Conservancy. Other conservation partnerships that important to the game lands program include the United States Forest Service (USFS) Southern Research Station, North Carolina State University (NCSSU), The University of Tennessee, Western Carolina University, the Ruffed Grouse Society, Quality Deer Management Association, National Wild Turkey Federation, Partners in Amphibian and Reptile Conservation, Partners in Flight, Appalachian Mountains Joint Venture, Eastern Brook Trout Joint Venture, The Nature Conservancy, and Appalachian Landscape Conservation Cooperative.

## GOALS

- Restore a diversity of habitat types and forest age classes using science based land management practices that are properly interspersed and juxtaposed across the landscape to ensure that a wide variety of terrestrial and aquatic wildlife species are conserved on the game land.
- Manage popular game species and sport fish at huntable/fishable levels through science based land management and sound regulations.
- Provide quality habitat for endangered, threatened, and rare species located on the game land to ensure their continued existence and recovery.
- Provide sufficient infrastructure and opportunity to allow all game lands users a quality experience while on the game land with minimal habitat degradation and minimal conflict among user groups.

## MEASURES OF SUCCESS

- Wildlife and fish inventories/surveys indicate that a wide variety of species are present at sustained levels and are properly managed for on the game land.
- Inventories of forest communities show progress towards accomplishing restoration goals.

- Monitoring and surveys of target sport fish and game species indicate that population levels of these species are being managed at sustained levels.
- Monitoring and surveys indicate that populations of endangered, threatened, and rare species found on the game land are stable or increasing.
- Monitoring and surveys indicate that previously unknown populations or previously unknown endangered, threatened, and rare species are found on the game land.
- Infrastructure is provided and maintained at a level that allows the public to reasonably access and enjoy the game land.
- Public use of the game land is managed so that minimal conflicts among game land users occur.
- Agreements with conservation partners are initiated that allow game land goals to be reached more expediently.
- Valid public complaints regarding management of the game land are minimal.
- Increased compliance with wildlife regulations and laws.

## GENERAL GAME LAND INFORMATION

### LOCATION

Sandy Mush Game Land (SMGL) is located approximately 12 miles northwest of Asheville, North Carolina, near the Alexander and Leicester communities, in northern Buncombe and southern Madison counties (*Appendix II*). The game land is located in the northwestern corner of the Northern Mountains work area and managed by staff located at the Burnsville Depot. Of the 2,767 total acres of game land, 2,679 acres are owned by the State of North Carolina with the remainder owned by the Southern Appalachian Highlands Conservancy (*Appendix III*). This later tract of game land, referred to as the Norco tract, is 88 acres.

### PURPOSE OF GAME LAND

The purpose of Sandy Mush Game Land is to manage habitats to benefit aquatic and terrestrial wildlife resources and flora on the property. The game land provides opportunities for public hunting, fishing, trapping, wildlife viewing, and other wildlife based recreational activities. These are the primary public uses of the game land. The game land also provides other public outdoor recreational opportunities to the extent that these uses are compatible with the conservation and management of the resources located there and do not displace primary users. The game land also provides a sustainable yield of forest products as allowed by topography and other factors. All forestry conducted on the game land is directed by wildlife management objectives.

## HISTORY OF GAME LAND

Early historical accounts of the Sandy Mush area describe a road that followed the French Broad River from east Tennessee through Asheville into upper South Carolina as a primary commerce route until regular rail service became available in 1886. This route was the main route for moving livestock on foot to markets in the south (Equinox Environmental Consultation & Design, Inc. 2013). To feed the livestock and earn a living, area landowners cleared their land to grow crops (Blackmun 1977). For at least the past 100 years, land use on the game land has consisted of both mixed forest and agriculture (Equinox Environmental Consultation & Design, Inc. 2013). Decades of past cattle grazing on the area has likely had one of the greatest impacts on the current state of the game land. Even large portions of the forested land across the area were fenced in allowing cattle to graze through the understory. These practices often had extreme negative impacts to tree regeneration, herbaceous plant layer production, available hard mast for wildlife, and soil erosion and compaction. These impacts are still evident in the understory of many of the small woodlots, wetland areas, spring seeps, and other riparian areas. The historic grazing of cattle across the game land and surrounding areas has also resulted in the establishment of numerous non-native invasive plants including: multi-flora rose, Chinese privet, oriental plume grasses, kudzu, and various pasture grasses such as orchard grass and tall fescue.

Another historical use impacting the current state of the game land has been the abandonment of old fields and pastures over the past 50 to 100 years. Many of the forested stands currently on the game land were once open fields or pastures. This is evidenced by the remnant barbed wire fence and large “wolf” trees that still persist along these old fence rows. Often these abandoned fields were quickly established by pioneering tree species such as White Pine, Poplar, and Virginia pine which took advantage of the open conditions and or poor soil quality of these sites.

In 2004, the 28 parcels making up SMGL were purchased fee simple by the State of North Carolina from Progress Energy Corporation (with reserved easements for power lines and railroads) with the sole purpose of providing stream mitigation credits needed under a new mitigation agreement between the U.S. Army Corp of Engineers and the State of North Carolina Department of Environment and Natural Resources, Ecosystem Enhancement Program (EEP). Then in 2006 management responsibilities were transferred from EEP to NCWRC (*Appendixes XIX- XXII*). At the time of purchase, approximately 35% of the property consisted of row crops, hayed fields, or as pasture. The remaining property consisted of woodlots or small tracts of forest land. Timber management activities implemented by Progress Energy just prior to the NCWRC receiving the property included the harvest of approximately 185 acres in the western portion of the property bordering Bear Creek Road and the Teague Road. The majority of these acres were clear-cut and replanted to white pine, which is now approximately 10 years old. Other wooded areas do show signs of past timber harvest during recent times, but these were likely a result of field maintenance as well as possibly for the collection of firewood. Initial habitat management activities immediately following the purchase of the property included establishing and maintaining wildlife openings on many of the old farm areas, pruning and releasing fruiting shrubs and trees around many of the old home sites. Boundary lines were chopped, painted, and posted to facilitate use of the area by game land users.

## LANDSCAPE CONTEXT

Sandy Mush Game Land is located within the Southern Blue Ridge (SBR) province. This province covers over 9.4 million acres and is one of the most biologically significant and diverse landscapes in the United States. Elevations of the province range from 1,500 to 6,684 feet and receive the highest rainfall amounts in the United States, east of the Cascade Mountains. The SBR province has a wide range of climate types from warm temperate to boreal, as well as approximately 4,000 species of plants, of which 400 species are listed as rare and over 250 being endemic. The SBR province has the second highest hardwood and conifer diversity in North America as well as the third highest number of endemic hardwood and conifer species. The area also has the world's highest salamander diversity, the highest number of snail species, and more than 400 endemic species, the most found in any other province in North America. More than 130 natural terrestrial communities have been defined within the SBR with over 90% of these occurring nowhere else. A total of 66 at-risk aquatic species occur in the SBR, 20 of which are federally-listed as threatened or endangered (LandScope America). Nearly 35% of the landscape is in public ownership, with the largest public land management agency being the US Forest Service, which manages 26% of all public lands here.

## SURROUNDING LAND USE

Land use adjacent Sandy Mush Game Land continues to be largely agricultural. Hay fields and pasturelands are the more dominant agricultural uses (*Appendix IV*). Non-industrial private forests also dominate the landscape surrounding the game land, with residential housing also being a growing use of the surrounding lands. Many of the residents of the area work in or around the city of Asheville, which is a major factor in the growing population of the surrounding area. Between 1990 and 2012 the population of Buncombe County increased by 36%, whereas the population in the areas near Sandy Mush grew over 47% (U.S Census Bureau 2013).

## PHYSICAL ATTRIBUTES

Topography of Sandy Mush Game Land can be generally characterized as having rolling hills and moderately sloped ridges to areas of steep slope, particularly along major drainages (*Appendix V*). Narrow ridges and valleys run throughout the game land and range in slope from little to no slope along river bottomlands to rocky cliffs and bluffs with as much as 70% slope in the Sandymush Creek Gorge (*Appendix VI*). Elevations on the game land range from 1,730 feet to 2,375 feet. The lowest elevation occurs along the French Broad River, and the highest elevation occurring along a leading ridge of Piney Knob. Significant physical attributes of the game land include the Alexander Cliff and Slopes and Turkey Creek/Sandymush Creek Gorge.

## CLIMATE

Climate of the game land is classified as humid subtropical ("Climate Zones of the Continental United States", 2013). The normal monthly mean temperature is 55.7° F and normal monthly maximum and minimum temperatures are 66.3° F. and 45.1° F. respectively. Average monthly precipitation for the area ranges from 2.4 inches in October to 4.89 inches in March. Average annual precipitation is 37.3 inches and is generally well distributed throughout the year

(NOAA, 2002). The average annual humidity is 76.25% and the average annual snow fall is 9.70 inches (USA.com 2013).

## SOILS

The following soil types are described from the steeper slopes of the Sandy Mush area and are typically found at elevations of 1,400 to 4,000 feet at slopes typically between 15 and 50 percent. The Oteen series consists of shallow, well drained, moderately to rapidly permeable soils. Oteen soils occur on strongly sloping to very steep on ridges and side slopes, and are highly erosive. The Walnut series consists of moderately deep, well drained soils with moderately, rapid permeable soils. The Mars Hill series consists of deep, well drained soils with moderately, rapid permeability. Walnut and Mars Hill Soils occur on strongly sloping to very steep ridges and side slopes and often have limited productivity. These soils can be found at an elevation range from about 1,600 to 3,500 feet. The slope gradient commonly is 30 to 95 percent. The Evard series consists of very deep, well drained, moderately permeable soils. The Cowee series consists of moderately deep, well drained, moderately permeable soils. Evard and Cowee soils occur on gently sloping to very steep ridges and side slopes of low and intermediate mountains. These soils are somewhat productive and do have a moderate erosion potential (Equinox Environmental Consultation & Design, Inc. 2013).

Soils in the Sandy Mush area most often identified with third order and greater, stream channels include the Unison, Tate, and French soil series. The Unison series are very deep and well drained soils occurring on mountain foot slopes, alluvial fans, or stream terraces. Permeability of the soil is moderate, with slopes that range from 0 to 45 percent. These soils can be highly productive but are often easily erodible as they consist largely of sedimentary deposits. The Tate series consists of very deep, well drained, moderately permeable soils found on benches, fans, and toe slopes in coves. They formed in colluvium weathered from metamorphic rocks and have good productivity and moderate erosion potential. The French series consists of very deep, moderately-well to somewhat poorly drained soils with contrasting textures found throughout floodplains of small streams in the southern Appalachian and Blue Ridge Mountains. They formed in recent alluvial sediments. Slopes are 0 to 5 percent. Streams of the Sandy Mush area typically form on soil series that are associated with steep slopes including Oteen, Walnut, Mars Hill and others (Equinox Environmental Consultation & Design, Inc. 2013).

The streams at Sandy Mush may cross several different soil types before entering the larger streams of the area. For example, steep ephemeral and intermittent reaches may be associated with Evard/Cowee soil complex; the mid-reaches may flow across a less steep colluvial valley composed of Tate loam, where the valley may then transition to a steep slope composed of a Walnut/Oteen/Mars Hill soil complex. As streams descend to Sandymush Creek it may become associated the French loam soils that makes up the floodplain. While each stream of the area is different, this illustrates a common pattern (Equinox Environmental Consultation & Design, Inc. 2013).

## HYDROLOGY

Sandy Mush Game Land lies within the French Broad River Basin which spans some 2809 square miles (11% of the state) and contains the second largest number of stream miles (4113 miles) for any basin in North Carolina. Many streams within the basin are classified as High

Quality or Outstanding Resource Waters for their abundant trout populations. Primary streams found on Sandy Mush Game Land include the French Broad River, which borders the property to the East; Sandymush Creek, which forms the northern Buncombe and southern Madison county boundary through the property before its confluence with the French Broad River; Turkey Creek, which lies in the southern part of the game land and flows north to its confluence with Sandymush Creek; and Simmons Branch, a primary tributary to Sandymush Creek. There are also numerous other unnamed streams and tributaries that make up the rest of the surface hydrology across the game land. A total of 33 miles of intermittent and perennial streams are located on the game land, having a total area drained by these streams, including those portions outside the game land boundary, of 81 square miles (Equinox Environmental Consultation & Design, Inc. 2013).

## HABITATS

Major habitats within SMGL consist of fallow agricultural fields, Rich Cove Forest, Montane Oak-Hickory Forest, and Piedmont/Low Mountain Alluvial Forest as described by Schafale and Weakely (1990). Habitats identified in the NCWRC Wildlife Action Plan include Cove Forest, Early Successional Habitats, Dry Coniferous Woodlands, Oak Forests, Bogs and Associated Wetlands, Floodplain Forest, and Riverine Aquatic Communities (*Appendix VII*). Of the 2,767 acres that make up SMGL, 1,949 acres (71%) is forested habitat, 729 acres (26%) is open habitat, 67 acres is aquatic habitat (2%), and 25 acres (1%) is developed open space or unusable habitat (*Appendix VIII*). Specific information regarding habitats found on SMGL is included in the Habitat Description section of this document.

## UNIQUE VALUES AND DESIGNATIONS

An abundance of natural resources are located on SMGL as it contains excellent natural values and biodiversity. Within the game land are two designated State Natural Heritage Areas which include the Alexander Cliffs and Slopes, and Turkey Creek/Sandy Mush Creek Gorge State Natural Heritage Areas. One of the most unique values of SMGL was the abundance of land that was already cleared, which afforded numerous opportunities to create and maintain critical early successional habitats (NCWRC 2005). As stated previously, the game land contains and borders three significant and designated waterways which include, the French Broad River, Sandymush creek, and Turkey creek. These waterways have been classified through the NC Division of Water Quality (NCDWQ) Classifications and Standards Unit which protects these waters for fishing, wildlife, fish consumption, aquatic life, propagation of aquatic life, survival and maintenance of biological integrity, and agriculture. The French Broad River has a “B” surface water classification which receive further protection for “primary recreation” activities which include swimming, skin diving, water skiing, and similar uses involving human body contact with water where such activities take place in an organized manner or on a frequent basis (NCDWQ 2013). Both Sandymush Creek and Turkey Creek have a “C” surface water classification from the NCDWQ classifications and standards unit (NCDWQ 2013). Class C waters are protected for “secondary recreation” which includes wading and boating and other uses involving human body contact with water where such activities take place in an infrequent, unorganized, or incidental manner. A classification of “C” is the lowest water quality designation assigned by the NCDWQ.

Because SMGL was purchased to provide stream mitigation credits needed to fulfill a mitigation agreement between the U.S. Army Corp of Engineers and the State of North Carolina Ecosystem Enhancement Program, the riparian buffers of all stream channels on the property are subject to limited use and management activities. Under the NC Ecosystem Enhancement Mitigation Plan, stream channels are classified as either “High Quality Preservation” or “Enhancement Level II mitigations” (NCEEP 2014 DRAFT). “High Quality Preservation” streams are protected by a 300 foot riparian buffer that restricts all activities that may potentially cause impacts to the vegetation and sediments to enter the stream. “Enhancement Level II” streams and riparian buffers are protected in the same way as “High Quality Preservation” streams but the riparian buffer width is reduced to 30 feet (*Appendix IX*).

Sandy Mush Game Land also serves as an important ecological reservoir for a number of endangered, threatened, or rare species. A table of rare species known to occur at Sandy Mush is listed below:

Taxonomic Group	Scientific Name	Common Name	NC Status	US Status	NC Ranking	US Ranking	Habitat Type
Amphibian	<i>Plethodon ventralis</i>	Southern Zigzag Salamander	SC		S1	G4	Terrestrial
Bird	<i>Tyto alba</i>	Barn Owl	SR		S2S3B,S3N	G5	Terrestrial
Butterfly	<i>Euphydryas phaeton</i>	Baltimore Checkerspot	SR		S2	G4	Terrestrial
Butterfly	<i>Satyrrium caryaevorus</i>	Hickory Hairstreak	SR		S1	G4	Terrestrial
Freshwater Fish	<i>Polyodon spathula</i>	Paddlefish	E	FSC	SH	G4	Aquatic
Mammal	<i>Mustela nivalis</i>	Least Weasel	SR-G		S2	G5	Terrestrial
Mammal	<i>Myotis grisescens</i>	Gray Myotis	E	E	S1	G3	Terrestrial
Mammal	<i>Myotis leibii</i>	Eastern Small-footed Myotis	SC	FSC	S2	G1G3	Terrestrial
Mammal	<i>Myotis septentrionalis</i>	Northern Myotis	SR		S3	G3	Terrestrial
Reptile	<i>Apalone spinifera spinifera</i>	Eastern Spiny Softshell	SC		S1	G5T5	Wetland
Vascular Plant	<i>Adlumia fungosa</i>	Climbing Fumitory	SC-V		S2	G4	Terrestrial
Vascular Plant	<i>Buckleya distichophylla</i>	Piratebush	T	FSC	S2	G2	Terrestrial
Vascular Plant	<i>Dicentra eximia</i>	Bleeding Heart	SR-P		S3	G4	Terrestrial
Vascular Plant	<i>Draba ramosissima</i>	Branching Draba	SC-V		S2	G4	Terrestrial
Vascular Plant	<i>Micranthes caroliniana</i>	Carolina Saxifrage	SR-T	FSC	S3	G3	Terrestrial
Natural Community	Acidic Cove Forest				S4	G5	Terrestrial
Natural Community	Montane Alluvial Forest				S1	G3	Wetland
Natural Community	Montane Mafic Cliff				S3	G3	Terrestrial
Natural Community	Rich Cove Forest				S4	G4	Terrestrial

Common to fairly common “Species of Greatest Conservation Need”(SGNC) birds on SMGL include Northern bobwhite quail (*Colinus virginianus*), sharp-shinned hawk (*Accipiter striatus*), Copper’s hawk (*Accipiter cooperii*), American kestrel (*Falco sparverius*), yellow-billed cuckoo (*Coccyzus americanus*), Eastern whip-poor-will (*Caprimulgus vociferus*), chimney swift (*Chaetura pelagica*), hairy woodpecker (*Picoides villosus*), Northern flicker (*Colaptes auratus*), Eastern wood-pewee (*Contopus virens*), Eastern kingbird (*Tyrannus tyrannus*), brown-headed nuthatch (*Sitta pusilla*), wood thrush (*Hylocichla mustelina*), worm-eating warbler (*Helminthos vermivorum*), hooded warbler (*Setophaga citrina*), prairie warbler (*Setophaga discolor*), field sparrow (*Spizella pusilla*), blue grosbeak (*Passerina caerulea*), Grasshopper sparrow (*Ammodramus savannarum*), Willow flycatcher (*Empidonax traillii*), Orchard oriole (*Icterus spurius*), Kentucky warbler (*Geothlypis formosa*), American woodcock (*Scolopax minor*), Blue-winged warbler (*Vermivora cyanoptera*), and Eastern meadowlark (*Sturnella magna*). SGCN mammals found on the property include Southern Rock vole (*Microtus chrotorrhinus*), Eastern small-footed myotis, gray myotis, and least weasel. SGCN amphibians and reptiles found on the property include Southern zigzag salamander, Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), Eastern box turtle (*Terrapene carolina*), and Eastern spiny softshell.

## HABITAT TYPES

### Forested Habitats

Approximately 71% of the total area of Sandy Mush Game Land is forested. This area totals 1949 acres and consists of 5 main habitat types. These include: Oak Forests (44%), Cove Forests (21%), Dry Coniferous Woodlands (26%), Floodplain Forests (3%), and Open Canopy Early Successional Habitats (6%) (*Appendix VII*).

### OAK FORESTS

Oak forests account for the largest habitat type found on Sandy Mush Game Land. This type totals 847 acres and encompasses approximately 31% of the total game land. Oak forests on the game land consist of two main classifications: Southern Appalachian Oak Forests and Dry Oak Forests (*Appendix XV*). This habitat type covers a wide range of moisture and topographic gradients, from xeric (dry) to mesic (wet), with the driest sites often dominated by Chestnut oak (*Quercus prinus*) and Scarlet oak (*Quercus coccinea*) and moister sites dominated by White oak (*Quercus alba*) and hickories (*Carya sp.*). Understory vegetation is quite diverse and supports a wide variety of species such as flowering dogwood (*Cornus florida*), blueberry (*Vaccinium spp.*) and huckleberry (*Gaylussacia baccata*) (NCNHP 2001). Oak forests are of great importance to wildlife across Sandy Mush Game Land because of its predominance, the variety of conditions in which it is found, and its overall mast (acorn) production capacity. This habitat type produces vast quantities of acorns, hickory nuts, and a wide variety of associated soft mast forage for wildlife and is often a critical habitat type for a variety of wildlife species (NCWRC WAP 2005).

### Southern Appalachian Oak Forests

Southern Appalachian oak forests (SAOF) make up approximately 66% (555 acres) of all oak forests across the game land. They occur on open slopes, ridge tops, low-elevation peaks, and higher parts of broad valley bottoms; and are found at low to moderate elevations. Soils in

these forests are usually deep residual soils, but are often rocky. Moisture levels are somewhat mesic in range and are often located on intermediate slopes between coves and dry ridges. Topography, elevation, and soil depth are the most important factors separating this system from other forested systems (NatureServe 2007).

Vegetation of SAOF's is dominated by oak species, most typically White oak, Southern red Oak (*Quercus falcate*), and Northern red oak (*Quercus rubra*) on higher elevations. Hickories are often a co-dominant species within these forests, as well as having varying amounts of Black walnut (*Juglans nigra*), Eastern white pine (*Pinus strobus*), and Red maple (*Acer rubrum*). Prior to the blight, American chestnut (*Castanea dentate*) was once the dominant or co-dominant species of these forests (NatureServe 2007). Sub-canopies and shrub layers are usually well-developed with some having associations of dense evergreen shrubs such as mountain laurel (*Kalmia latifolia*), while others have open shrub layers. Herbs are usually sparse to moderate in density. Fire occurs fairly frequently in this type forest and is usually of low to moderate intensity that is typically non-catastrophic (Abrams 1992, Delcourt and Delcourt 1997). Fire is often an important factor for favoring oak dominance over more mesophytic (moisture adapted) tree species within these forests and can be expected to have a moderate effect on vegetation structure, producing a somewhat more open canopy and less dense understory and shrub layer. Past logging may have greatly affected these forests in many instances by changing canopies to a more even-aged, structure (NatureServe 2007).



Southern Appalachian oak forests often occur along intermediate slopes between the ridge tops and coves at Sandy Mush. A reserve oak shelterwood harvest is implemented in a southern Appalachian oak forest stand to improve understory diversity encourage regeneration of oak and hickory species, and create uneven-aged conditions (right).

- **Desired Future Condition (DFC)**- Comprised largely of both closed canopy (basal area (BA) > 60) and woodland (BA 30- 60) over-story conditions. Over-story consists of a diversity of hardwood species including soft mast producing species such as Black cherry (*Prunus serotina*), Black gum (*Nyssa sylvatica*), and persimmon (*Diospyros virginiana*), with the primarily over-story species being that of oak and hickory. Understories contain a diversity of herbs and forbs with adequate regeneration of oak and hickory throughout. Relative over-all abundance of mountain laurel and rhododendron (*Rhododendron spp.*) is reduced throughout areas managed as woodlands.
- **Target Game Species**- Whitetail deer (*Odocoileus virginianus*), wild turkey (*Meleagris gallopavo*), black bear (*Ursus americanus*), Eastern gray squirrel (*Sciurus carolinensis*), raccoon (*Procyon lotor*), and Ruffed grouse (*Bonasa umbellus*)

- **Target Non-Game Species-** Eastern wood-pewee, Cooper’s hawk, chimney swift, Northern flicker, field sparrow, red-headed woodpecker, yellow-billed cuckoo, worm-eating warbler, wood thrush, hairy woodpecker, Southern zigzag salamander, least weasel, and Eastern box turtle
- **Management Strategies and Needs-** Increase timber harvest in suitable areas (see Forest Management section). Implement appropriate applications of herbicide to sites where there is a need to control competitive vegetation and non-native invasive species. Increase prescribed burning at appropriate locations, frequencies, intensities, and seasonality. Implement strategies that favor and maintain oak species.
- **Infrastructure Needs-** Increased planning, identification, and development of fire lines and access to suitable stands and potential burn units. Temporary logging roads and landings.
- **Management Challenges -** Limited management allowed within EEP buffer areas. Increased establishment and spread of non-native invasive species. Increased development and adjacent private/ urban interface along game land boundary. Limitations due to topography and access. Air quality standards for Buncombe County limiting number of burn days. Impacts from disease and insects such as: southern pine beetle (*Dendroctonus frontalis* Zimmermann), gypsy moth (*Lymantria dispar*), sudden oak death syndrome, hypoxylon canker (*Hypoxylon spp.*), and regional oak decline.

## Dry Oak Forests

This type of oak forest makes up approximately 34% (292 acres) of all oak forests across the game land. This forest system occurs at much drier settings than that of other oak matrix forests. It is characteristic of coarse and infertile soils that are often shallow and associated with acidic igneous or metamorphic rock. They are generally positioned on exposed ridges and convex slopes that are generally well drained, which contributes to the dry conditions of these forests (Schafale and Weakley 1990).



Dry oak forests are typical of many of the ridge tops at Sandy Mush and vary in understory density and diversity.

These forests are often dominated by oak species such as Chestnut oak, Scarlet oak, and White oak with cohorts of co-dominant tree species such as Mockernut hickory (*Carya tomentosa*), Shortleaf pine (*Pinus echinata*), and Virginia pine (*Pinus virginiana*). Dry oak forests occur with varying conditions and structure, from open savannah like conditions to closed

canopy. Understory in these forests commonly consists of a sparse to moderate herb layer with associations of heath type shrubs such as blueberry, huckleberry, and mountain laurel particularly on the driest sites. More open stands where fire is common grasses may also be found. In areas where fire has been suppressed Red maple and White pine are often common canopy species (NatureServe 2007). Fires in this system occur more frequently than those of more mesic oak forests, with fire occurring most often with in the dormant season but having an occasional growing season fire once or twice every 20- 25 years (Croy and Frost 2007).

- ***Desired Future Condition (DFC)***- Over-story is comprised largely of woodland and “savannah like” conditions (BA 20- 60) with areas located within the EEP buffers and areas that are limited by access and topography remaining in closed canopy conditions. Composition consists predominantly by that of oak and hickory. Understories contain a diversity of herbs, forbs, and grasses with adequate regeneration of oak and hickory throughout. On drier sites a greater abundance of *Vaccinium* species such as blueberry and huckleberry are found in the understory. Relative over-all abundance of mountain laurel and rhododendron is reduced throughout all areas.
- ***Target Game Species***- Whitetail deer, wild turkey, black bear, Eastern gray squirrel, Ruffed grouse, Eastern cottontail rabbit (*Sylvilagus floridanus*), and Bobwhite quail
- ***Target Non-Game Species***- Eastern wood-pewee, Cooper’s hawk, chimney swift, Northern flicker, red-headed woodpecker (*Melanerpes erythrocephalus*), Eastern kingbird, yellow-billed cuckoo, hairy woodpecker, Eastern whip-poor-will, brown-headed nuthatch, least shrew, least weasel, Eastern hognose snake (*Heterodon platirhinos*), mole kingsnake (*Lampropeltis calligaster*), and Eastern box turtle
- ***Management Strategies and Needs***- Increase timber harvest in suitable areas (see Forest Management section). Implement appropriate applications of herbicide to sites where there is a need to control competitive vegetation and non-native invasive species. Increase prescribed burning at appropriate locations, frequencies, intensities, and seasonality. Implement strategies that favor and maintain oak species.
- ***Infrastructure Needs***- Increased planning, identification, and development of fire lines and access to suitable stands and potential burn units. Temporary logging roads and landings.
- ***Management Challenges*** - Limited management allowed within EEP buffer areas. Increased establishment and spread of non-native invasive species. Increased development and adjacent private/ urban interface along game land boundary. Limitations due to topography and access. Air quality standards for Buncombe County limiting number of burn days. Impacts from disease and insects such as: southern pine beetle, gypsy moth, sudden oak death syndrome, hypoxylon canker, and regional oak decline.

## COVE FORESTS

Cove forests make up approximately 15% of Sandy Mush Game Land and encompass an area of 417 acres. This type habitat includes two classifications types: Appalachian Hemlock-Hardwood Forests, which totals 44% of all cove forests on the game land, and Southern Appalachian Cove Forests, which accounts for 56% of cove forest habitat. These classifications

are primarily distinguished by soil acidity, with hemlock- hardwood forests having the highest soil acidity of the two. Cove forests typically occur on concave and topographically protected mixed- mesophytic slopes (NatureServe 2007) and have generally higher associations of herbs and forbs in the understory as compared to other forest types. Depending on soil acidity, cove forests may contain a shrub layer consisting of mountain laurel and rhododendron. On richer sites, Spicebush (*Lindera benzoin*) is often a dominant shrub species (The Encyclopedia of Southern Appalachian Forest Ecosystems 2004). Cove forests in general, provide high amounts of herbaceous forage for wildlife, and often have high species diversity of both plants and animals. Small vertebrates, such as salamanders, birds, and small mammals, can be particularly abundant and diverse with in these forests (The Encyclopedia of Southern Appalachian Forest Ecosystems 2004).

Cove forests are typically closed canopy systems with very diverse canopies often consisting of Yellow Poplar (*Liriodendron tulipifera*), Carolina Silverbell (*Halesia carolina*), Northern Red Oak, Eastern Hemlock (*Tsuga canadensis*), Basswood (*Tilia americana*), White Ash (*Fraxinus americana*), and American Beech (*Fagus grandifolia*) (Clebsch and Busing 1989). Many of these forests exhibit a more un-even aged structure than other forest types and regeneration is commonly regulated through gap-phase dynamics and patch openings created by wind and ice. Although fire plays a lesser role in this habitat type, it may have occurred in these forests at low to moderate frequencies. Fire effects in these habitats were likely minimal as many of the species that occur in these type habitats are some of the most fire-intolerant in the region (NatureServe 2007).



Cove forests are extremely diverse and occur on a variety of soil types from acidic (left) to rich (right).

- **Desired Future Condition (DFC)**- Over-story is comprised largely of closed canopy conditions (BA <60) with some small areas located outside of EEP buffers and areas where topography and access permit, being converted to woodland conditions (BA 30- 60). Composition consists of a wide diversity of species including yellow poplar, ash, white pine, American beech, Northern red oak, Black cherry, Black walnut, and Eastern hemlock. Understories are extremely lush containing a wide diversity of herbs and forbs. In areas where woodland conditions exist, Northern red oak will be the primary over-story species with under-stories that have adequate amounts of oak regeneration.
- **Target Game Species**- Whitetail deer, Wild turkey, Black bear, Eastern Gray squirrel, Ruffed grouse, Raccoon, and American woodcock

- **Target Non-Game Species-** Eastern wood-pewee, Cooper’s hawk, chimney swift, Northern flicker, yellow-billed cuckoo, wood thrush, hairy woodpecker, Swainson’s warbler (*Limnothlypis swainsonii*), hooded warbler, smoky shrew (*Sorex fumeus*), Southern zigzag salamander, spotted salamander (*Ambystoma maculatum*), and Eastern box turtle
- **Management Strategies and Needs-** Increase timber harvest in suitable areas (see Forest Management section). Implement appropriate applications of herbicide to sites where there is a need to control competitive vegetation and non-native invasive species. Improve diversity of species composition and implement strategies to encourage and maintain oak species.
- **Infrastructure Needs-** Increased planning, identification, and development of access to suitable stands. Temporary logging roads and landings.
- **Management Challenges -** Limited management allowed within EEP buffer areas. Increased establishment and spread of non-native invasive species. Increased development and adjacent private/ urban interface along game land boundary. Limitations due to topography and access. Proliferation of Hemlock Woolly adelgid (*Adelges tsugae*) killing Eastern hemlock trees.

## DRY CONIFEROUS WOODLANDS

Dry Coniferous Woodland habitat includes the Southern Appalachian Low Elevation Pine classification. This habitat type represents approximately 19% of the total game land area, equaling 515 acres, and tends to occupy the southern exposures and broader ridge tops of gently rolling terrains. They are often associated with shallow and generally sandy soils, and found at mid to low elevations less than 3000 feet (Fryar 2004). The dominant tree species in this forest type include Shortleaf pine, which typically occupies more than 50% of the over-story, Pitch pine (*Pinus rigida*), Virginia pine, and occasionally Eastern white pine. On some sites, oaks and hickories may also occur in the over-story.



Dry slopes and ridges with shallow soils are typical of dry coniferous woodland forests at Sandy Mush. Restoring understory diversity and natural woodland over-story conditions in pine forests (right) is a focus of habitat management across the game land.

Under natural fire regimes, where fire occurred more frequently, these systems likely consisted of herbaceous (grassy) understories, with a relatively sparse woody shrub layer (Fryar 2004). However, acidic-tolerant shrubs such as blueberry and huckleberry may also be well-

developed in these forests. The amount of herbs and shrubs is greatly linked to the frequency of fire, with stands that burn more frequently having a greater abundance of grasses and herbs and stands with less frequency of fire having a greater abundance of shrubs (NatureServe 2007). In the absence of fire, understory species are often fire-intolerant and shade-tolerant hardwoods such as dogwood, red maple, sassafras (*Sassafras albidum*), sourwood (*Oxydendrum arboreum*), Black gum, and others. Following over-story replacement events, Virginia pine, if previously a component or in adjacent stands, can quickly replace native shortleaf communities (Frost 2005). Fire is clearly an important influence in these forests, and may be the sole factor determining the occurrence of this system rather than that of hardwood forests. Natural fires were likely frequent and of low intensity, or a mix of low and higher intensity. Settlement, logging, pine beetle outbreaks, and fire suppression have potentially altered the character and blurred the boundaries of these type forests more than most other systems in the region (NatureServe 2007).

- ***Desired Future Condition (DFC)***- Over-story is comprised largely of woodland and “savannah like” conditions (BA 20- 60) with areas located within the EEP buffers and areas that are limited by topography and access remaining in closed canopy conditions. Composition consists predominantly of mountain yellow pine species but includes some dry oak species such as scarlet oak, chestnut oak, and white oak. Understories contain a diversity of herbs and forbs as well as an abundance of grasses. On drier sites an abundance of *Vaccinium* species such as blueberry and huckleberry are found. Increased regeneration of shortleaf and pitch pine are found throughout the under-story, and relative over-all abundance of mountain laurel and rhododendron is reduced.
- ***Target Game Species***- Bobwhite quail, Whitetail deer, Wild turkey, Black bear, Eastern Cottontail rabbit, and Mourning dove (*Zenaida macroura*)
- ***Target Non-Game Species***- Eastern wood-pewee, Cooper’s hawk, chimney swift, Northern flicker, red-headed woodpecker, Eastern whip-poor-will, prairie warbler, hairy woodpecker, brown headed nuthatch, least shrew, least weasel, Eastern hognose snake, mole kingsnake, and Eastern box turtle
- ***Management Strategies and Needs***- Increase prescribed burning in conjunction with increased timber harvests, particularly thinning, throughout all suitable areas (see Forest Management section). Implement appropriate applications of herbicide to sites where there is a need to control competitive vegetation and non-native invasive species.
- ***Infrastructure Needs***- Increased planning, identification, and development of access and firebreaks in to suitable stands and potential burn units.
- ***Management Challenges***- Increased establishment and spread of non-native invasive species. Proliferation of Virginia pine on Shortleaf pine sites. Increased development and adjacent private/ urban interface along game land boundary. Limitations due to topography and access. Air quality standards for Buncombe County limiting number of burn days. Impacts from southern pine beetle infestations.

## FLOODPLAIN FORESTS

Floodplain forests of Sandy Mush Game Land make up approximately 2% of all forested areas, and total 54 acres. It includes two classifications: South- Central Interior Large Floodplain forests (11%) and South- Central Interior Small Stream and Riparian forests (89%). These forests occur along large rivers and streams where topography and alluvial processes have resulted in a well-developed floodplain as well as along small streams and floodplains with low to moderately high gradients (NatureServe 2007). Due to its topographical position, Sandy Mush Game Land exhibits characteristics of both upland and lowland floodplain forests. Most of these forests along the French Broad appear to be intermediate in characteristic, containing both montane and piedmontane elements (Schafale and Weakley 1990).

Canopies in these forests vary greatly along topographical gradients and among various soil types which consist primarily of flood-carried sediments. Dominant tree species include a mixture of bottomland and mesophytic hardwoods such as: American sycamore (*Platanus occidentalis*), yellow poplar, American beech, white ash, American elm (*Ulmus americana*), river birch (*Betula nigra*), box elder (*Acer negundo*), red maple, and black walnut. Other common trees include; green ash (*Fraxinus pennsylvanica*), American holly (*Ilex opaca*), Southern hackberry (*Celtis laevigata*), American hornbeam (*Carpinus caroliniana*), and to a lesser extent some oaks and hickories. The herbaceous and shrub layers in these forests can be extremely diverse, with the density and abundance of species closely linked to the level of disturbance and soil type (NatureServe 2007). Understories can range from densely closed thickets to open woodlands and may consist of such species as, Spicebush, Strawberry-bush (*Euonymus americanus*), Dog-hobble (*Leucothoe fontanesiana*), alder (*Alnus spp.*), and a variety of herbs and forbs. Vines are also particularly common in floodplain forests and typically include Virginia creeper (*Parthenocissus quinquefolia*), poison ivy (*Toxicodendron radicans*), and *Smilax* spp. (Schafale and Weakley 1990).



Seasonal flooding and disturbance caused by beavers are important factors that shape the composition and structure of floodplain forests.

These forests are rarely impacted by fire except under extreme drought conditions, but are more commonly regulated and maintained by seasonal and annual flooding events. Not only do these flooding events effect soil movement and deposition, but they also play a major role in seed dispersal, plant successional processes, and the creation of vernal pools. Beavers can also be an important disturbance factor in these forests, setting back succession, creating canopy gaps, and developing semi-permanent wetlands within these forests (Schafale and Weakley 1990).

Floodplain forests are particularly important habitats for breeding amphibians and the American woodcock in the region, especially where there are inclusions of floodplain pools and semi-permanent impoundments. These temporarily flooded areas provide critical breeding habitat for many species of salamanders and frogs (NCWRC WAP 2005).

- ***Desired Future Condition (DFC)***- Because the majority of the Floodplain forests located across the game land occur within EEP buffers and streamside management zones, over-story of this forest type will remain comprised predominantly of closed canopy conditions. Natural disturbances such as flooding, sediment deposition, and beavers will continue to occur, dictating forest composition and structure. Natural hydrologic functions of these forests are maintained. Over-story and understory composition consists of a wide diversity of species suited to hydric soils. Where allowed, non-native exotic species are controlled.
- ***Target Game Species***- Whitetail deer, Wild turkey, Black bear, American woodcock, beaver (*Castor canadensis*), River otter (*Lontra Canadensis*), Raccoon, and various waterfowl species
- ***Target Non-Game Species***- Cooper's hawk, chimney swift, Northern flicker, red-headed woodpecker, yellow-billed cuckoo, worm-eating warbler, wood thrush, hairy woodpecker, spotted salamander, mole salamander, bald eagle (*Haliaeetus leucocephalus*), Willow flycatcher, Kentucky warbler, Swainson's warbler, hoary bat (*Lasiurus cinereus*), and Eastern box turtle
- ***Management Strategies and Needs***- Implement limited forestry activities where permitted to develop woodcock and other wildlife habitat. Implement appropriate applications of herbicide to sites where there is a need to control competitive vegetation and non-native invasive species.
- ***Infrastructure Needs***- Increased planning, identification, and development of access to suitable stands.
- ***Management Challenges*** - Limited management allowed within EEP buffer areas. Increased establishment and spread of non-native invasive species. Limitations due to topography, access, and stream side management zone buffers. Siltation.

## OPEN OVER-STORY, EARLY SUCCESSIONAL FORESTS

Open over-story, early successional habitats account for approximately 4% of the total area of Sandy Mush Game Land and total 116 acres. This habitat type is unique because it is representative of an overall habitat condition rather than a specific habitat type, as it exists within multiple forest types, specifically those associated with fire and increased disturbances. On SMGL these include primarily the Dry- Oak forests and Dry Coniferous Woodland forests, and to a lesser extent the Southern Appalachian Oak forests. This habitat type consists of forests with a developed over-story of trees that are widely spaced, and have moderate to large sized canopy gaps.

This system is specifically unique to wildlife as it includes characteristics of both forested and early successional systems. Structure of this habitat type is characteristic of "savannah like" conditions, having basal areas that range between 10 and 30 square feet. Because of the wide

spacing of canopy trees, conditions in the understory more closely resemble that of open early successional habitats than other forested or woodland type habitats. The understory in this habitat consists of a dense herbaceous layer made up of forbs and grasses that include species such as Little bluestem (*Schizachyrium scoparium*), Big bluestem (*Andropogon gerardii*), and Indian grass (*Sorghastrum nutans*). Shrub layers are often low to moderate in density and consist of regenerating pine and oak species, and on drier sites may include huckleberry and blueberry. Shrub species such as chinquapin (*Castanea pumila*) may occur. Over-story in these habitats primarily consists of fire tolerant pine and oak species such as, shortleaf pine, pitch pine, white oak, chestnut oak, and scarlet oak. Hickories may also be a component in these systems as well.

Disturbance from fire plays an extremely important role in both the creation and maintenance of these habitats, and occurs at higher frequencies and somewhat higher intensities than other forested habitats. Combinations of regular, low and moderate intensity fires maintain the open canopy structure as well as set back succession in the understory. In some situations, higher intensity fires may occur, creating new canopy gaps and thinning some of the over-story. These type fires are often localized and occur in a mosaic type pattern. Short, infrequent periods of fire exclusion occur to allow for some regeneration to advance and position themselves to replace dominant trees once they have fallen out of the canopy. These conditions were prevalent prior to European settlement when native Americans burned regularly creating expansive areas for large ungulates such as bison and elk.



Managing for a diversity of habitats across the game land includes restoring and maintaining open “savannah” like habitats that provide structural components of both open and forested ecosystems.

Open over-story, early successional habitats are particularly important habitats for wildlife as they provide a forested structure with a predominantly open mid-story and developed understory. These conditions are often extremely limiting across the landscape and are important habitats particularly for a variety of bird species such as brown-headed nuthatches and vesper sparrows. These habitats provide great opportunities for foraging as well as provide perching and nesting sites. Also included in this habitat type are areas that have undergone silvicultural treatments to reduce basal area of stands and promote regeneration of pine and oak species beneficial to wildlife. These silviculturally treated areas will be included in this habitat type until cohorts of regenerating trees become dominate in the understory.

- *Desired Future Condition (DFC)*- Increase the total amount of habitat occurring across the game land. Over-story occurs in an open “savannah like” condition (BA 20- 40) comprised of oak, hickory, and yellow pine species. Over-story contains a diversity of uneven-aged

trees. Understories are lush and highly diverse containing an abundance of grasses, forbs, and herbs and having varied vertical structure. On drier sites an abundance of *Vaccinium* species such as blueberry and huckleberry are found. Regeneration of oaks, hickories, and mountain yellow pine species are found throughout, and relative over-all abundance of mountain laurel and rhododendron is controlled.

- **Target Game Species-** Ruffed grouse, Bobwhite quail, Whitetail deer, Wild turkey, Black bear, Eastern Cottontail rabbit, Mourning dove, and American woodcock
- **Target Non-Game Species-** Common nighthawk (*Chordeiles minor*), American kestrel, barn owl, Eastern whip-poor-will, Eastern kingbird, prairie warbler, field sparrow, blue grosbeak, orchard oriole, Eastern kingsnake, Eastern box turtle, and least weasel
- **Management Strategies and Needs-** Significant increases in both prescribed burning and timber harvest areas (see Forest Management section) to be conducted jointly across all areas. Implement appropriate applications of herbicide to sites where there is a need to control competitive vegetation and non-native invasive species.
- **Infrastructure Needs-** Increased planning, identification, and development of access and firebreaks in to suitable stands and potential burn units.
- **Management Challenges -** Increased establishment and spread of non-native invasive species. Increased development and adjacent private/ urban interface along game land boundary. Limitations due to topography and access. Air quality standards for Buncombe County limiting number of burn days.

## Open Habitats

Open habitats on Sandy Mush Game Land are habitats that do not contain a developed, forested, over-story, and includes all areas of non-forested early succession habitat. Open habitats make up approximately 26% of the total area of game land (727 acres).

## NON-FORESTED EARLY SUCCESSION

Although the combined amount of early successional habitat (ESH) across the game land totals around 30% (843 acres), non-forested early successional habitats account for approximately 26% (727 acres) of SMGL. These open habitats consist of three main classifications which include: Herbaceous Early Succession (36% of ESH), Shrub Early Succession (27% of ESH), and Woody Early Succession (37% of ESH) (*Appendix XVI*). Maintained phone and power line right-of-ways that intersect and cross the game land (39.33 acres) are also included in the category of non-forested early successional habitat. For the purpose of this plan, early successional habitat is generally defined as areas that are between 0-18 years of age and located structurally between bare ground and young forests.

Within different types of ESH, structure and plant composition differ considerably, consisting of grasses, forbs, shrubs, woody stems and sprouts, or a mix of herbaceous and developing woody vegetation. However, between different types of early successional habitat,

there are two common factors. First, these habitats will have a well-developed ground cover layer that does not have a closed, mature tree canopy; and second, early successional habitats are created and or maintained by intense or recurring disturbances (Greenberg 2011). These disturbances include varying types and intensities of natural disturbances such as wind, ice, disease, and fire; as well as human caused disturbances such as timber harvest, prescribed burns, land clearing, and cattle grazing. Topographic position, soil characteristics, and climate may also play an important role in the creation and maintenance of early successional areas (NCWAP 2005). Depending on the type of disturbance and other ecological and environmental factors, the size and distribution of these type habitats may range from small canopy openings to large meadows and grasslands. Early successional plant composition consists primarily of herbaceous annuals and perennials immediately following disturbance, and then succeed in the absence of continued disturbance towards a composition of woody vegetation.

ESH is an extremely important habitat type as it is one of the most endangered types of ecosystems in the United States (NCRCS 2007). It is a priority habitat for numerous birds and other wildlife species. In fact, over 120 bird species in the southeast have been recognized to be associated with grassland, shrub-scrub, and other early successional habitats (Hunter et al. 2001). These communities are highly ephemeral and are constantly changing in structure, composition, and location across the landscape. This is also true at Sandy Mush, where early successional habitats are continually transitioning. Each year, areas of herbaceous early successional habitat succeed to shrub habitats, shrub habitats to woody habitats, and without management or disturbance, woody habitats to young forests. Therefore frequent disturbances of these habitats are needed to “reset” or suppress succession and maintain open habitat conditions. Continued disturbances across the game land are critical not just for maintaining current early successional habitats, but for creating new areas of habitat to replace those that are transitioning to forested conditions.

Many of the wildlife species closely linked to this type of habitat are also disturbance-adapted wildlife species, and with the lack of disturbance, the attractiveness and productivity of these habitats decline (NCRCS 2007). Many species of invertebrates particularly butterflies and moths are also dependent on specific hosts and forage plants that are often only found within early successional plant communities. These type habitats produce an abundance of seeds and attract assemblies of insects that are critical forage for birds and small mammals. The absence of a closed canopy is also important as it allows both light and heat to penetrate to ground level, an essential feature in this habitat for reptiles that depend on heat for temperature regulation (NCRCS 2007). These habitats are also important areas for many interior forest bird species that use these areas for fledgling and migration habitats.

### Herbaceous Early Succession

Herbaceous ESH covers approximately 9% of the total area of SMGL and totals 259 acres. This habitat type includes areas with vegetation age classes between 0- 4 years and differs from shrub and woody early successional types by having a composition consisting predominantly of grasses, forbs, and other annual and perennial vegetation. Areas such as grasslands, meadows, fallow fields, and food plots are all included in this habitat type. Herbaceous early successional habitats have the shortest fire return interval or frequency of disturbance of any habitat across the game land, occurring annually or biannually. Frequent prescribed fires, annual mowing, and agricultural planting are all tools commonly used for the creation and maintenance of this habitat

type. Also included in the herbaceous early successional habitat designation are some power line and telephone right-of-ways, which account for 9.45 acres.



Open pastures once dominated by tall fescue are restored to native forbs and grasses which were present in the seed bank and stimulated following prescribed burns.

- ***Desired Future Condition (DFC)***- Total amount of habitat occurring on the game land remains relatively stable to slightly decreasing, with some acres transitioning back and forth between shrub and woody type early succession. Tall fescue (*Festuca arundinacea*) has been removed from all sites and fire adapted communities and plant associations have been restored to areas that are not maintained through agricultural practices (food plots). Overall abundance of non-native invasive species is reduced.
- ***Target Game Species***- Bobwhite quail, Whitetail deer, Wild turkey, Black bear, Eastern Cottontail rabbit, Mourning dove, and American woodcock
- ***Target Non-Game Species***- American kestrel, barn owl, Eastern whip-poor-will, Eastern kingbird, prairie warbler, field sparrow, Eastern meadowlark, Meadow jumping mouse (*Zapus hudsonius*), least weasel, and Eastern box turtle
- ***Management Strategies and Needs***- Implement short interval prescribed burn rotations on all areas not maintained as wildlife food plots. Maintain existing food plots and planted areas using appropriate agricultural practices. Implement appropriate applications of herbicide to sites where there is a need to control unwanted vegetation and non-native invasive species.
- ***Infrastructure Needs***- Increased planning, identification, and development of access and firebreaks in to suitable stands and potential burn units.
- ***Management Challenges***- Increased establishment and spread of non-native invasive species. Increased development and adjacent private/ urban interface along game land boundary. Limitations due to topography and access. Air quality standards for Buncombe County limiting number of burn days.

## Shrub Early Succession

Shrub ESH covers approximately 7% of the total area of Sandy Mush Game Land and totals 196 acres. This habitat type includes areas with vegetation age classes between 4- 10 years. It differs from herbaceous and woody early successional types by having a composition consisting predominantly of shrub type vegetation, but may also contain remnant components of grasses and forbs along with some woody regeneration beginning to establish. Areas such as hedge rows, old fields, and routinely maintained field borders are all included in this type of habitat. These areas have relatively short fire return intervals or frequencies of disturbance that occur every 3-5 years. Regular prescribed fires, infrequent mowing, applications of herbicide, and KG blading are common tools used for the creation and maintenance for this type habitat. Also included in this habitat designation are some power line and telephone right-of-ways, these areas account for 29.88 acres of this type of habitat.



Shrub early succession is a critical habitat type for many priority songbird species and is often a limiting habitat type across the landscape.

- ***Desired Future Condition (DFC)***- Total amount of habitat occurring on the game land is increased, with some acres transitioning back and forth between shrub and woody type early succession. Tall fescue has been removed from all sites and fire adapted communities and plant associations have been restored to all areas. Overall abundance of non-native invasive species is reduced.
- ***Target Game Species***- Bobwhite quail, Whitetail deer, Wild turkey, Black bear, Eastern Cottontail rabbit, and American woodcock
- ***Target Non-Game Species***- American kestrel, barn owl, Eastern whip-poor-will, Eastern kingbird, prairie warbler, field sparrow, orchard oriole, blue-winged warbler, least weasel, and Eastern box turtle
- ***Management Strategies and Needs***- Implement short interval prescribed burn rotations on all areas. Implement appropriate applications of herbicide to sites where there is a need to control unwanted vegetation and non-native invasive species.
- ***Infrastructure Needs***- Increased planning, identification, and development of access and firebreaks in to suitable stands and potential burn units.

- **Management Challenges-** Increased establishment and spread of non-native invasive species. Increased development and adjacent private/ urban interface along game land boundary. Limitations due to topography and access. Air quality standards for Buncombe County limiting number of burn days.

### Woody Early Succession

Woody ESH covers approximately 10% of the total area of Sandy Mush Game Land and totals 272 acres. This habitat type includes areas with vegetation age classes between 11- 18 years. It differs from herbaceous and shrub early successional types by having a composition consisting predominantly of regenerative, woody vegetation with some assemblages of shrubs, and to a much lesser extent, remnant grasses and forbs. Areas such as abandoned fields and secondary successional areas such as clear-cuts are included in this type of habitat. These areas have fire return intervals or frequencies of disturbance that occur every 6-8 years to maintain. Often these areas are created by removing disturbances from and allowing other early successional areas to succeed. Much of the woody early successional habitat on Sandy Mush Game Land has established from old pastures and fields that are not being managed due to deed restrictions, inaccessibility, or other limitations that prevent them from being maintained. Regular low intensity prescribed fires, clear-cutting, and KG blading are common tools used for the creation and maintenance for this type habitat.



The establishment of tree saplings in woody early successional habitat signals the first stages of a young forest and provides beneficial cover for many wildlife species.

- **Desired Future Condition (DFC):** Total amount of habitat occurring on the game land remains relatively stable to slightly decreasing, with some acres transitioning back and forth between shrub and woody type early succession. Tall fescue has been removed from all sites and fire adapted communities and plant associations have been restored to all areas. Overall abundance of non-native invasive species is reduced.
- **Target Game Species-** Bobwhite quail, Whitetail deer, Wild turkey, Black bear, Eastern Cottontail rabbit, Ruffed grouse, and American woodcock
- **Target Non-Game Species-** Eastern whip-poor-will, field sparrow, wood thrush, hairy woodpecker, yellow-billed cuckoo, Eastern kingsnake, least weasel, and Eastern box turtle

- *Management Strategies and Needs*- Implement short interval prescribed burn rotations on all areas. Implement appropriate applications of herbicide to sites where there is a need to control unwanted vegetation and non-native invasive species.
- *Infrastructure Needs*- Increased planning, identification, and development of access and firebreaks in to suitable stands and potential burn units.
- *Management Challenges*- Increased establishment and spread of non-native invasive species. Increased development and adjacent private/ urban interface along game land boundary. Limitations due to topography and access. Air quality standards for Buncombe County limiting number of burn days.

## Aquatic Habitats

Aquatic habitats account for approximately 2% of the total game land (66.75 acres) and include two classifications: Riverine and Aquatic Communities and Bogs and Associated Wetlands (*Appendix VIII*).

### RIVERINE AND AQUATIC COMMUNITIES

Riverine and Aquatic Communities represent the vast majority of the aquatic habitats on Sandy Mush Game Land accounting for 66.11 acres. This primarily consists of the areas defined by Sandymush and Turkey creeks, but all riverine aquatic communities across the entire game land including the area of the French Broad River that adjoins the property to the east will also be incorporated into the description of this habitat type. To date, no surveys have identified any priority or federal or state listed aquatic species in streams on Sandy Mush Game Land.



Pictured above is the confluence of Sandy Mush creek and the French Broad river (left) showing sediment deposition, and Turkey creek (right).

### French Broad River

Sandy Mush Game Land is bordered by 2.8 miles of the French Broad River. The river is a popular destination for a wide array of recreationalists such as; wildlife viewers, paddling sport enthusiasts, and sport fishermen. Although the French Broad River as a whole contains fairly

good aquatic habitat and supports a wide diversity of aquatic organisms and game fish, the section of the river located along the game lands does have reduced species diversity. This can be primarily attributed to the two hydropower dams (Craggy and Capitola) which isolate the reach, degrade habitats, and limit the possibility of rare fishes immigrating back into this section of the river and into Sandymush Creek. Some assisted restoration would likely be required for many native species to return to these areas.

- **Desired Future Condition (DFC)**- Overall amount of fine sediment and other non-point source pollutants into the river are reduced and controlled. Diversity and productivity of aquatic communities are enhanced and restored. Public fishing opportunities are increased through improved access.
- **Target Game Species**- Anglers target a diversity of fish species on the French Broad River including muskellunge (*Esox masquinongy*), smallmouth bass (*Micropterus dolomeiu*), redbreast sunfish (*Lepomis auritus*), channel catfish (*Ictalurus punctatus*), and flathead catfish (*Pylodictis olivaris*).
- **Target Non-Game Species**- French Broad crayfish (*Cambarus reburrus*) and Olive darter (*Percina squamata*) have been found in the vicinity, but have not been confirmed adjacent to the property.
- **Management Strategies and Needs**- Aquatic game species are managed through NCWRC regulations. Aquatic habitat and water quality necessary for target game and non-game species, alike, can be improved and protected by observing Forestry Best Management Practices on game land property and by working cooperatively with other governmental agencies, non-governmental organizations, and landowners to protect and improve riparian areas throughout the watershed.
- **Infrastructure Needs**- There is need for the NCWRC to identify opportunities to facilitate recreational use of the French Broad River, including the potential to include a small portion of the game land adjacent to the river into the North Carolina Paddle Trail program. The Paddle Trail program is a river trail (blue-way) stretching from the headwaters of the river to the state line where it connects with a blue-way in Tennessee. The paddle trail provides opportunities for riverside camping, hiking, and wildlife viewing.
- **Management Challenges**- Increasing amounts of fine sediment pollution from erosion in the watershed which is commonly a result of poor agricultural, development, and forestry practices. Overall size of river basin which extends upstream through a large area of western North Carolina where there are numerous non-point sources of pollution and sedimentation.

## Sandymush Creek

Aquatic habitats within Sandymush Creek have been significantly impacted by human activities throughout the watershed. Historically, large portions of the watershed were used for agricultural activities that included cattle watering in the creek. In more recent years, development has resulted in continued erosion and fine sediment deposition which blankets much the natural stream substrate, occupies pool habitat, and reduces the abundance and diversity of aquatic organisms in the stream. These impacts have degraded the natural habitat

complexity necessary to support diverse aquatic communities. As a result, biodiversity is very low in Sandymush Creek. In addition, although the stream is large enough to support smallmouth bass near its confluence with the French Broad River, the available pool habitat is occupied by fine sediment deposits and as a result there tends to be little to no recreational fishing opportunity.

- ***Desired Future Condition (DFC)***- Overall amount of fine sediment and other non-point source pollutants into the stream are reduced and controlled. Diversity and productivity of aquatic communities are enhanced and restored. Public fishing opportunities are increased through the stocking of trout in appropriate areas with adequate access provided.
- ***Target Game Species***- Near its confluence with the French Broad River, Sandy Mush Creek contains smallmouth bass and redbreast sunfish; however, their abundance is too low to support quality fishing which is directly correlated to the abundance of fine sediment deposition.
- ***Target Non-Game Species***- A suite of species that are currently either extremely rare or extirpated from the Sandymush Creek system could be improved or restored if habitat conditions were improved. These include: French Broad crayfish, Olive darter, Southern blotched chub (*Erimystax insignis eristigma*), Gilt darter (*Percina evides*), Banded darter (*Etheostoma zonale*), Redline darter (*Etheostoma rufilineatum*), Greenside darter (*Etheostoma blennioides*), Tangerine darter (*Percina aurantiaca*), Silver shiner (*Notropis photogenis*), Highland shiner (*Notropis micropteryx*), Telescope shiner (*Notropis telescopus*), and Fatlips minnow (*Phenacobius crassilabrum*).
- ***Management Strategies and Needs***- Trout fishing is limited in northern Buncombe and southern Madison Counties. Improved public access to Sandymush Creek may allow NCWRC to expand its Public Mountain Trout Water Program and create a Hatchery Supported trout fishery. Fine sediment pollution is degrading aquatic habitat and fish communities throughout most of the Sandymush Creek system. NCWRC should seek opportunities to cooperate with other governmental agencies, non-governmental organizations, and private land owners to control these sediment sources by repairing and enhancing upstream riparian areas. If sediment sources within the watershed are controlled and fine sediment deposits are allowed to naturally be transported downstream, sport-fishing would likely improve.
- ***Infrastructure Needs***- Angler access to Sandymush Creek needs to be improved on the game land. In general anglers need safe parking locations and trails to streams. In addition, trout stocking would require access for stocking trucks.
- ***Management Challenges***- Continued fine sediment deposition and other non-point source pollution from erosion throughout the watershed. Ongoing erosion of soils caused by poor agricultural, development, and forestry practices. Much of the watershed where sedimentation and non-point pollutants are entering the creek occur up stream, off of the game land.

## Turkey Creek

Aquatic habitat in Turkey Creek is also severely degraded by fine sediment deposits which blanket much the natural stream substrate, occupies pool habitat, and reduces the abundance and diversity of aquatic organisms. These habitats have been significantly impacted by human activities throughout the watershed. Portions of the watershed were also used for agricultural activities that included cattle watering in the creek. In more recent years, development has resulted in continued erosion and fine sediment deposition. These impacts have degraded the natural habitat complexity necessary to support diverse aquatic communities.

- *Desired Future Condition (DFC)*- Overall amount of fine sediment and other non-point source pollutants into the stream are reduced and controlled. Diversity and productivity of aquatic communities are enhanced and restored. Public fishing opportunities are increased through the stocking of trout in appropriate areas with adequate access provided.
- *Target Game Species*- Turkey Creek offers very little to no angling opportunities. Due to its small in size and warm temperatures smallmouth bass and wild trout are not supported in the creek.
- *Target Non-Game Species*- A similar suite of species that are currently either extremely rare or extirpated from the Sandymush Creek system could also return to Turkey Creek if habitat conditions were improved. These include: French Broad crayfish, Southern blotched chub, Gilt darter, Banded darter, Redline darter, Greenside darter, Tennessee shiner (*Notropis leuciodus*), and Telescope shiner.
- *Management Strategies and Needs*- Trout fishing is limited in northern Buncombe and southern Madison Counties. Improved public access to Turkey Creek may allow NCWRC to expand its Public Mountain Trout Water Program and create a Hatchery Supported trout fishery. Fine sediment pollution is degrading aquatic habitat and fish communities throughout most of the Turkey Creek system. NCWRC should seek opportunities to cooperate with other governmental agencies, non-governmental organizations, and private landowners to control these sediment sources by repairing and enhancing upstream riparian areas. If sediment sources within the watershed are controlled and fine sediment deposits are allowed to naturally be transported downstream, sport-fishing opportunities could potentially be created.
- *Infrastructure Needs*- Angler access to Turkey Creek needs to be improved on the game land. In general anglers need safe parking locations and trails to streams. In addition, trout stocking would require access for stocking trucks.
- *Management Challenges*- Continued fine sediment deposition and other non-point source pollution from erosion throughout the watershed. Ongoing erosion of soils caused by poor agricultural, development, and forestry practices. Much of the watershed where sedimentation and non-point pollutants are entering the creek occur up stream, off of the game land.

## BOGS AND ASSOCIATED WETLANDS

Bogs and associated wetlands on Sandy Mush total 0.64 acres and primarily consist of one bog and three small ponds. The bog and one small pond are located on the Norco tract, while the second pond is located on the state owned portion of the game land. Although the boundaries have not been delineated, EEP has also classified 18 other significant wetland areas across the game land which includes upland seeps and springs as well as lowland drainages and depressions. Acres for these areas are included in the acres of both forested and open habitats. Hydrology in these areas range from permanently saturated to intermittently dry in the bog area to permanently flooded or pooled in the ponds. The bog is generally fed by seepage water, whereas the ponds and wetlands are feed through surface run off or sub surface seeps. Vegetation in these areas may range from dense shrub thickets to highly diverse herb and sedge dominated areas that may contain dense mats of Sphagnum moss (*Sphagnum flexuosum*). Tree species such as Red maple, Eastern white pine, and Eastern hemlock are commonly found along the edges. Little is known about the factors and disturbance that contribute to the maintenance of these wetland areas, in particularly those that influence the creation of bogs. Most bogs and wetlands in the area are being threatened by the succession of shrubs, trees, and invasive exotic species which alter natural water flows and act to dry out wetlands. The tendency for these areas to experience relatively quick plant succession may suggest that some form of periodic disturbance is needed to keep these areas open and functioning naturally. Such disturbances include flooding caused by beavers, grazing by herds of large mammals, fire, and clearing by Indians (Schafale and Weakley 1990). A complete survey of the bog and other wetlands has yet to be completed, and is necessary to assess habitat condition and species occupancy.



Seasonal hydrological changes occur at the Norco wetland between drier periods during the fall months (left) and wetter periods during the spring months (right).

- ***Desired Future Condition (DFC):*** Natural hydrologic processes are restored on existing and other potential wetland areas. Relative abundance of non-native invasive species is reduced. Native plant, aquatic, and wildlife populations are maintained and restored.
- ***Target Game Species-*** Various waterfowl species, Raccoon
- ***Target Non-Game Species-*** spotted salamander, mole salamander (*Ambystoma talpoideum*), three-lined salamander (*Eurycea guttolineata*), four-toed salamander (*Hemidactylium scutatum*), and common ribbon snake (*Thamnophis sauritus*)

- *Management Strategies and Needs*- Identify, delineate, and map current, non-identified, and potential restoration areas.
- *Infrastructure Needs*- Currently none is known to occur, but will depend upon complete assessment of all bogs and other wetlands present on the game land. However, any infrastructure developments in these areas would be limited to include soft or hard engineered water control structures needed to facilitate the restoration of natural hydrologic processes and functions. Platforms or board walks to facilitate wildlife study and viewing.
- *Management Challenges*- Proliferation and encroachment of plant succession and the introduction of non-native invasive species. Limited management allowed within EEP buffer areas.

## Geologic Habitats

### LOW ELEVATION CLIFFS AND ROCK OUTCROPS

There are 22 Low Elevation Cliffs and Rock Outcrops identified on Sandy Mush Game Land. With the majority occurring along the Sandy Mush and Turkey Creek gorge. Overall areas of these habitats have not mapped and are included in the forested acres of the game land (*Appendix XIII*). These habitats on Sandy Mush include very steep to near vertical, rock slopes of mafic, basic igneous or metamorphic origin. Hydrology of these habits vary based on slope and aspect, with northern slopes creating cool, moist microclimates to increasingly dry microsites on southern slopes. On some sites wet seepages occur. Vegetation is typically limited to non-existent due to the extreme slopes and rocky substrates, and in some cases may be too dry to allow for growth of vegetation, particularly to a closed canopy condition. Plants that do occur in these areas are largely limited to crevices, small pockets of soil, margins between rock faces, and the cliffs, and bases. Disturbances within these habitats are common and routinely include landslides, falling rock, erosion from run-off, and undercutting by streams (Schafale and Weakley 1990). A complete survey of the cliffs and rock outcrops has yet to be completed, and is necessary to assess habitat condition and species occupancy in these areas.



Many large cliffs and rock outcrops occur across the game land, particularly along the French Broad River drainage (left) and the Turkey and Sandy Mush creek gorges (right).

- *Desired Future Condition (DFC)*: Natural hydrologic and geologic functions associated with these type habitats are maintained and protected. Adjacent soils and waters surrounding these areas are preserved as well as adequate buffers are maintained.
- *Target Game Species*- Black bear, Gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*)
- *Target Non-Game Species*- Eastern small-footed myotis, least weasel, three-lined salamander, Southern zigzag salamander
- *Management Strategies and Needs*- Identify, delineate, and map current, non-identified, and potential restoration areas. Protect areas from disturbance.
- *Infrastructure Needs*- None known to exist.
- *Management Challenges*- Potential disturbance from unwanted recreational use. Limited management allowed within EEP buffer areas.

## Developed Habitats

This designation includes all areas on the game land that are unsuitable habitat for wildlife and have otherwise been developed. These include areas such as roads, rail ways, and parking areas, and total 25.5 acres or <1% of the total game land. Of the 25.5 acres, the railroad tract and right-of- way along the east side of the game lands that parallels the French Broad River, encompasses 11.56 acres. Needs for developed habitats are included in the Infrastructure section of this document.

## **FOREST MANAGEMENT**

As stated previously, the game land is divided into 12 management units (*Appendix X*), which range in size from 89 acres to 330 acres. These units are delineated by tract boundaries, watershed drainages, large streams, power line right-of-ways, and roads. Due to factors such as inaccessibility, EEP buffer restrictions, steep terrain, and or unsuitable timber, not all areas in each management unit are conducive for forest management. Although early successional habitat is a primary focus of the game land, because approximately 71% of Sandy Mush Game Land is forested, forest management also plays an important role in the creation and maintenance of wildlife habitat. To date there has been no forest inventory data collected for the game land, but the majority of forested areas across the game land are naturally established. As described previously, many of the forested stands have been harvested previously or established from the abandonment of fields over the past 100 years. Forested areas that were too steep to graze or harvest, such as those bordering the Sandymush creek and Turkey creek gorges, are likely the only areas across the game land that have not been impacted from wide scale human disturbance. However, these areas are likely to have been impacted in the past from natural and anthropomorphic fires. Since Wildlife Resources Commission ownership, much of the forest management across the game land has occurred on an individual, stand by stand basis that has been based upon priorities for wildlife habitat enhancement, ecosystem restoration, timber stand improvement, accessibility, or at adjoining landowner requests.

One of the primary focuses of forest management on the game land is restoring ecosystem functionality and improving wildlife habitat within the oak and mountain yellow pine forest communities. Due to the lack of recent disturbances and past poor land use practices, many of the oak and shortleaf pine communities across the game land are degraded, dying, and or being replaced by more shade tolerant, mesic tree species such as Yellow poplar, Eastern white pine, and Red maple. To restore, enhance, and encourage the regeneration of these critically important wildlife communities, forest management practices such as prescribed fire, timber harvest, reforestation, herbicide applications, KG blading, and mechanical release are all needed.

## PRESCRIBED FIRE

The use of prescribed fire is of primary importance for restoring and maintaining ecosystem and habitat diversity across the game land and along with timber harvest, is one of the main tools used by NCWRC to manage the property. Many of the habitats across the game land, in particularly those that are the most degraded and most lacking, require regular fire for propagation, enhancement, and maintenance. These include such habitats as oak and mountain yellow pine communities as well as the early successional habitats that are critical for wildlife across the game land. Burning with prescribed fire also helps reduce hazardous forest fuel loads that have the potential to carry wildfire from or across the game land to the many surrounding private lands, houses, and developments that have surrounded the property and continue to increase in number.



Prescribed burns are implemented to improve wildlife habitat and restore native vegetation.

Burning is also an important forest management tool for site preparation prior to regenerative forest plantings. Fire also serves as a means to reduce competition from less desirable tree species such as yellow poplar, white pine, and red maple as well to control off site establishment of mountain laurel and rhododendron. The use of fire also helps to control the spread and establishment of many of the non-native, invasive species that have proliferated across the game land. Currently there are 19 prescribed burn units across the game land that total approximately 482 acres, with an additional 94 acres scheduled to be burned but yet to be implemented. These additional 94 acres consist of 56 acres located on the Norco and 38 acres that would expand two existing units to include areas recently harvested during the 2013 Sandy Mush Timber Sale (*Appendix XVII*). The 19 prescribed burn units across the game land include both forested and open habitats, and are currently being conducted under a restoration and maintenance burning regime that is completed on a 2-5 year rotation. It is also important to note that prescribed burns

are often conducted in conjunction with nearly all of the other forest management practices used on Sandy Mush, as doing so enhances the effect of both the prescribed burn and other forest management practices that are implemented.

## TIMBER HARVEST

Timber harvest is also an integral part of forest management across the game land. To date there have been two implemented sales on SMGL that have occurred in 2010 and 2013. These two sales consist of 10 units totaling a combined 48.14 acres (*Appendix XVIII*). Of all acres harvested across the game land, 21.8 acres have been clear-cut and 26.3 acres have been thinned. Of the acres clear-cut, 5.68 acres have been reforested to white pine, 8.12 acres reforested to shortleaf pine, 7.4 acres reforested to northern red oak, and .6 acres allowed to naturally regenerate. Units that have been thinned were implemented as reserve shelterwood harvests that were completed to create a varied forest structure, ranging from woodland to “savanna like” conditions that selected for oak, hickory, and shortleaf pine. Although timber harvest is an important forest management tool for the game land, opportunities to increase the acres and size of harvest areas are limited. This is due to several factors such as inoperable terrain, lack of access, proximity to private residences, and EEP restrictions. Of the roughly 2,679 acres of game land owned by the North Carolina Wildlife Resources Commission, 1,058 acres occur within established EEP buffers and 1,621 acres outside of EEP restrictions (1,047 acres are currently forested). Less than 55% of all forested stands on SMGL are available to potential timber harvest (*Appendix IX*).

Some general guidelines for timber harvest on SMGL include:

1. Shelter-wood, selection type harvests, and various thinning regimes generally select leave trees that are beneficial to wildlife (mast producers, etc.), although in some cases may include conifer species (hemlock, shortleaf pine, table mountain pine, etc.) where restoration is the goal.
2. Clear-cut units will be less than 25 acres in size and will be distributed across the game land to provide habitat diversity and early successional habitat needs on the landscape.
3. Sites of proposed clear-cutting will be reviewed for significant cultural resources and all sites of proposed timber harvest will be reviewed with appropriate staff regarding issues of protected plants, animals, significant natural and cultural resources, non-game species, potential management conflicts, etc.
4. Firewood harvests will be administered through the sale of firewood permits on designated sites (usually along roads and at log landings where personal fuel wood is easily available).
5. Riparian buffer zones will be left at widths of no less than those recommended by North Carolina Forest Service Forestry Best Management Practices and all North Carolina Forest Practices Guidelines will be applied where applicable.



2013 Oak reserve shelterwood harvest areas implemented to improve forest structure and encourage oak regeneration.

## REFORESTATION

Generally, stands that are clear-cut will either be planted back to either shortleaf pine or oak species. In some situations clear-cut sites may be planted back in varying arrangements of oak and pine, with pine being planted on the ridges and drier sites of the harvested areas. In rare situations and where appropriate white pine may be planted. In these situations white pines are planted to provide cover and roosting places, but they also develop into small pockets of highly value timber. In many instances the incorporation these highly valued white pine stands into timber sales provide loggers with an additional incentive to harvest stands of less valuable timber that are needed to implement important forest restoration management activities across the game land. In most all situations, a varying arrangement of a mixed pine/hardwood stand will be desired. Sites that are planted back with pine will occur on a wide spacing of 14 by 14 feet to encourage development of mixed pine/hardwood stands, which provide better habitat diversity than pure pine stands. Additionally, sites to be planted with pines are often site prepared by prescribed burning, which will generally occur during summer and fall months outside of the nesting season. However, areas planted with oaks are often planted on a somewhat tighter spacing (typically 12x12) than those areas planted with pines to account for dead loss. Natural regeneration has and will continue to be a major form of reforestation on the game land. In some cases herbicide use, mechanical release, and prescribed burning will be used to enhance both natural and planted regeneration (both pre and post-harvest) as needed.

## HERBICIDE TREATMENTS

Applications of herbicide for forest management are another tool that is being implemented on SMGL. These practices are generally carried out through contracts with the North Carolina Forest Service in conjunction with both site preparation services and or tree planting services. The use of herbicide for forest management purposes is particularly important with regards to controlling the wide variety and excessive amounts of non-native invasive species that are found throughout the game land. Controlling invasive species is a critical component of habitat restoration and a pivotal step in ensuring the success of reforestation plantings following timber harvest. Herbicide is also beneficial in helping to control competition to planted seedlings from fast growing tree species such as yellow poplar and white pine following timber harvests.

Applications of herbicide to control competition are typically carried out following reforestation plantings, but are also being implemented prior to timber harvest as well.



Applications of herbicide are used prior to timber harvest to control competition and non-native invasive species such as Oriental bittersweet (*Celastrus orbiculatus*) (right).

## KG BLADING

The use of a KG blade to set back succession and aid in forest and habitat restoration has also been an implemented forest management technique used on SMGL. Although there are some limitations due to access, topography, and EEP buffers; the use of a KG blade has proved very helpful in setting back plant and tree succession and converting several old field areas overgrown with Virginia pine back to open conditions. The use of the KG blade in conjunction with prescribed fire to increase the fuel load in carries fire and consumes unwanted vegetation. By doing so, the effects of the prescribed burn are increased and conversion to a more wildlife beneficial habitat was enhanced and hastened. All KG work on the game land to date; have been implemented through contracts with the North Carolina Forest Service.



Before and after pictures of a Virginia pine stand that received a KG blade treatment followed by an implemented prescribed burn to restore to an open condition.

## MECHANICAL RELEASE

Mechanical release treatments (chainsaw) have also been an extremely successful forest management technique used on Sandy Mush to convert and restore habitats. This technique works much like that of KG blading, because it removes unwanted vegetation and sets back tree and plant succession. Unlike KG blading, it allows beneficial species important for wildlife to remain. This technique has proved extremely successful in restoring and promoting Shortleaf pine regeneration and propagation.

Mechanical release is also beneficial in creating open over-story early successional habitat, as numerous gaps created between the desirable “leave trees” allow light to the understory enhancing the development of grasses, herbs, and forbs utilized by wildlife. This technique is also used commonly in conjunction with prescribed burning which enhances the effects of controlling unwanted vegetation and selecting for desirable trees species such as the Shortleaf pine that respond positively and benefit from fire.



Before and after pictures showing mechanical release of a shortleaf pine stand and implemented prescribed burn.

## FOREST MANAGEMENT NEEDS

Given the high percentage of oak stands on the game land and their importance as mast (acorns) producers to a variety of wildlife species, oak and oak/pine has and will continue to be a primary focus of forest management across the game land. Threats to oak forests from pathogens, inadequate advanced oak regeneration, and invasive species, create the need for continual forest management practices to be implemented in these systems. Timber harvest (primarily shelter-wood cutting and/or thinning), herbicide use (to control competition with oak regeneration), prescribed burning (to enhance forest stand structure and promote oak reproduction), and planting of oaks will be needed to promote healthy and diverse oak forests. Dry coniferous pine forests, particularly shortleaf pine forests, will also be a primary focus of forest management, as there is a great need to address the loss of these forests across the game land due primarily to the historical lack of disturbance needed to promote these forests, devastating losses of stands over the last decade from infestations of southern pine beetle, and the conversion of many sites to pastures. For the same reasons, Shortleaf pine communities, regionally, have declined significantly over the last 100 years, and efforts to promote restoration of these important forest communities is currently a priority for management on SMGL as well

as across the region. As with oak forests, timber harvests (primarily shelter-wood cutting and/or thinning), herbicide use (to control competition with other regeneration), mechanical release, prescribed burning (to enhance forest stand structure and promote reproduction), and planting of shortleaf will be needed to promote healthy and diverse pine forests.

There is also an immediate need to conduct accurate forest resources inventories and stand maps for the entire game land. This will provide important information for planning and directing forestry and wildlife habitat management on Sandy Mush. Additionally, opportunities for forest management and wildlife habitat research have and should continue to be encouraged on the game land.

## GAME LAND INFRASTRUCTURE

Sandy Mush Game Land is divided into 12 management units (*Appendix X*), which are delineated by tract boundaries, watershed drainages, large streams, power line right-of-ways, and roads. For the purposes of this document, infrastructure assessments and recommendations will be addressed by management unit. Existing infrastructure assessments for SMGL were conducted by Engineering & Lands Management staff in 2013. The results of these assessments along with recommendations for maintenance and improvements are discussed by category below. Maps of current and future infrastructure planned on SMGL can be found in appendixes *XI- XIII*.

### Roads

The management units that make up SMGL are connected and accessed via a combination of improved roads maintained by NCDOT and access roads that are maintained by NCWRC. All NCWRC access roads except one (the Ramsey Snelson road) are closed to public vehicle traffic. Locations of maintained and unimproved roads that have been identified on SMGL are included in Appendixes *XI- XIII*. Approximately 10.9 miles of roads are identified as maintained roads which are regularly used by NCWRC staff for management purposes. Many of these maintained roads have been graded and left with a dirt/grass surface and have minimal drainage improvements. These maintained roads are important as they facilitate NCWRC staff to conduct maintenance and conservation work, but also for use by the public as pedestrian pathways for hunting, fishing, wildlife viewing, and other activities. An additional 20 miles of unimproved roads consisting of logging roads, fire breaks, and old road beds, have been identified on the game land. For the purpose of this infrastructure assessment, fire lines/breaks and unimproved logging roads have not been inspected, but are discussed in other sections of this management plan.

### EXISTING ROAD CONDITIONS

Most of the NCWRC maintained access roads on SMGL have been minimally improved for a level of service limited to maintenance and conservation access for staff and pedestrian access for public users. Hard surfacing and other improvements have been avoided or limited in keeping their locations in managed linear wildlife openings or designated buffer areas. Some were recently maintained or improved following timber harvesting. The major NCWRC maintained access roads that are in the best condition include the following:

## Cedar Hill

The Cedar Hill West management unit is located along the northeastern extents of the Sandy Mush Game Land. The access road follows a ridge line adjacent to managed dove fields for approximately three quarters of a mile. This road also serves as the primary administrative access to the French Broad River. The area between the access road and the river is designated buffer. This road is well maintained for its level of service. Some gravel has been placed at locations where needed.

## Bear Creek

The Bear Creek management unit, located in the western half of the game land, was harvested for timber shortly before being acquired by NCWRC. The major NCWRC maintained road runs for 0.9 miles across the tract. A good sized parking area and gate are located at the eastern end of this road which provides pedestrian access for deer and rabbit hunters. The road has been cleared and graded with water breaks installed, and is maintained well for its level of service.

## FUTURE ROAD IMPROVEMENTS

Maintenance and needs for future improvements were identified on the remaining existing sections of NCWRC access roads. Many of these roads provide direct access to management units of the game land. Other tracts lack improved access because they are either isolated from NCDOT maintained roads by private property or the lack of improved stream crossings. The recommendations for improvements to existing maintained roads and for the development of new access roads (Appendixes XI- XIII) are discussed in this section and are grouped by priority as follows:

### High Priority

Based on assessments of the current condition, level of use and anticipated use of existing roads on SMGL; the following should be considered the highest priority for upgrade over the next ten years:

- Madison South Management Unit - Seasonal Access Road
- Madison North Management Unit - Right of Way to Connect
- Meadows Town Management Unit - Ford Improvement

### Madison South Management Unit - Seasonal Access Road

The 0.45 mile section of Ramsey Snelson Road that is maintained by NCWRC is open seasonally to public vehicle traffic. This is the only NCWRC maintained access road on SMGL that is currently open to public vehicles. Access to the road is seasonal, and is currently controlled by the placement of two gates.

The first section of this access road begins at the end of the NCDOT maintained section of Ramsey Snellson Rd, and runs for one quarter of a mile to the gate at the game land boundary. This section is a right of way through private property, and has an improved gravel surface. For the last 500' before the game land boundary, the width of the road is limited and drainage work

has been restricted by topography and proximity to the property owner's residence. The cut bank along this section of the road (at N35.73224°, W82.67946°) is steep and unstable. This has made it impractical to install or maintain a ditch line. Ideally, the road should be widened enough to establish a shoulder, ditching and stable bank slopes. If it is not possible to widen the road toward the cut bank, then NCWRC staff should assess whether it is feasible and permissible to realign this section of the access road away from the cut bank.

After passing through the gate at the game land boundary, this access road continues for an additional 0.20 miles to end at a small parking area/turn around. The unimproved road continues past the parking area and a large barn. A gate prevents public vehicle access beyond this point. This section of improved road is in relatively good condition. Being that it is the only road on SMGL that is open to public vehicles, improvements such as widening, crowning, installation of ditches and drainage culverts should be considered a high priority in order to maintain that level of service. Additional improvements such as expanding the parking area or providing disabled hunter access should be considered for this site. Estimated cost for road improvements is \$30,000.

### Madison North Management Unit - Right of Way to Connect

A 1.25 mile section of NCWRC maintained access road runs along the length of the 241 acre Madison North management unit. This road and tract of the game land is cut off from access to NC SR-1115 or any other NCWRC access roads by private property. NCWRC staff currently access this road for management of several linear fields with informal permission to cross through 1,000' of adjacent private property. NCWRC holds no right of way or easement through this property, and public access through this private land is not currently allowed.

Obtaining a permanent easement or right of way to provide the public with access to this section of SMGL should be a high priority. If this can be achieved, then it should be feasible to develop parking and install a gate just beyond the game land boundary. The need for further improvements to the existing road should be decided based on whether public access can be acquired.

### Meadows Town Management Unit - Ford Improvement

The 247 acre Meadows Town management unit is located on the western side of SMGL Sandymush Creek runs along the western boundary of this tract. The creek is a barrier that currently prevents administrative or public access to the tract from Meadows Town Road (SR-1001). The game land boundary extends beyond the creek to the NCDOT right of way in several locations, but there is no improved crossing to access the main portion of this tract.

An existing ford crossing of Sandymush Creek has been identified (N35.72217°, W82.73132°). The ford crosses at a shallow section of the creek, but has not been used for some time. The approaches to the ford are overgrown, and the bed of the creek has shifted making the ford impassible in its current condition. The width of the creek at this location is approximately 90' from bank to bank. Rehabilitation of this ford will restore administrative access to the Meadows Town management unit for maintenance and conservation work. Development of a parking area and foot bridge at a site 0.35 miles upstream of the ford location will provide the public with access to the Meadows Town unit. Restoration of the ford crossing will involve improving the approaches for approximately 200 feet on each side of the ford. In stream work

may involve construction of a rock sill to maintain a riffle feature at the ford location or installation of pre-cast concrete slabs across the stream bed. Beyond the approach of the Meadows Town unit, existing road beds will require some improvement to meet the desired level of service. The estimated cost for the approach road and ford improvements is \$20,000. The costs for road improvements on the Meadows Town unit will be determined based on the needs and the conditions of existing road beds once access is restored.

### Medium Priority

The following roads should be considered as medium priority for upgrade after completion of improvements to the listed high priority road projects:

- Cedar Hill East Management Unit Access Road

#### Cedar Hill East Management Unit Access Road

Approximately 350 feet of access road connects Cedar Hill Road (SR-1632) to a small parking area which provides access to the managed dove fields within the Cedar Hill East management unit. Currently this access road and parking area have been improved with a gravel surface. A small section of the access road needs to be realigned to remove a difficult bend near the point where it splits at a gate and the entrance of the parking area. In addition to the realignment of the access road, an old road bed exists which follows the ridge top through a stand of timber that is currently planned to be included into a future timber sale. The future implementation of a timber sale in this area would provide an opportunity to improve the old road, provide additional access for game land users, and provide a means of expanding the existing parking area. Adjustments and improvements to the access road are estimated at \$8,000.

### Low Priority

The remaining NCWRC roads throughout SMGL should be considered as low priorities for improvement. Maintenance of most of these access roads involves grading, bush hogging and occasional placement of stone where needed to stabilize soft areas. This maintenance approach is adequate for current management and conservation practices where public access is limited to foot traffic. If management practices or intended public uses change in certain areas, additional maintenance or improvements to these roads may be required. NCWRC management staff should routinely inspect the condition of these access roads for indications of surface instability or drainage problems. Engineering staff should be notified if problem areas are identified that may change the prioritization these access roads.

## NEW ROAD CONSTRUCTION

Due to the extents of the designated buffer areas throughout SMGL, the steep topography and the presence of NCDOT and NCWRC maintained access, there are few options for the development of new access roads. Some areas of the game land that do not currently have road access are isolated tracts that are cut off from existing roads by private property or natural barriers. Acquiring easements or rights of way along existing roads or driveways should be the first priority for securing access to these tracts. Building fords or bridges to access those tracts cut off by streams should also be investigated, but may be problematic due to cost and buffer restrictions. In these buffer areas, road construction is typically restricted to improvement of

existing road beds or crossings. Short lengths of new road construction may be required at areas where new parking areas are proposed for development. These areas are addressed in the “Parking Areas” section of this document.

## ROAD MAINTENANCE

All roads require inspection and maintenance to function well and avoid damage and deterioration. Maintenance should be performed regularly, as the longer the delay in needed maintenance, the more damage will occur and the more costly the repairs will be.

Below is a list of typical road maintenance practices:

- Inspect Roads regularly, especially before the winter season and following heavy rains.
- Keep ditches and culverts free from debris (see Culvert section).
- Remove sediment from the road or ditches where it blocks normal drainage.
- Re-grade and shape the road surface periodically to maintain proper surface drainage.
  - Typical road should be crowned at approximately 4%, or ½” per foot.
  - Some roads may not require a crown, but should have a constant cross slope (super-elevation).
  - Gravel should be distributed at an even depth across the road.
  - Gravel should have an even distribution of fine and course materials.
  - Keep downhill side of the road free of berms, unless intentionally placed to control drainage.
  - Proper maintenance and grading of the road will require a motor grader and a roller.
- Avoid disturbing soil and vegetation in ditches, shoulders, and cut/fill slopes to minimize erosion.
- Maintain shoulders on both sides of the road to ensure oncoming vehicles have enough room to pass. Shoulders should be relatively flat, with a mowed grass surface.
- Maintain an erosion-resistant surfacing such as grass or rip rap in ditches.
- If it is determined that a road needs major repairs or upgrade, contact Regional Supervisor and Design Services to schedule an assessment.

## Parking Areas

There are currently eleven identified parking areas maintained by NCWRC on SMGL. The larger parking areas such as Turkey Creek, Cedar Hill, and Bear Creek range in capacity from 10 to 20 vehicles. Smaller cul-de-sac and roadside pull-off areas may only have the capacity for 2 to 4 vehicles each. All of the existing parking areas that were inspected have a gravel surface and are in good condition. Most of the existing parking areas are located at the head of maintained access roads. Gates are located at the edges of the parking areas where these access roads begin. The perimeters of many of the parking areas are defined either by set post and cables or by

reused power cables that are anchored to trees. These barriers are intended to prevent bypassing the gates on all-terrain vehicles.



Parking areas, such as this one located off of Cedar Hill road, are regularly maintained with gravel.

The following areas have been identified for development of new or expansion of existing parking facilities:

- The Meadows Town management unit is currently cut off from and public access by Sandymush Creek. An area on the game land located (N35.71813°, W82.73303°) between Sandymush Creek and Meadows Town Road (SR-1001) has been identified for development as a parking area. This area is relatively level bottom land, but the elevation of Meadows Town Road and its steep embankment will require construction of approximately 100 feet of entrance road. The space required for the entrance road and buffer restrictions will limit the potential capacity of this parking area to around 10 vehicles. Estimated cost for construction of the entrance road and parking area is \$20,000. Construction of a foot bridge across Sandymush Creek at this location will also be necessary as to provide pedestrian access from the parking area to the Meadows Town management unit. The width of Sandymush Creek at this site is approximately 60 feet from bank to bank. Buffer restrictions may require extending the span beyond the protected areas. Estimated cost for design and construction of the pedestrian bridge is \$30,000 to \$50,000.
- A NCWRC maintained access road beyond a gate along Old HWY 20 leads to a popular hunting field on the North Turkey Creek management unit. Parking is currently limited to the portion of the access road just before the gate and along Old HWY 20. A site with potential for development has been identified adjacent to the access road beyond the existing gate. This site is on open pasture, but it is sloped. A level area would need to be graded across this slope to create up to 10 parking spaces. A post & cable barrier and a second gate would also need to be installed. Estimated cost for this development is \$20,000.
- The existing parking area located on the Cedar Hill East management unit (also known as the Orchard parking area) has been identified with potential for expansion. The area can currently accommodate 2 to 4 vehicles. Following the proposed timber harvest, the parking capacity could potentially be doubled. Realignment of the existing access road should be done in coordination with the parking area expansion. Installation of new

post & cable barriers and a second gate will also be needed. Estimated cost for this parking area expansion and installation of post/ cable barriers and a new gate is \$10,000.

## Gates

Lockable gates are installed at or near the entrance of each NCWRC maintained access road. These gates limit access in these areas to maintenance and conservation staff except for those areas where seasonal public vehicle access is permitted. All gates are constructed of steel pipe with concealed locks, and are in good condition.



Pictured above is a gate located on Sandy Mush Game Land. This set up is typical of most gates on the game land, and is used to restrict motorized access to the public.

## Structures

Fourteen barns or other structures have been identified within SMGL, and are shown on the infrastructure maps in the Appendixes XI- XIII. The NCWRC safety officer inspected these structures soon after the game lands were acquired, and a majority of these structures are of sound condition.

The following structures however have suffered storm damage or have otherwise partially collapsed. These should be demolished and removed from the game land:

- Martin Candler Barn – Left Side (N35.71761°, W82.67210°)
- Don Snellson – Second Barn (N35.73644°, W82.67229°)
- Don Snellson House (N35.73709°, W82.66843°)
- Meadows Town Barn (N35.72189°, W82.73016°) \*currently inaccessible

The estimated cost for demolition and removal of these four buildings is \$40,000.

All of the other standing barns located on the game land are either know or potential habitat for barn owls, which are a species of concern. Rather than razing the structurally sound barns, their doorways have been boarded over and the barns have been posted to prevent trespassing.



Two of the structures slated for removal from the game land are the Don Snellson- second barn (left) and the Martin Candler barn (right). Pictures above are from several years ago and since then both structures have become even more dilapidated and pose a potential liability to the public.

## Drainage Structures

### DAMS

There are no dams located within SMGL.

### IMPOUNDMENTS

There are no impoundments, managed ponds, or lakes located within SMGL.

### CULVERTS

Many of the NCWRC maintained access roads on SMGL are out sloped with water breaks installed for drainage. Some culverts were installed prior to NCWRC acquisition of the particular tract. Existing stream crossings have also been identified. Buffer restrictions may prevent the installation of culverts at the stream crossing locations.

Two of the identified culverts are in good working condition. The third culvert located (N35.71997°, W82.74064°) on a perennial tributary on a block of the Meadows Town management unit has been identified for removal. This culvert is of unknown size and length as both the inlet and outlet have been silted over. Private individuals have been crossing the game land at this culvert to reach a dumping site located just beyond the game land boundary. This is an ongoing problem and an issue that is being addressed.

Since the culvert no longer functions, it has been recommended that NCWRC remove it completely and restore approximately 80 linear feet of the tributary channel to a natural state. Restoring this channel and installing a gate at the beginning of the existing road grade should block access to this dump site. Refuse and debris at the existing dump site should be removed before the culvert and channel work commences, and the gate should also be installed before the site is cleaned. The bulk of the dumped trash lies just beyond the game land boundary. Some research will be required to determine whether NCWRC is legally able to remove this waste or if

it is the responsibility of the adjacent property owner or County solid waste management department. The estimated cost for removal of the existing culvert; channel restoration design, permitting and construction; gate installation and trash clean-up is \$10,000.

Regular culvert maintenance should be performed to extend the life and ensure proper function of installed drainage structures. The accumulation of sediment and/or debris at the inlet or outlet of a culvert or damage such as crimping of the pipe effectively reduces the diameter and flow capacity of the pipe. Culvert maintenance includes removal of accumulated sediment and/or debris that prevents passage of water (and organisms) through culvert inlets, outlets and connected drainage ways. It may also include reinforcement of eroding inlets and outlets by installing riprap or other erosion control measures. Damaged culverts and culverts requiring frequent repeat maintenance should be considered for future remediation via redesign and reinstallation.

The following items should be checked for and addressed as part of routine culvert maintenance inspections:

- partial or complete blockage of the inlet or outlet of the pipe with sediment, stone, leaves, woody debris, refuse, or any other items that could affect flow through the culvert
- evidence of scour, bank or channel bed erosion near the inlet or outlet of the culvert
- evidence of flow overtopping the road at the culvert location
- damage to the pipe including crimping of the inlet or outlet, crushing or piercing of the pipe
- severe corrosion of the pipe
- damage to headwalls

Staff should inspect ditches and culverts as part of their regular road maintenance activities. This inspection is especially important during leaf fall and following periods of heavy rain. Staff should consider the location of the culvert before performing maintenance using heavy equipment. Culverts located in active stream channels, dedicated or critical habitat areas may require special permission or installation of erosion control measures before maintenance can commence.

Leaves and woody debris that have accumulated in or around the inlet of the culvert should be removed immediately using hand tools if possible. Removal of accumulated silt and/or gravel from ditches approaching the culvert inlet should be performed using a small excavator, backhoe or a tractor equipped with a scrape blade. Sediment in or around the immediate vicinity of the pipe inlet or outlet should be removed using hand tools to prevent damaging the culvert. Cleaned out material is to be pulled away from the culvert then hauled and spread at a site where it cannot be washed back to the culvert area.

Repeat problems with sediment collecting around the inlet may indicate the existence of an erosion problem originating from the slopes, streams or ditch lines in the vicinity of the culvert. Identification and stabilization of these problem areas through practices such as seeding or matting could improve performance of the culvert and reduce maintenance requirements. Flow overtopping the road at the culvert location generally indicates that the pipe is undersized and

could warrant resizing and replacement. Any damage to the culvert, as described above, may also necessitate replacement of the pipe. If maintenance staff identifies any culverts that may need replacement, they should contact engineering staff to calculate the peak flow capacity and diameter of the new pipe. Any culvert upgrade consisting of a single pipe 36 inches and greater, or a crossing utilizing multiple lines of pipe, should include design considerations for fish passage. Specific considerations can be obtained by contacting the Division of Inland Fisheries, Habitat Conservation Program- Technical Guidance section.

## Recreation Facilities

The Sandy Mush Game Land provides a variety of opportunities for public recreation. This section will review existing recreation facilities and describe sites identified for potential new development.

### BOATING ACCESS AREAS

There are no boating access areas within the Sandy Mush Game Lands. The creeks and rivers within or bordering the game land are not suitable for motor boat navigation. A railroad easement separates the eastern units of the game land from the French Broad River. Opportunities for recreational paddling or float fishing access on Sandy Mush Creek are limited. The steepness and condition of existing logging roads or trails that lead from the maintained access roads to Sandy Mush Creek and the distances from any parking areas to these potential access points are currently prohibitive factors.

### PUBLIC FISHING PIERS

There are currently no public fishing piers or platforms located on streams or rivers in the Sandy Mush Game Land. Locations where parking is in proximity to potentially fishable streams include Turkey Creek and the proposed parking area along Sandy Mush Creek at Meadows Town Road. Inland Fisheries staff should coordinate with Division of Engineering and Land Management staff to assess these and any other potential sites for development of accessible bank fishing platforms.

### SHOOTING RANGES

There are currently no designated shooting ranges on the Sandy Mush Game Land. The terrain of the area along with the presence of buffers and proximity to residences has essentially eliminated any potential for the development of firing ranges on the game land.

### CAMPING AREAS

There are currently no designated camping areas on the Sandy Mush Game Land. No potential sites for development of primitive camping facilities have been identified.

## TRAILS

There are over 20 miles of undeveloped remnants of roads within the Sandy Mush Game Land. Several of these old road beds connect to maintained access roads and lead to sites within the gorge along Sandy Mush Creek. Clearing and stabilization of these road beds could improve access to these remote areas for anglers, paddlers and hikers. Clearing and maintenance of these trails could be facilitated through agreements with volunteer groups.

## RECREATIONAL FACILITIES MAINTENANCE

Maintenance of recreational facilities is critical to the overall operation of the game land program. Typical use of the game lands is dispersed, however, recreational facilities concentrates users on a specific area or feature. This concentration of users, whether it is a boating access, fishing access, shooting range, or other use, results in a need to ensure the facility is safe and functional. Routine site visits for inspection and maintenance will accomplish this goal. Site visits should consist of two actions: (1) Inspection for safety issues and functionality; (2) Actual maintenance activities.

### 1. Inspections should examine the following items

#### a. Safety inspection items:

##### Facility components

- Decking
- Handrails
- Structural supports (piles, substructure, and floats)
- Fasteners (bolts, screws, and nails)

##### Slip or trip hazards

- Uneven walking surfaces
- Mud on walking surfaces
- Ponded water on walking surfaces
- Drop offs

##### Overhead

- Dead trees or limbs
- Overhead utilities

#### b. Functionality Inspection Items

##### Parking

- Surface condition (ruts, potholes, gravel)
- Delineation (wheel stops, paint)

##### Ramp

- Blockages (sediment, wood)
- Surface condition

##### Pier/Dock

- Bollards
- Wooden components
- Bumpers

#### Shooting range

- Berms
- Target area
- Benches
- Shelter (roof, structure, and floor)

#### Signage

- Kiosk (entrance, regulation and information)
  - ADA
  - No Parking
  - Keep Ramp Clear

## 2. Maintenance activities should include routine and corrective activities

### a. Routine Activities include:

- Litter and debris removal
- Grass mowing
- Woody vegetative growth control

### b. Corrective activities can include but not be limited to:

- Lumber replacement
- Sign replacement
- Minor grading
- Tree or limb removal

Over time recreational facilities degrade to the point that routine maintenance activities cannot provide corrective action. Examples of this level of degradation include but are not limited to: structural problems, persistent and/or severe erosion issues, and broken/or severely degraded concrete. Once this level of degradation is reached, supervisory personnel should inspect the facility and determine the scope of the needed repairs. If major repairs are required supervisor personnel should contact an engineer for assistance.

## Game Land Use and Development

### PUBLIC USE

#### Hunting/ Trapping

Hunters and trappers are considered to be a primary user group for Sandy Mush Game Land, with white-tailed deer and wild turkey (*Meleagris gallopavo*) being the two primary hunted game species. Deer harvested between the 2010 and 2012 hunting seasons has averaged approximately 20 deer. Turkeys are also found in good numbers across the game land and have had an average harvest of 15 gobblers over the same time period. Black bear have increased their range over the past 20 years in North Carolina and are present on Sandy Mush Game Land, however at low numbers. Since 2008, only 4 bears have been harvested on the game land. Although limited trapping does occur on Sandy Mush, the last several years have seen an increase in interest from trappers using the game land, in particular, those trappers who are

pursuing predator species such as coyotes and bobcats. Beavers are also another commonly sought after furbearer species. Small game and furbearer species such as: Gray squirrel Eastern cottontail rabbit, Northern bobwhite quail, ruffed grouse mourning dove, American woodcock, red fox (*Vulpes vulpes*), gray fox, raccoon, and Virginia opossum (*Didelphis virginiana*) are all found across the game land and actively hunted and trapped. Dove hunting, an extremely popular hunting activity on the game land, is partially regulated through a permit hunt system which occurs from opening day through the second Saturday of the hunting season. Some waterfowl species occur on the game lands but hunting pressure for these species is light. Sandy Mush Game Land is designated as a “Three-Day per Week” game land, where all hunting is restricted to only Monday, Wednesday, and Saturday of each week of the hunting season, as well as the holidays of Thanksgiving, Christmas, New Years, and Martin Luther King Day.

Management strategies directed towards hunting and trapping should include those that help to maintain or increase the current numbers of hunters and trappers using the game land. Acquisition of properties or easements that provide for better access to remote areas of the game land would be a primary means to help increase the available use of the game land by hunters and trappers. The construction of several new parking areas will help provide better access and increase use, while the construction of a foot bridge in the Meadow Town section of the game land would address a concern to one of the least accessible areas of the game land (see Infrastructure section). Although approximately 87% of those that attended the public meeting felt that the current level of access to the game land is satisfactory; there are several recommended actions which would help increase access to the game land. In addition, locations that will enhance disabled hunter opportunities will also be a primary focus of game land development, and strategies to improve disabled access will be considered when implementing infrastructure improvement and development projects across the game land. A focus on active habitat management will ensure that adequate numbers of game and furbearer species are present to help keep hunter and trapper interest high. Challenges to a quality hunting or trapping experience include conflicts with other game land users as well as low numbers of game species that can be managed for on the game land.

## Fishing

Anglers are considered to be a primary user group of Sandy Mush Game Land although there are currently a limited number of fishing opportunities on the game land. The majority of existing angling use occurs along the French Broad River as well as some areas of Sandymush Creek and Turkey Creek. The primary fish species being sought after by most anglers on Sandy Mush include: Smallmouth bass, catfish, and sunfish. Management strategies that increase, where appropriate, the number of fishermen using the game land should be adopted. One strategy being explored is the feasibility of stocking trout in suitable areas along Sandymush Creek and Turkey Creek.

## Wildlife Viewing

Wildlife viewing includes activities such as birding, wildlife photography, and general wildlife viewing. Many wildlife viewing enthusiasts come to SMGL to view and to study birds, butterflies, and other wildlife species associated with early successional habitat types. Wildlife viewers are considered to be a primary user group at Sandy Mush Game Land, and management strategies to increase the number of wildlife viewers utilizing the game land will be implemented. In 2009, the game land was designated as part of North Carolina Birding Trail, and

has become an increasingly popular destination for birders and wildlife viewers because of the diversity of habitats found there. Strategies to increase and enhance wildlife viewing opportunities include: continue to maintain and to develop partnerships with wildlife viewing groups and public, establish directional signage along roads that provide access to the game land, establish informational signage regarding wildlife viewing opportunities at key access locations (i.e. parking areas), increase efforts using all media outlets to better publicize Sandy Mush as an NC Birding Trail destination, and identify key waypoints along birding routes as a means to educate and enhance the viewing experiences. Infrastructure improvements needed to better facilitate wildlife viewers include signage as noted above, development of parking areas (see infrastructure section), and the establishment of additional kiosks at key access locations. The continuation of active habitat management will ensure that adequate numbers and a high diversity of wildlife species are present on the game land and will serve to keep viewer interest high. Efforts to provide viewing opportunities near public access will also greatly help to build this new constituency. Some challenges to a quality wildlife viewing experience include conflicts with other user groups on the game land, overcrowding, and potential loss of popular viewing areas to succession.

### Other Outdoor Recreation

Hiking is a popular activity on the game land and occurs year round. There are no designated hiking trails currently located at Sandy Mush Game Land. However, there are approximately 11 miles of maintained paths, roads, and linear wildlife openings available for hiking. Although there are restrictions by the Ecosystem Enhancement Program, that limit new trail construction, opportunities to upgrade unmaintained, existing paths and roads to a maintained status will be explored to provide increased walking and hiking opportunities to the public. Other strategies to increase and enhance hiking opportunities include: adding directional signage along roads that provide access to the game land, providing informational signage regarding maintained paths at key access locations (i.e. parking areas), publicizing trails in local outlets and other media sources, and adding user information at kiosks that indicate the best times of the year for hiking. Infrastructure improvements that will be provided to encourage this user group includes: upgrading selected paths and log roads to trails, developing signage as noted above, establishing parking areas (see infrastructure section), and the establishing additional kiosks at key access locations. Conflicts among hunters and hikers may occasionally occur, but increasing game land information available to the public through online resources and kiosks at key access locations may help reduce this source of conflict among user groups.

Mountain biking currently occurs at Sandy Mush Game Land, but at low levels. The current level of mountain biking is not causing any immediate resource issues and therefore should not be increased for several reasons. First, due to the erosive nature of many of the soil types found on the game land (see soil section) and based on an intensive staff review, there have been no suitable trail locations identified. The creation of new biking trails on the game land could also potentially create conflicts with hikers, hunters, and wildlife watchers, as well as degrade wildlife habitat improvements especially in sensitive areas. Additionally, trail development restrictions within EEP buffers further limit available options to provide for these users. Ample opportunities for mountain biking can be found on the nearby Pisgah National Forest and this activity should not be featured on Sandy Mush Game Land.

There are currently no designated horseback riding areas on Sandy Mush Game Land. The development of opportunities for horseback riders to use the game land and specific

recommendations from the public input meeting (very few comments were received requesting horseback riding opportunities) were reviewed and discussed by NCWRC staff. The review of the SMGL revealed a lack of suitable roads of sufficient length and character (loop opportunities) for horse trails. Additionally, stream buffer restrictions placed on the game land by EEP prohibit trails and activities causing erosion in these areas which further reduced potential opportunities for establishing horse trails. Allowing horseback riding on maintained trails would create additional erosion issues, damage to linear wildlife openings, and conflicts with hikers, hunters, and wildlife watchers. Horseback riding also increases the probability of introducing additional exotic species on the game land. Therefore due to the lack of suitable trails, trail development restrictions and the potential negative impacts, horseback trails will not be developed on SMGL. Ample opportunities for horseback riding on the nearby Pisgah National Forest and other public lands in the region offset the lack of opportunities on Sandy Mush Game Land.

Geocaching is also a popular outdoor recreational activity that is occurring on the game land. For this activity participants use Global Positioning Systems (GPS) or other mobile devices to hide and seek containers called “caches”. Currently there are 12 geocache locations on Sandy Mush, with the vast majority located near the end of Cedar Hill Road. Most of these caches are located in safe locations just off the main road; however, there are several that are located in somewhat unsafe locations. Caches located in potentially hazardous locations will be discouraged. When administered in appropriate areas, geocaching is a great outdoor activity that could be used to promote and educate the public about management activities occurring on game lands. Currently NCWRC is developing a statewide policy to regulate geocaching on game lands, and SMGL will follow these guidelines.

## Wildlife/Habitat Inventory and Monitoring Needs

White-tailed deer and wild turkey are featured big game species on SMGL. Big game harvest records are an important tool utilized to monitor population levels and trends and make management decisions. However, additional surveys (camera traps, hunter surveys.) would augment current information and help WRC staff better manage and make more informed decisions about appropriate harvest levels for both species.

We currently lack adequate information regarding small mammals, amphibians and reptiles on SMGL. General Surveys to inventory and monitor these species and their habitats are warranted. With basic inventory information on these species, we can develop target population levels and develop habitat management strategies to achieve those levels where feasible..

There are a number of invasive plants that are well established on SMGL. Control efforts for some of these plants are ongoing. Other invasive plants are so established and widespread on SMGL that total control is not possible. It is important to rapidly detect and eradicate new invasive species before they become entrenched. Enhanced monitoring of these invasive species is needed to identify problem areas and better guide control strategies and efforts.

Monitoring land use and community planning efforts adjacent SMGL is needed. These include local government land use, long range transportation plans, zoning changes, and new commercial and residential development. To the extent that these uses and plans may affect the success of game land management goals and objectives, appropriate bodies should be

informed how to minimize impacts to the game land where possible. Monitoring of local development and transportation plans and proposed projects in terms of how they may affect important wildlife corridors between regional conservation lands is also important.

## Wildlife/Habitat Management Needs

Habitat management needs are summarized within each habitat section and goals described in the “desired future conditions” subsection. The overall management objective for SMGL will focus on restoration and enhancement of critical habitats and communities (oak forests, early successional, aquatic, rock outcrops, etc.). Researching areas for development of critical habitat types and monitoring the success and impacts of habitat and community restoration activities will be needed. Species specific management focus will continue to be on popular game species (white-tailed deer, wild turkey, gray squirrel, cottontail rabbit, mourning dove, etc.), WAP priority species, and threatened and endangered plants.

## User Group Needs

Listed below are key needs identified to address public use of Sandy Mush Game Land:

- Construct kiosks with relevant game land information
- Provide additional signage to address the needs of a variety of user groups
- Implement and promote opportunities for disabled sportsmen
- Develop a means to inform the public of current and future management activities planned on the game land. (Ex. Prescribed Burning)
- Develop clear, understandable, and enforceable regulations
- Perform regular user group surveys to stay up to date with changing user group needs

## ENFORCEMENT AND REGULATIONS

Currently there are two primary assigned Wildlife Enforcement Officers to work Sandy Mush Game Land. One is stationed in Madison County and the other in Buncombe County. In addition, there are also three more Wildlife Enforcement Officers and three supervisory staff including a Captain, Lieutenant, and Sergeant which routinely assist with enforcement and enforcement issues pertaining to the game land. Primary enforcement activities on the game land include: aircraft patrols for bait, check points for license and game compliance, foot patrols, remote camera setups on bait and littering sites, nighttime poaching setups and surveillance, ATV patrols, kayak patrols, and routine road patrols. These activities occur throughout the year across the game land, with the highest frequency of enforcement activities occurring during hunting seasons. Critical times for the Enforcement Division on the game land occur during the first two weeks of dove season, the gun-deer season, raccoon season, and the turkey season.

As with most game lands, the major enforcement problems on Sandy Mush pertain to littering, regulations violations, dogs running unleashed, and adjoining landowner issues and conflicts. Enforcement issues particular to Sandy Mush include: shot from dove hunters impacting roof tops and houses adjacent to the Martin Candler dove fields, illegal dumping at the Bear Creek, Turkey Creek, Teague Road, and Meadows Town Road access areas, and illegal hunting during days of the week when the game land is closed.

The following is a list of regulations specifically related to Sandy Mush Game Land:

- Dove hunting is by permit only from the opening day through the second Saturday of the season
- Designated as a three day per week game land
- Gun either sex deer season falls under introductory season regulations
- Horseback riding is prohibited except on designated trails
- Dogs may only be trained on Mondays, Wednesdays and Saturdays and only during that time period when dog training is allowed on game lands

The following areas for possible regulation changes have been identified on SMGL to address user conflicts, conserve wildlife populations, and provide additional game user opportunities:

- Regulations pertaining to dog training
- Regulations pertaining to permit dove hunts
- Regulations pertaining to designating Turkey Creek and Sandymush Creek as hatchery supported trout waters

## PARTNERSHIPS AND COLLABORATIONS

Partnerships and collaborations among various conservation groups, universities, state and federal agencies, non- governmental agencies, non-profit groups, national organizations, clubs, and private citizens are and will continue to be an important aspect of management at SMGL. Newly created and continued partnerships between the NCWRC and these groups will be essential for meeting the goals and needs outlined in this document. A list of current and potential partnerships for Sandy Mush is listed below:

- Carolina Bird Club
- Ducks Unlimited
- Elisha Mitchel Chapter of the Audubon Society
- Haywood Technical Community College
- Local birding groups
- Local conservation organizations
- Local fire departments
- Local hiking clubs
- Local landowners
- National Wild Turkey Federation
- N.C. Bow Hunters Association
- N.C. Ecosystem Enhancement Program
- N.C. Forestry Association
- N.C. Forest Service
- NC State University

- Quail Unlimited
- Quality Deer Management Association
- Regional Land Trusts
- Ruffed Grouse Society
- Shortleaf Pine Restoration Initiative
- Southern Appalachian Highlands Conservancy
- Southern Appalachian Raptor Research
- Trout Unlimited
- UNC Asheville
- USFS- Southern Research Station
- Western Carolina University

## RESEARCH AND SURVEYS

Research and surveys provide critical information necessary for the management and conservation of fish and wildlife resources at SMGL. Research and survey projects are needed to make sound scientific decisions, prescriptions, and assessments of these resources across the game land to meet the goals and objectives of this plan. A large component of research and surveys on all game lands is to provide information for adaptive management, where monitoring is used to evaluate the effects of management in order to improve future actions for conservation. Current and ongoing research and survey projects on SMGL include: a Northern Red oak regeneration and establishment study, bird surveys, butterfly surveys, nest box surveys, game fish and aquatic species surveys, black bear surveys, dove hunter surveys, amphibian surveys, bird and waterfowl banding, and small mammal surveys.

Bird surveys have been conducted on Sandy Mush in conjunction with Northern bobwhite quail surveys since 2007 and in conjunction with efforts of the Elisha Mitchell Audubon Society, have helped to generate species checklists and known occurrences of priority bird species. American kestrels are a priority raptor species known to occur on the game land and a nest box program for the species was established in 2009. Through these efforts American kestrel populations have more than doubled. Barn owls also occur on the property and a nest box program directed towards increasing numbers initiated in 2009, has also been successful. Expanding both the establishment and monitoring of these nest boxes across the game land is planned over the next 10 years. Small mammal surveys were conducted in 2013 by Haywood Community College students and future surveys are planned annually. Game fish surveys across the Game Land have revealed a poor smallmouth bass population in Sandymush creek upstream from its confluence with the French Broad River, very few crayfishes, no mussels, and few nongame fish species.

Below is a list of current research and survey projects occurring on Sandy Mush Game Land:

- Black bear bait station index
- Song bird surveys
- Quail surveys
- Kestrel project

- Barn Owl nest box project
- Butterfly Checklist
- Bird Checklist
- Small mammal surveys
- Northern Red oak research project
- Game Fish surveys
- Aquatic Diversity surveys
- Barn Owl Pellet analysis
- Night Jar survey
- Salamander surveys
- Mourning Dove and Wood Duck banding
- Dove hunter surveys
- EEP Draft Mitigation Plan
- Eastern Blue Bird nest box project
- Wood Duck nest box project

Although there have been several studies conducted and numerous surveys and projects implemented, there is still a need to continue to improve inventories and monitoring as well as continue to gather knowledge and information regarding wildlife and aquatic resources across the game land. We plan to use camera traps to estimate deer densities and hunter numbers, and in combination with our harvest data we will develop a solid deer harvest management system. Bat surveys are needed and could be accomplished through establishing a North Carolina Bat Acoustic Monitoring Program route, monitoring bat roosts (including installation of bat houses), and mist-netting. Although some salamander surveys have been conducted in localized areas such as those prior to timber harvest, more wide-ranging surveys are needed to document important breeding areas and provide baseline data prior to management. Reptile surveys have not been conducted across the game land and are needed. In particular, aquatic turtle nesting habitat should be identified and protected, rock outcrops surveyed, and cover board transects need to be established. Continued aquatic surveys of the streams, at intervals, across the Game Land will be needed to monitor aquatic habitat quality, aquatic communities, and the potential for restoration of priority aquatic species. Surveys and inventories of unique habitats such as wetlands, rock outcrops, and cliffs are also key lacking areas of knowledge that need to be addressed.

A list of research and survey needs for Sandy Mush Game Land is listed below:

- Additional and continued inventory of small mammals, reptiles, and amphibians
- Monitor establishment and restoration of shortleaf pine community types and their impacts on wildlife populations
- Monitoring of important game species
- Implement the use of camera traps to evaluate wildlife populations
- Inventory and delineate wetland habitats

- Inventory and delineate rock outcrops
- Survey and identify aquatic turtle nesting habitat
- Implement American woodcock surveys
- Initiate a MAPS (Monitoring Avian Productivity and Survivorship) station
- Initiate fall quail covey counts
- Initiate bat survey routes
- Inventory, identify, and monitor invasive species
- Implement research and monitoring of wildlife openings
- Expand research and knowledge of critical habitat types (vernal pools, early successional, etc.)
- Continue and expand surveys and monitoring of user group numbers and activities
- Develop accurate forest wide stand maps and inventories for all forested systems
- Develop photo points within EEP buffer areas to monitor invasive species as well as other vegetative changes

## ACQUISITION PLAN

Due to the continual expansion of urbanized areas in the proximity the game land, increasing demand for public use areas, and in keeping with the objectives of the NCWRC's Game Lands Program to provide, protect, and actively manage habitats to benefit aquatic and terrestrial wildlife resources, there is a need to expand Sandy Mush Game Land. A total of 46 tracts totaling 3,324 acres have been identified as priority property acquisitions on SMGL (*Appendix XIV*). These tracts range in size from 2 to 315 acres.

Priority property acquisitions have been identified and categorized based upon the potential to improve game land access, enhance connectivity of the game land, and or contain critical habitats. Tracts identified as Level 1 acquisitions are the highest priority. These tracts are generally inholdings or adjacent tracts that provide key game land access or that enhance connectivity of current holdings. Level 2 tracts are those that provide additional game land access and enhance connectivity to existing holdings, but aren't considered as high priority as Level 1 tracts. Level 3 tracts are large tracts immediately adjacent to the game land that provide important additional acreage, but do not provide key access to or enhance connectivity of existing holdings. Twelve have been identified as level 1 priority tracts, nine as level 2 priorities, and twenty-five as level 3 (*Appendix XIV*). Tracts adjacent the game land that are not identified on the map and are offered for acquisition should be evaluated on a case by case basis to determine if they address a significant game land and/or conservation need. In a broader sense, any property that may be offered for acquisition should be evaluated in terms of its ability to provide connectivity or corridors between the game land and other regional conservation lands and/or its ability to provide critical habitat for threatened or endangered species.

## ASSETS

While it is important to note that, no NCWRC staff are solely assigned to Sandy Mush Game Land, the current level of staff needed to meet the objectives of the plan are deemed to be

adequate. Current NCWRC staff which have Sandy Mush Game Land assigned to their work area include:

- 1 Eco Region Supervisor
- 1 Wildlife Forester
- 1 Land Management Biologist
- 1 Conservation Technician Supervisor
- 3 Conservation Technicians
- 1 District Fish Biologist
- 1 Fisheries Bio I
- 1 Aquatic Nongame Coordinator
- 1 Aquatic Nongame Biologist
- 4 Wildlife Diversity Staff
- 5 Wildlife Enforcement Officers
- 1 Field Engineer

Additional asset and funding needs necessary to meet the goals and objectives of this plan are listed below:

- Mower/mulcher (i.e. Fecon mower for early successional habitat development and maintenance)
- Funds needed to replace aging equipment as needed
- Small Dozer to implement forestry and firebreak work
- Kiosks and signage as needed to direct and inform game land users
- Educational materials for kiosks
- Funds to repair and stabilize roads and trails
- Construction/upgrades to public parking areas
- Construction of one foot bridge
- Funds to purchase gravel, culverts, gates (for routine maintenance and new construction)
- Additional and ongoing training of employees (equipment operation, forestry practices, habitat work, etc.)
- Hire a seasonal employee to assist with maintenance activities and prescribed burning
- Funding for land acquisition
- Funding for contract boundary maintenance
- Funding for 30 trail cameras to facilitate wildlife population monitoring and user group surveys and activity level monitoring.
- Funding for research and surveys
- Funding for forest inventory and stand mapping

## FUNDING NEEDS

Current and future estimated expenditures for managing SMGL through 2025 are presented in the table on the following page.

Sandy Mush Game Land																
Financial Summary of Activities																
Habitat Activities																
Project	Description	Activity	Quantity	Unit	Cost	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	Total
H	Firebreaks	Maintain firebreaks	2	mi	\$ 525	1050	1076	1103	1130	1158	1187	1216	1246	1277	1309	\$ 11,753
H	Herbaceous Seeding	Seed or maintain dove fields	42	ac	\$ 175	7350	7532	7719	7911	8107	8308	8514	8725	8941	9163	\$ 82,269
H	Herbaceous Seeding	Seed or maintain	40	ac	\$ 175	7000	7174	7352	7534	7721	7912	8108	8309	8516	8727	\$ 78,352
H	Trees/Shrubs	Planting and Maintenance	100	GL	\$ 6	600	615	630	646	662	678	695	712	730	748	\$ 6,716
H	Vegetation Control	Prescribe burning	100	ac	\$ 150	15000	15372	15753	16144	16544	16955	17375	17806	18248	18700	\$ 167,897
H	Develop Clearings	develop openings	5	ac	\$ 3,000	15000	15372	15753	16144	16544	16955	17375	17806	18248	18700	\$ 167,897
H	Develop Clearings	maintain openings	2	ac	\$ 200	400	410	420	431	441	452	463	475	487	499	\$ 4,477
															<b>Subtotal</b>	<b>\$ 519,360</b>
Operation and Maintenance Activities																
Project	Description	Activity	Quantity	Unit	Cost	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	Total
O & M	Bridges	Replace Culvert	1	culvert	\$ 2,500	2500	2562	2626	2691	2757	2826	2896	2968	3041	3117	\$ 27,983
O & M	Nesting Structures	Nest Box Maintenance	75	each	\$ 30	2250	2306	2363	2422	2482	2543	2606	2671	2737	2805	\$ 25,184
O & M	Signs and Boundaries	Maintain boundary	2	mi	\$ 135	270	277	284	291	298	305	313	321	328	337	\$ 3,022
O & M	Public Use Facilities	Maintain parking areas	11	each	\$ 225	2475	2536	2599	2664	2730	2798	2867	2938	3011	3086	\$ 27,703
O & M	Road and Trails	Maintain gates	5	each	\$ 100	500	512	525	538	551	565	579	594	608	623	\$ 5,597
O & M	Road and Trails	Maintain roads and trails	3	mi	\$ 2,500	7500	7686	7877	8072	8272	8477	8688	8903	9124	9350	\$ 83,948
															<b>Subtotal</b>	<b>\$ 173,437.17</b>
Development Activities																
Project	Description	Activity	Quantity	Unit	Cost	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	Total
D	Road Upgrade	Ramsey Snelson Rd repair	0.5	mi	\$ 30,000				30,000							\$ 30,000.00
D	Road Upgrade	Measows Town Ford repair	1	each	\$ 20,000			20,000								\$ 20,000.00
D	Road Upgrade	Orchard Road repairs	0.1	mi	\$ 8,000		8,000									\$ 8,000.00
D	Parking Areas	New Meadows Town parking	1	each	\$ 20,000					20,000						\$ 20,000.00
D	Parking Areas	New parking Old Hwy #20	1	each	\$ 20,000						20,000					\$ 20,000.00
D	Parking Areas	Orchard parking area repair	1	each	\$ 10,000		10,000									\$ 10,000.00
D	Bridges	Meadows Town foot bridge	1	each	\$ 60,000				60,000							\$ 60,000.00
															<b>Subtotal</b>	<b>\$ 168,000.00</b>
															<b>Grand Total</b>	<b>\$ 860,797.25</b>

# PUBLIC COMMENT

As part of the Sandy Mush Management Plan development process NCWRC sought to gather information and comments from the public. This public input provided valuable information about different user groups and user group needs for SMGL. To gather this input, a public meeting was held in Marshall NC, and was advertised to individuals, groups, and businesses through various news outlets and prominent businesses where potential game land users were likely to visit. A list of locations where the meeting was advertised is included below:

- Hunter Banks Outfitters
- Wal-Mart
- Diamond Brand Outfitters
- Mast General Store
- National Wild Turkey Federation
- Ruffed Grouse Society
- Local Ducks Unlimited Chapter
- WLOS- News 13
- The Asheville Citizen Times newspaper
- Pisgah Chapter of Trout Unlimited
- Carolina Bird Club
- NC Forestry Association
- Southern Appalachian Highlands Conservancy
- Buncombe and Madison Co. Cooperative Extension
- NC Bow-hunters Association
- Federation of Fly Fishers
- Quality Deer Management Association
- Email to successful big game hunters (turkey & deer)
- Appalachian Houndsmans Assoc.
- NCWRC website and press releases
- Dicks Sporting Goods
- Coopers store
- Curtis Wrights Outfitter
- The Madison Sentinel newspaper
- Cherokee Trading Post
- Reeves Convenient Store
- Country Food Store
- Leicester Grill
- Gosset's Gas Station
- Red Oak Crossing store
- AB Tech – Madison Campus
- D and D convenient store
- Various community leaders
- Various adjacent landowners

- Various user group blogs and informational websites
- Various locations around the game land

## SUMMARY OF PUBLIC INPUT

The public input meeting was held at the Asheville-Buncombe Technical Community College, Madison County satellite campus in Marshall, NC at 7:00 PM on July 30<sup>th</sup>, 2013. Forty-nine people were in attendance. During the meeting this group of interested public was presented with a power point presentation which provided information about the game land and the management activities which occur there. Following the initial presentation, the audience was divided into five groups. These “break out” groups were presented with a list of questions and asked to fill out sheets with each person’s answers to the questions. Individuals were then asked to discuss their answers among the group and provided with an opportunity to ask any questions they may have. The public was also given the opportunity to write down any additional comments or questions they may have on the questionnaire. In total, thirty-six comment sheets were turned in to NCWRC staff from the meeting. For those who were not able to attend the public input meeting, a website was created that allowed the public to provide input on-line. The plan development team later reviewed all questions and comments, and all comments that pertained to the NCWRC mission and objectives were considered. A list all comments received from the public are outlined below:

### 1. What habitats do you think are most important to protect and/or improve on the Sandy Mush Game Land?

Q1	Responses
Early Successional (Quail/Grouse)	15
More replanting post logging	1
Stop logging	1
Diversity/Variety Habitats (Game/Nongame)	16
Brush Piles/Scrub Cover	1
Eliminate Invasive Plants	1
Sandymush Creek- Water Quality Protection	4
Big Game Habitats	5
Food Plots	4
Controlled Burns	4

**2. Considering those that live on land and in water, what species do you think are most important to protect and/or improve on Sandy Mush Game Land?**

<b>Q2</b>	<b>Responses</b>
Game Birds (Quail/Grouse)	14
Trout	7
Waterfowl	2
Predators	2
Big Game	14
Fish	1
All	6
Songbirds	5
Raptors	2
Small Game	3
Dove	3

**3. How do you use Sandy Mush Game Land?**

<b>Q3</b>	<b>Responses</b>
Hunting	11
Big Game Hunting	1
Small Game Hunting	5
Warm Water Fishing	4
Cold Water Fishing	2
Wildlife Viewing (Photo/Birds)	15
Deer	12
Turkey	10
Quail	5
Grouse	8
Dove	12
Rabbit	2
Squirrel	2
Hiking	8
Trap	1
Horse	1
Boating	1
Bike	1
Plants	3
Other (nontraditional)	4

**4. Please explain why you think the current level of access is, or is not, satisfactory on Sandy Mush Game Land?**

Q4	Responses
Satisfactory/Adequate	14
Too Much	1
Too Little	2

Q4 Comment	Plan Team Response
Due to close proximity to Asheville I think 3 days per week is good.	
Too much on Cedar Hill Road.	Current level of access on Cedar Hill is appropriate
Access is satisfactory - no more is needed - enough money has been spent on parking lots and gates.	
The walks are good and access is good for that. (Scouting). The sunflowers and others	
I think level of access is adequate.	
3 days a week good for hunting. Open archery trail off Cedar Hill. Improve trail Cedar Hill to French Broad.	We are aware of and plan to address the issue
Mowing and keeping trails open.	Addressed in plan
Do not know.	
Access is fine.	
It has enough access.	
is satisfactory	
Limited access is good.	
No enter from Meadow Town side and other roads.	Addressed in plan
Adequately covered in group discussion.	
How does one know which days are for hunting? I wouldn't want to get shot. More signage would be helpful. We get lost.	Addressed in plan- Will be erecting additional information kiosks
I think the access is good the way it is. A fine nature experience does not include cut trails.	
Some areas near French Broad River are not easily accessible	Access to French Broad is adequate in some areas, although additional access is needed
Hard to tell where actual game lands are. Parking?	Addressed in plan
OK the way it is.	
It is still difficult to know what is or is not the Game Lands. Maps lack delineation. Markers along borders are hard to find.	Addressed in plan
The current level is satisfactory	
Very satisfied	
Involve volunteers to maintain and develop hiking trails	Volunteers are addressed in plan

Q4 Comment (cont)	Plan Team Response (cont)
Access is good	
Parking along Meadowstown Road, Trails for horseback riding and hiking	Horseback riding has been evaluated by NCWRC and is addressed in the plan
I think more signage is needed so people will know where to enter the Game Lands. Also, trails would be helpful.	Issue is currently being addressed
don't know	
?	
No comment	
Satisfactory, clean out log roads for walking	Addressed in plan
Access is good and the game lands are well posted.	
I think the access is satisfactory. If people are serious about hunting the area they will make the effort regardless of how easy or difficult it is to access	
Access is satisfactory to accommodate multi-use and non-hunting activities	
In most areas access is good.	
current access very good	
Access is o.k. Some access points are a little confusing. Not sure if the NCWRC or a private individual owns some of the access points.	
Myself and others in the community feel that the access is very limited and would like to see access to the river areas especially for the disabled hunters and fishermen to have the access to the river. Although these Fathers/mothers have permanent disabilities we still want to mentor our children and others for future hunters and fishermen and this land area can provide both with access to the river area.	Current trails to the river are not in a condition to allow public vehicular traffic. Also EEP restrictions do not allow for additional road or trail construction into designated areas.
Sandy Mush currently has excellent access much of the property. Some access could be added by purchase of property or right of ways on the northern side of the property.	Land acquisition is addressed in the plan
Access is appropriate, and parking mostly adequate.	

**5. What suggestions, if any, do you have for changing how the Sandy Mush Game Land is managed and maintained?**

Q5 Comment	Response
Archery Only area	3
Trapping season with no dogs	1
Horseback riding	2
Plant more corn	2
Maps/More information	2
Burning/Mgmt... at Bear Creek access	2
Plant hardwoods	2
More Quail food plots	2
More invasive plant control	1
Add more land	1
Disabled sportsman areas	1
More enforcement officers	3
More days to hunt	1
E-mail notifications about management	2
Trail maintenance	1
No more logging	1
Shooting range	1

Q5 Comment	Plan Team Response
If some land is unsuitable for wildlife habitat, please consider a shooting range similar to one on Cold Mtn. Game Land.	Sandy Mush has been determined to be unsuitable for a shooting range due to conflicts with the close proximity of homes and residential areas
Better communication regarding burning, logging, etc.	Is addressed in plan. Possible news releases and information posted on kiosk are likely solutions.
No more logging - a permanent Sandy Mush only game warden.	Timber harvest is an important management tool that is addressed in the plan. A permanent wildlife enforcement officer would not be feasible, currently there are 5 wildlife enforcement officers dedicated to work at Sandy Mush
Better trail maintenance - more food plots. Is there any way to have more grouse and quail on Game Land?	The issue of trails is addressed in the plan. Agricultural wildlife openings are addressed in the plan. Opportunities to create additional wildlife openings and expand existing wildlife openings are evaluated were feasible. Topography is often a limiting factor. Quail and grouse management are priority game species managed for at Sandy Mush

Q5 Comment (cont)	Plan Team Response (cont)
Email notifications for any spraying or logging.	Increasing information regarding upcoming management activities on the game land will be addressed.
Law enforcement. Shooting on non-shooting days.	
Keep up the good work.	
None.	
Bear Creek Road clear cut - needs to be developed with food plots for birds, quail - and woods thinned.	Due to poor soil quality and compaction from past logging practices it has been determine these sites are not practical for agricultural wildlife openings. Openings with natural vegetation will be managed for in these areas. The issue of thinning will be addressed through continual prescribed burning which in time will improve condition.
Have more days to hunt.	
More wildlife officers - Be on game land more often.	
None.	
Some of it needs to be in disabled area.	The issue of increased opportunities for the disabled is addressed in the plan.
Add more land - connect gaps with land acquisition - time is now, before land gets more fragmented and more difficult to acquire. Therefore, more funding for acquisition. This will help access well as wildlife corridors.	Agreed
More attention to invasive plant species control. More "permit "hunting for certain species at certain times.	Will be considered
Reforestation, hardwoods and softwoods alike.	Is addressed in the plan
Better signage to protect all users. Improved trails.	Is addressed in the plan
More oak trees. More corn.	Is addressed in the plan
More quail food plots, bicolor Lespedeza, Partridge pees, buck wheat, rag weed. Grouse clear cutting.	Is addressed in the plan
Plant hardwood trees, oak, hickory, beech. Sunflower. Berries. Native grasses.	Is addressed in the plan
None.	
Need to be bow hunting for deer one day and bird hunting another day, not the same.	Solutions to reduce hunter conflicts are being considered
Sandy Mush is managed very well	
Bear Creek area needs improvement - burn and regrow	Will be considered
Better maps. More information for hikers and wildlife viewers results of surveys	Is addressed in the plan

Q5 Comment (cont)	Plan Team Response(cont)
Plant more corn and sunflowers	
Horseback riding	Horseback riding has been evaluated by NCWRC and is addressed in the plan
Bow hunting only	Although the idea of making some game lands bow hunting only areas has been discussed, NCWRC feels that doing so would limit opportunities available to other hunters. Increasing hunting opportunities is a primary objective of NCWRC
I like the direction you seem to be headed.	
I would like to feel secure that bears won't come visit my home	Precautions to avoid bear conflicts should be taken and solutions can be found <a href="http://www.ncwildlife.org">www.ncwildlife.org</a>
? Stop the drive by shooting	
Horseback riding	Is addressed in the plan
Short trapping season with no dog access	Solutions to limit conflicts between hunters and trappers will be considered
No high powered rifles, archery only for deer, trophy buck only separate hunting and non-hunting.	NCWRC feels that doing so would limit opportunities available to other hunters. Increasing hunting opportunities is a primary objective of NCWRC
go to permit hunting	
Non-native invasive vegetation is an issue in a few areas, especially multiflora rose, and some privet. It would be nice to consolidate WRC land holdings, or acquire additional parcels if possible, to reduce fragmentation.	Addressed in the plan
Please continue to plant food plots.	
It is hard to manage and maintain any game lands with the budget you are working with, the only solution to maintain much needed access roads, food plots, UNWANTED trash, and enforcement etc. is to empower an organized group or person that can and are willing to donate their time help maintain the area. I can assure you WE are out there.	Will be considered. Some liability issues are a concern.
There should be continued emphasis on creating quality early successional habitat and improving existing woodlots on the area through timber management. This may require removal of some woodlots and timber stand replacement as many woodlots are extremely degraded.	
I approve of the lottery for dove hunts and think that system should be applied to deer hunting. It would increase the quality of the hunting experience while maintaining a proper herd population and ratio.	Biological data will need to be collected and analyzed for a change in deer hunting regulations to occur. Potential changes are being reviewed.

Q5 Comment (cont)	Plan Team Response (cont)
None at this time. I love what you folks have done to increase the quail populations. I also like the 3 days a week access. All game animals should get a break. I would like to see the land patrolled more by the game wardens.	
Consistent management of dove fields - planting and plowing to coincide with opening day and season splits	
please allow 6 day a wk. deer hunting, access is good, but with very limited parking. present 3 day per week will only allow 8 days of hunting of 20 day season	Would create many issues with over hunting due to small size of the game land and close proximity to major urbanized areas. Increased parking access addressed in the plan.
Monitor! big game harvest of deer and turkey better. I have seen a decline in numbers of deer. It might mean no doe kills and changing buck kills to more like trophy hunts.	Increased population monitoring of deer is a goal that is addressed in the plan
NCWRC should keep Sandy Mush 3-days-a-week. I would like to see the NCWRC plant warm season grasses and other cover plants on the logging roads in the cutovers at Bear Creek area. These clay logging roads should be planted for wildlife.	Will be considered
the game lands should be managed and protected for all wildlife, not just game animals - the amphibians and reptiles in particular are important	Management activities at Sandy Mush are directed towards benefiting all species including game and non-game.

**6. What would encourage you to start using Sandy Mush Game Land, or to continue using it more actively?**

Q6	Responses
Hunting	6
Fishing	2
Access	3
Habitat	2
Satisfied	5
Dove	1
Grouse	3
Quail	2
Trails/Hiking	5
Turkey	1
Deer	5
Coyote	1
Shooting Range	1
Archery/Bow Only	3
Signage/Info	1

Q6 Comment	Plan Team Response
Continue focus on wildlife habitat. You are doing a good job now. Don't go backwards. Strongly support hatchery trout water initiative.	
I'm fine with the way it is except for logging.	
More activity of animals especially dove and grouse. Good access to the hunting places.	Issue of access is addressed in the plan.
I like the idea of bow hunting for deer only - small area - extra nice challenge for hunters	Although the idea of making some game lands bow hunting only areas has been discussed, NCWRC feels that doing so would limit opportunities available to other hunters. Increasing hunting opportunities is a primary objective of NCWRC
Again - trails maintenance.	Is being considered
Quail and grouse.	
More days a week open to hunt.	It is the position of the NCWRC that opening the game land up to more days of hunting would create many issues with over hunting due to the small size of the game land and close proximity to major urbanized areas.
More days to hunt.	
None	
More places to enter from.	Addressed in plan
Improved fishing, improve grouse and pheasant populations, fall turkey season.	Increased fishing opportunities are addressed in the plan. Wildlife populations will benefit from continued habitat work. Changing turkey season would require a regulation change and there is little evidence to biologically support a change.
As mentioned above (referring to answer in Q5)	
Better quail hunting.	
I use it as much as I can.	
Put in hiking trails.	Is addressed in the plan
Change deer hunting to bow hunting only.	NCWRC feels that doing so would limit opportunities available to other hunters. Increasing hunting opportunities is a primary objective of NCWRC.
A target/rifle range past 100 yards. Better coyote hunting opportunities	Sandy Mush has been determined to be unsuitable for a shooting range due to conflicts with the close proximity of homes and residential areas. There are currently good opportunities for coyote hunting.
Hiking trails	Addressed the in the plan
Continue good management	
All of the above	
Improve deer herd	Continued habitat management will help to improve numbers.
More designated access points and better trails.	Addressed in the plan

Q6 Comment (cont)	Plan Team Response (cont)
trophy buck archery only for deer	NCWRC feels that doing so would limit opportunities available to other hunters. Increasing hunting opportunities is a primary objective of NCWRC.
natural surface pedestrian trails, open during times that are closed to hunters (for the safety of the recreational users)	These opportunities currently exist outside of hunting seasons and days closed to hunting during the season.
Increase the deer population.	
It would be encouraging being able to see more game and or sign of game when I hunt there.	
Improvement of grouse habitat	
Stock the Sandy Mush Creek with trout. Many years ago the stream was considered general waters and was stocked. Plant more dove fields.	Issue of trout stocking is addressed in the plan. Prospective ways to increase dove hunting will be explored.
Encouragement ideas would again come from better access, food plot areas and a designated area to train our future hunters to handle firearms safely, as firearms education / training is becoming a forgot about part of our heritage.	
Remove the 3-day/week restriction for hunters.	Opening the game land up to more days of hunting would create many issues with over hunting due to the small size of the game land and close proximity to major urbanized areas.
Expansion of opportunities to 6-day per week hunting would fit better with my schedule, and reduce "crowding".	It is the position of the NCWRC that opening the game land up to more days of hunting would create many issues with over hunting due to the small size of the game land and close proximity to major urbanized areas.
permit hunting	

**7. What additional comments do you have about Sandy Mush Game Land?**

Comment	Plan Team Response
Publish all the maps.	Currently there are maps of the game lands available online, and opportunities to provide additional resources and information to the public are being explored and addressed in the plan.
We as a community need accountability for actions / non actions on the gamelands- i.e. who do we call in Raleigh or here when someone makes a lame brain decision to log gamelands - what is their phone # address, etc.	Forest management activities are reviewed by numerous NCWRC staff from various divisions prior to timber harvests being implemented. Any questions regarding forestry activities on game lands can be answered by NCWRC regional foresters. Additional information regarding the purpose and need for forest management activities at Sandy Mush are included in the plan.

Comment (cont)	Plan Team Response (cont)
More notice of meetings - more than a sheet of paper at the end of a road.	The public meeting was well publicized. Addressed in plan.
It's great. There just need to be more accessible for handicap people that can't walk to far. (suggestion) Communication on fires and clearings on the website please.	The issue of disabled access is currently being reviewed and is addressed within the plan. Ways to better inform the public of management occurring on the game land are being considered. Issue is also addressed in the plan.
It really is a small area; I like the idea of keeping it a secret.	Sandy Mush Game Land is public property and therefore is open to the public.
Remember I want that logging map!	
Wonderful wildlife area.	
Great area - well managed. A site on the website for Sandy Mush calendar for burning, logging maps, etc.	Ways to better inform the public of management occurring on the game land are being considered. Issue is also addressed in the plan.
Preserve existing structures and old home sites	NCWRC is required to protect any known cultural resources on the property that are identified by the NC Dept. of Cultural Resources.
Their no area for disabled hunter to hunt part of this land would be very nice.	This issue is currently being reviewed and is addressed within the plan.
Chris Henline and David Stewart are very professional, accommodating and do a great job of establishing a working relationship with SAHC, the local land trust.	
Arch. And cultural resources considered? Will be glad to discuss further. Great job overall! Good interactions with every NCWRC person that I have run into while on the property.	See above
I regularly follow the e-bird posting. That has been very helpful to me.	
I think the Wildlife Commission has done a great job on the Sandy Mush Game Land.	
Establish "Friends of the Sandy Mush" - similar to 'Friends of the Smokiest'.	Such an effort would need to be initiated externally from NCWRC.
Need better parking areas.	Is addressed in the plan.
* Thank you for what you do to make this land as good as it is. Great Job!!	
Great service of NC Wildlife Resources to make it a more natural habitat	
Permit hunting during gun deer season	NCWRC staff does not see a need for this approach at this time.
Maps on NC Wildlife.org	Game land maps currently exist on website
I appreciate what you are doing.	
There's a dump site on Sandy Mush near Worley Cove that needs to be cleaned up.	Is being addressed

Comment (cont)	Plan Team Response (cont)
separate hunting and non-hunting activities by days of the week	Under the current system this is already occurring during the non- hunt days (Tues, Thurs, Fri, Sun).
I think the dove hunting opportunity is fantastic and well run. Please continue as you have in the past - it is a unique hunt in the mountains. Thanks for a good job!	
Time and money priority should be given to agricultural and early successional habitat development on Sandy Mush GL as this currently is the ONLY Game Land in the Mountains that has potential for this type of habitat development. The only other Game Lands close to this area with some quality hunting are located in the Mountain foothills and Piedmont sections of the state.	
I hunt quail, grouse, woodcock and ducks. I think the way that the game lands are being managed right now is great. I would like to commend you on a job well done. I have lived my whole life within 15 minutes of all the game lands and have hunted it going back to when the land was owned by CP&L. There has never been as much game as there is right now. The only thing I would like to see changed is to see if it's feasible to start stocking trout back into Sandy Mush Creek. I think it is a great idea for it to remain a 3 day week game land so the wildlife is not as pressured as it is on other game lands. Again, I would like to commend everyone on a great job.	
Select cut some timber therefore creating more/better habitat for big and small game animals. Other than that the land looks great.	
maintain current level of prescribed burning	
I think people who use the area for non-hunting activities should have to share the cost in the upkeep and management of wild life management areas	Is being considered.
Hunters pay 40 dollars a year to use game lands. Hikers, bikers and anyone else using game lands should have to pay a fee also. Otherwise hunters should not have to pay to use game lands.	
Down through the years you have tried to please hunters by making hunting seasons longer and increasing bag limits. That would be good if we had the game but here in western NC we have less deer on game land now than when I started hunting some 45 years ago.	

Comment (cont)	Plan Team Response (cont)
<p>The geographic diversity of Sandy Mush makes it an ideal property to manage for multiple species and user groups. I recognize the challenge for NC Wildlife to balance these interests. I hope that Sandy Mush can be promoted as an example of landowner and user group cooperation near an urban center.</p>	
<p>Lots of wild turkeys, dove, and other birds. I would like to see the WRC expand Sandy Mush and other lands in Buncombe and Madison Counties. Expansion of Sandy Mush, if possible, should be explored by the WRC. Lots of wildlife habitat being developed in Buncombe County and lost to sportsmen I live in Buncombe County and enjoy visiting Sandy Mush. Thank you for allowing me to comment.</p>	

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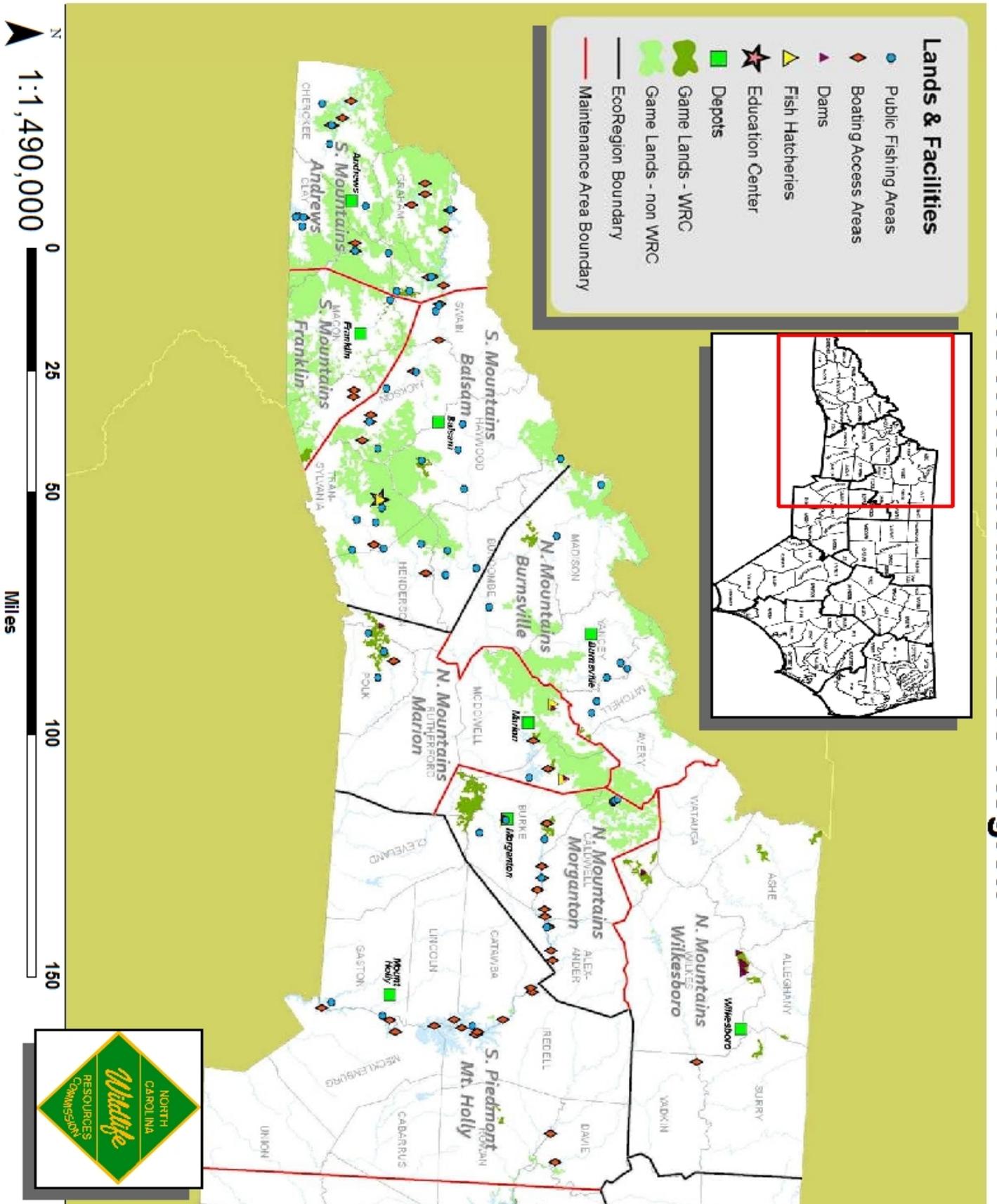
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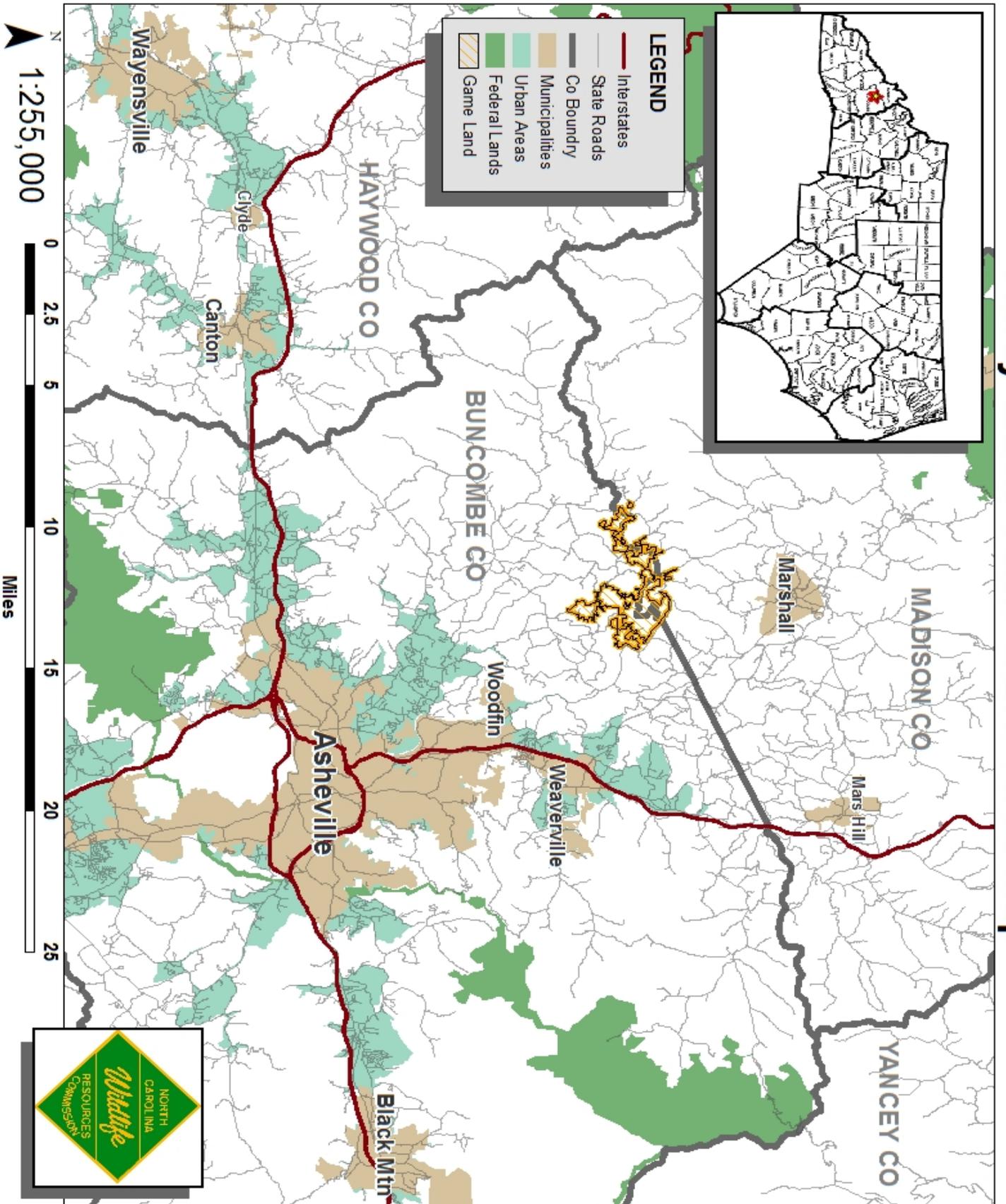
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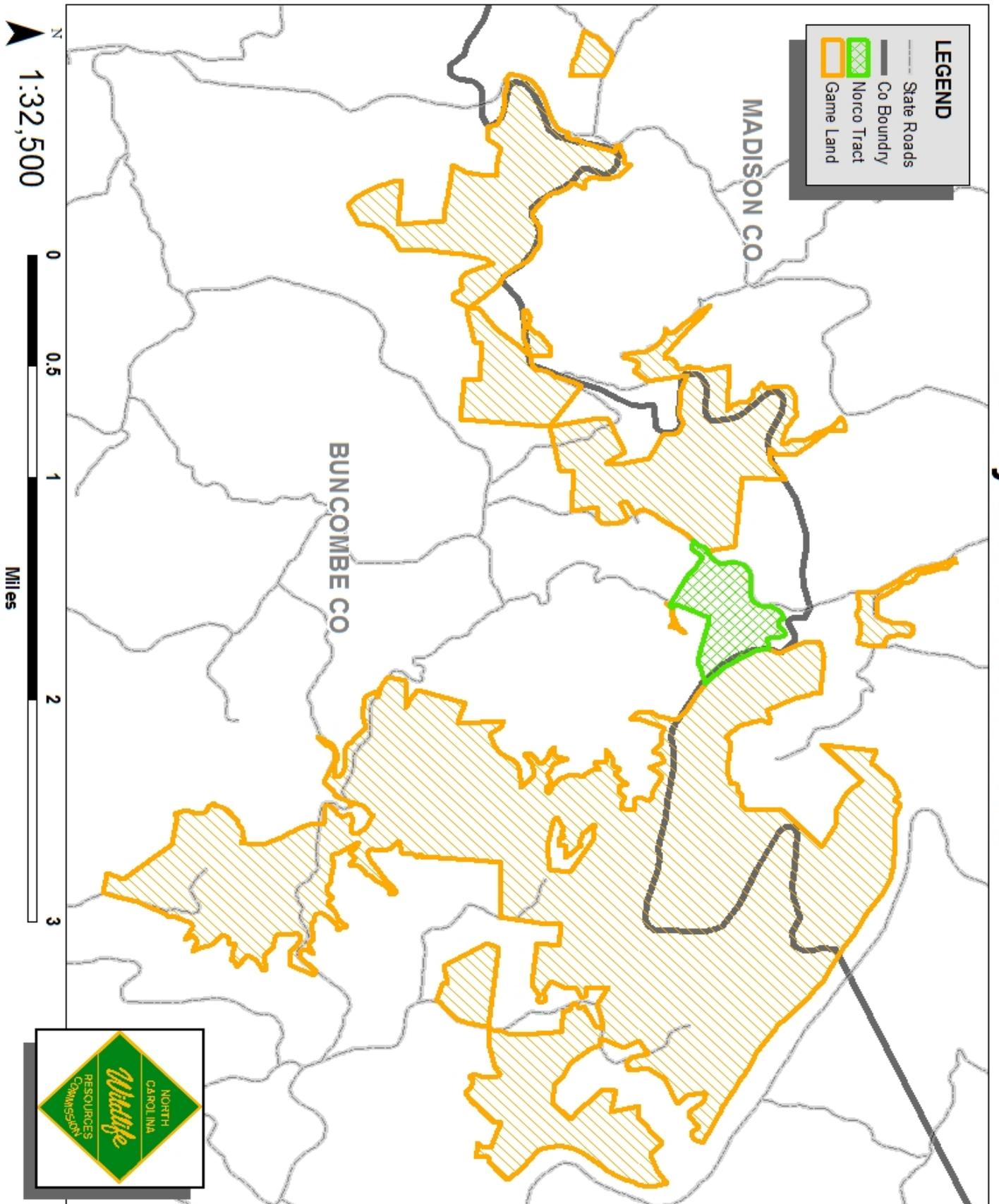
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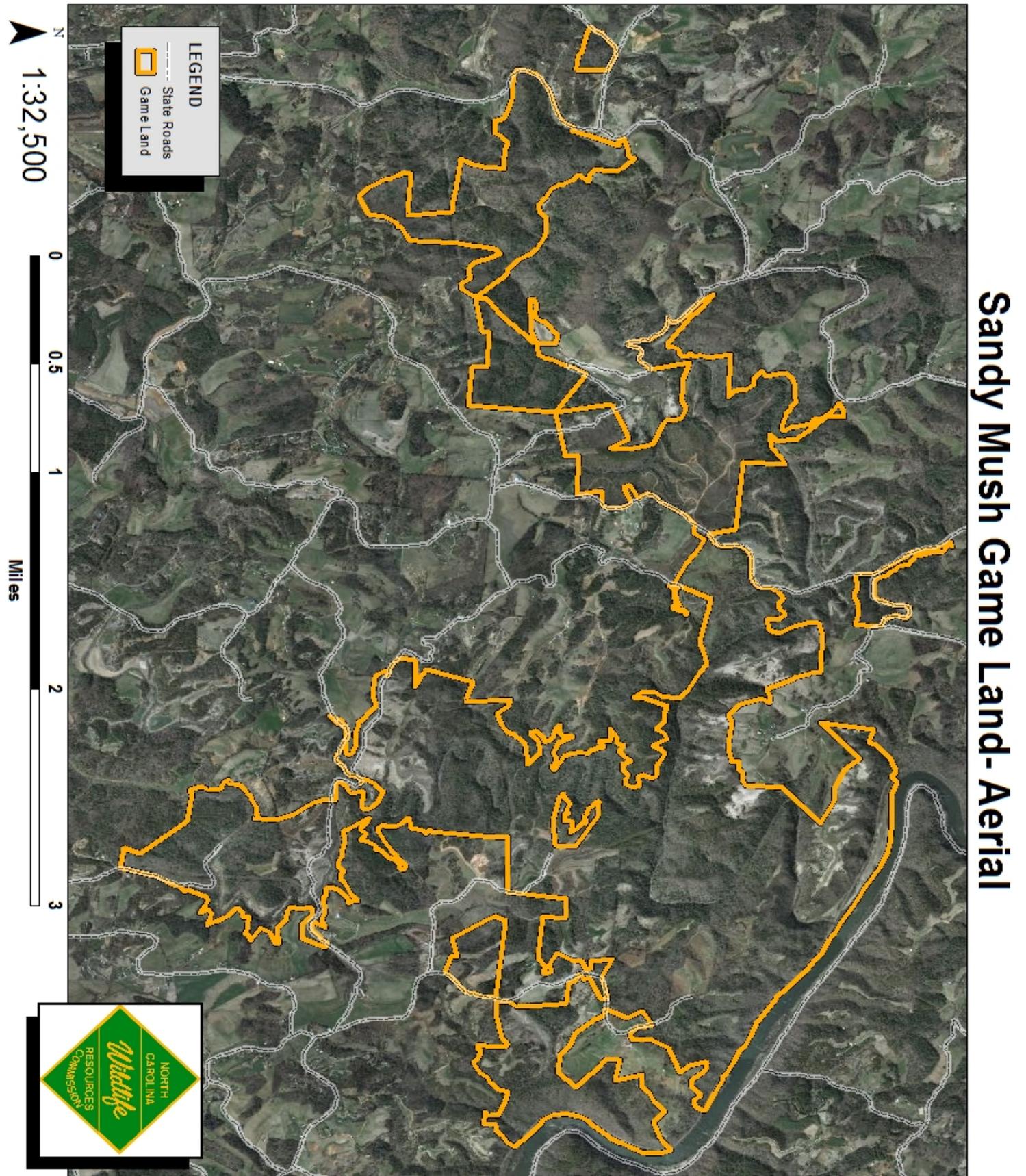


# Sandy Mush Game Land - Area Map

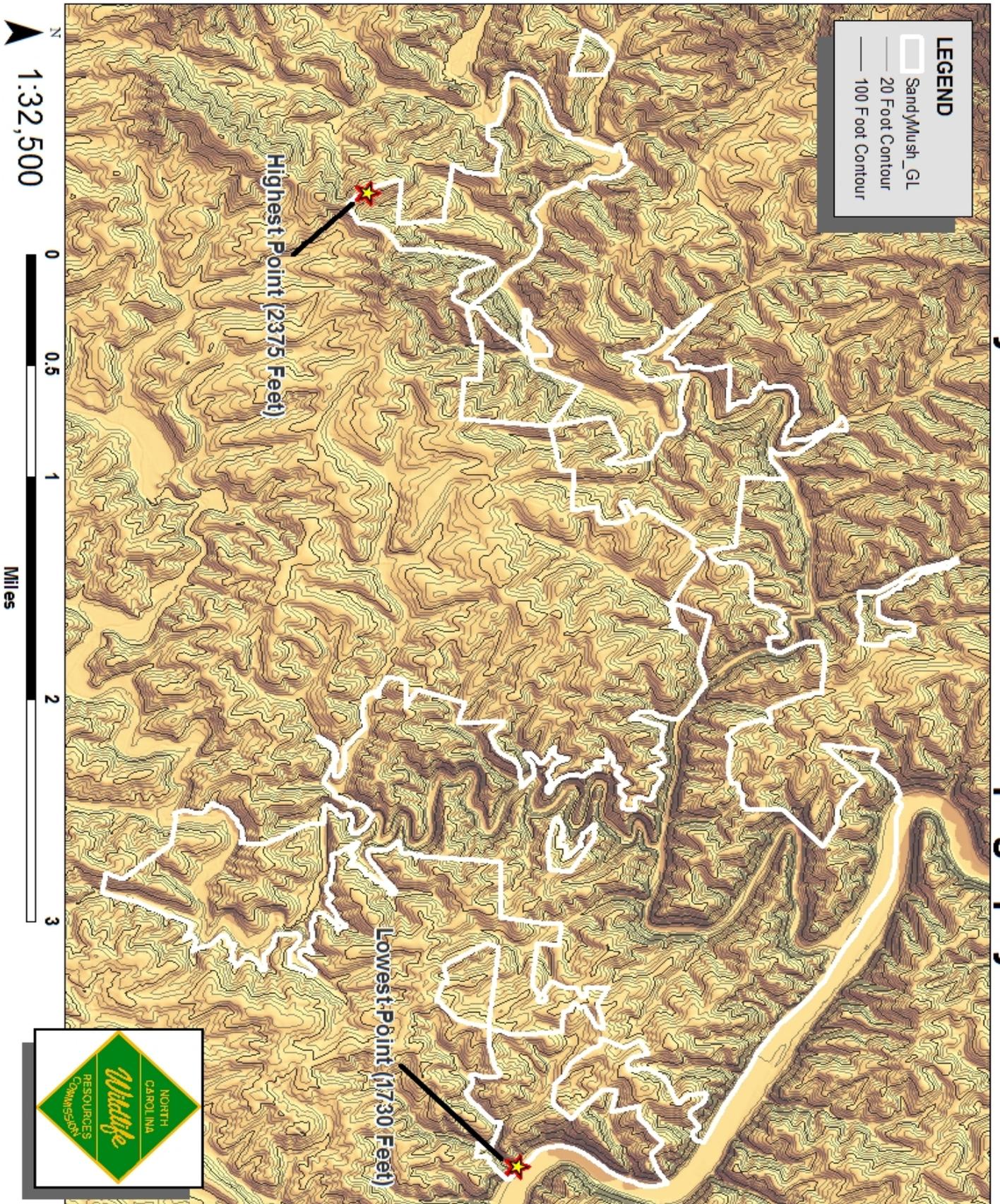


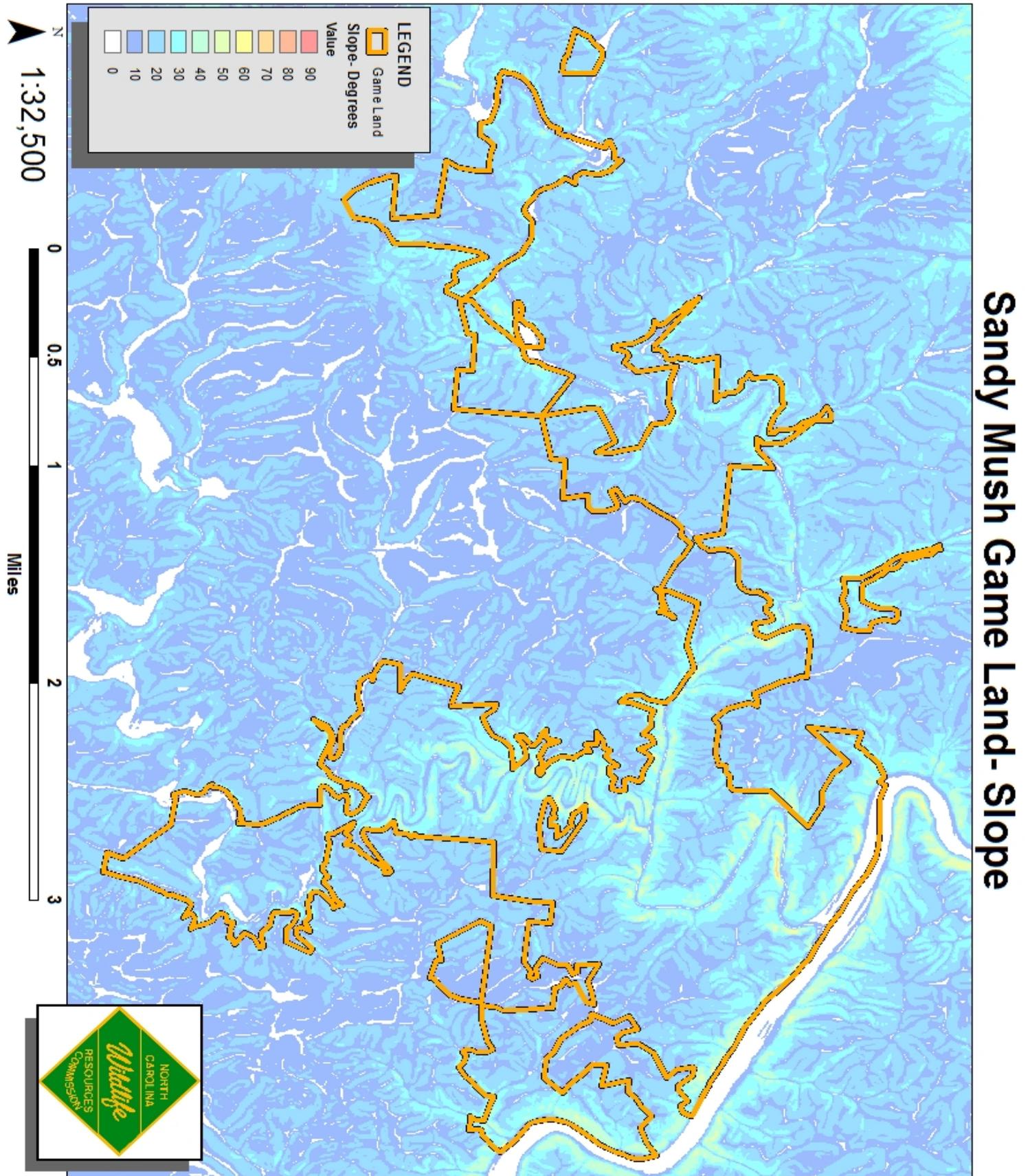
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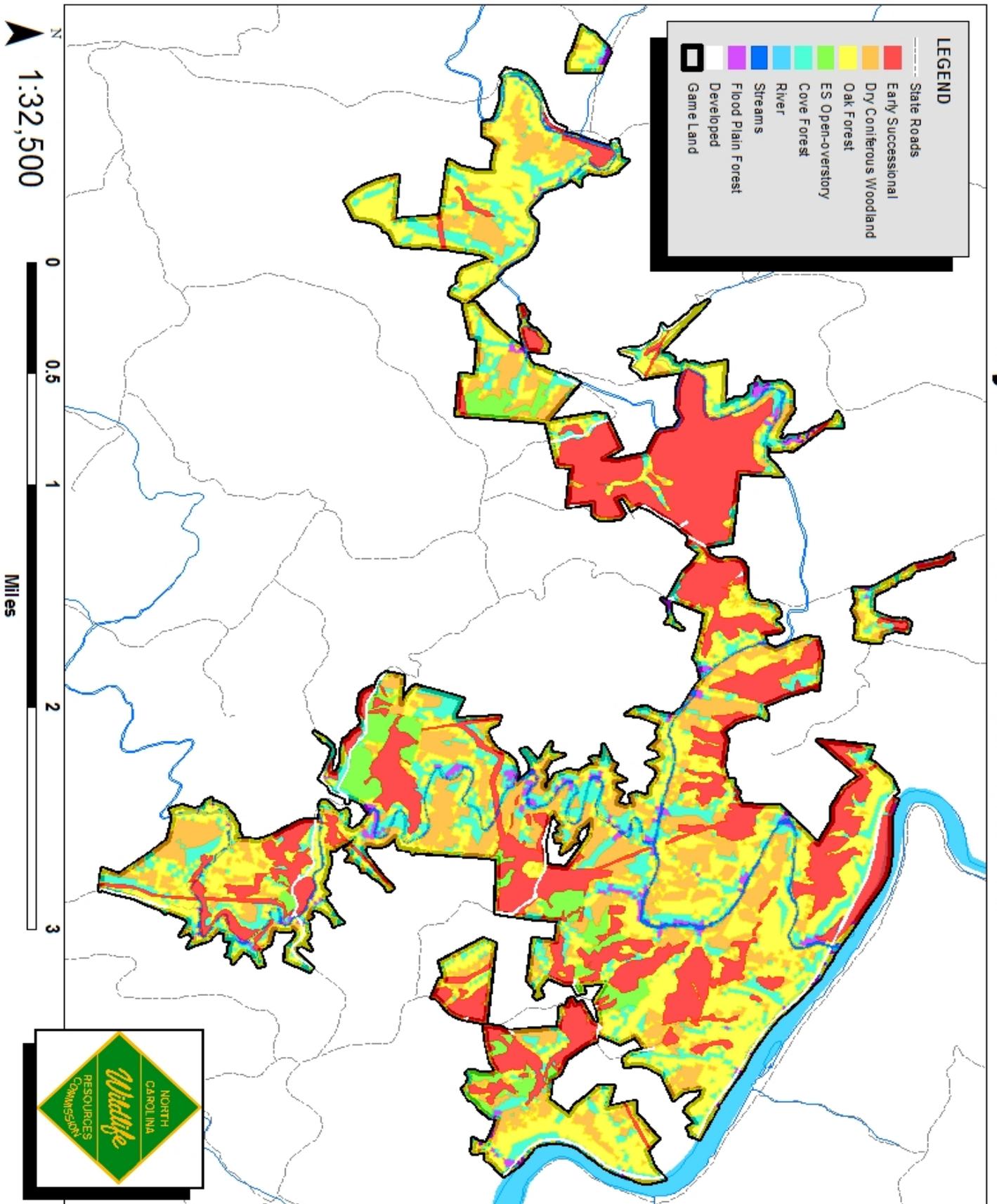


# Sandy Mush Game Land - Topography

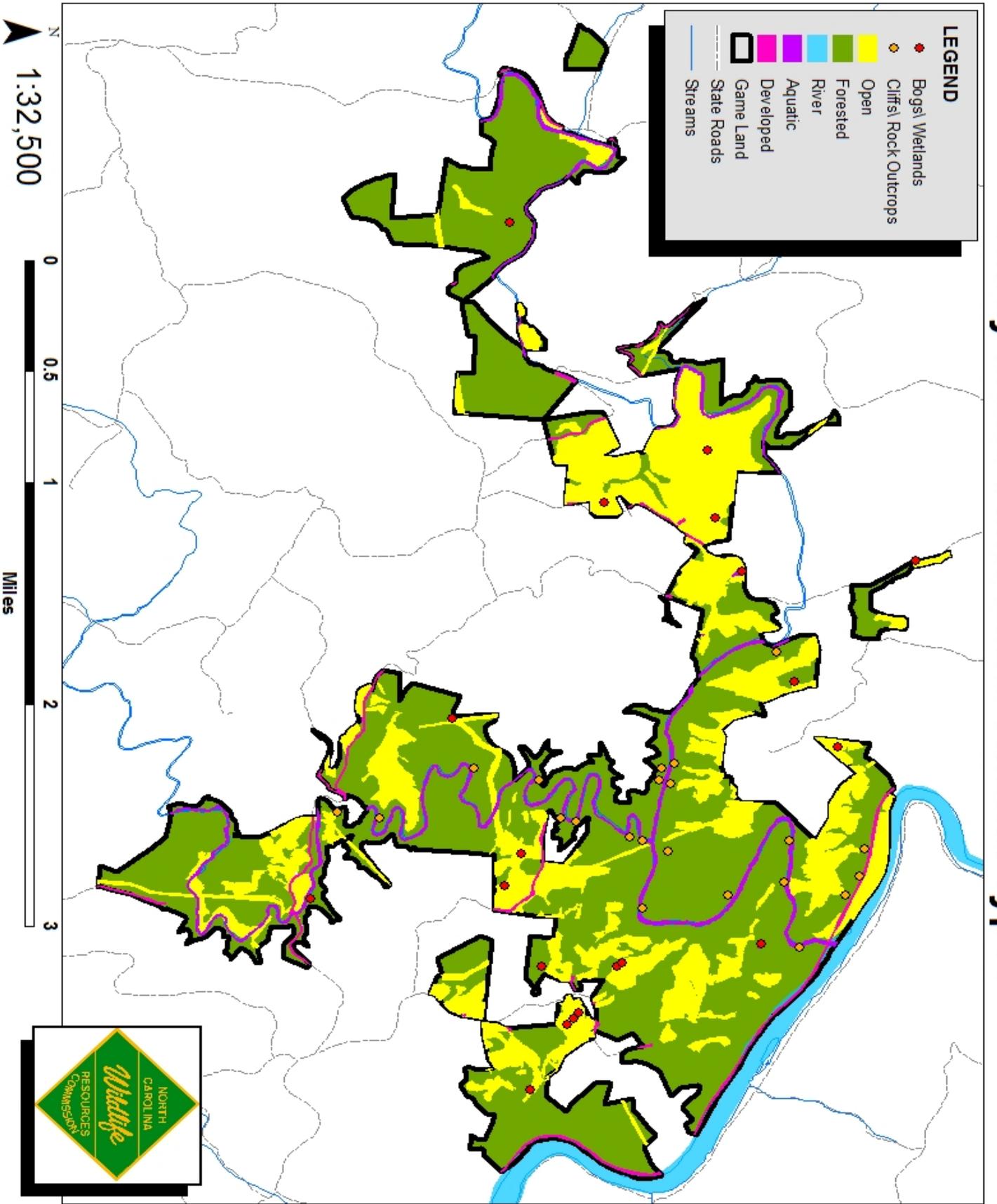




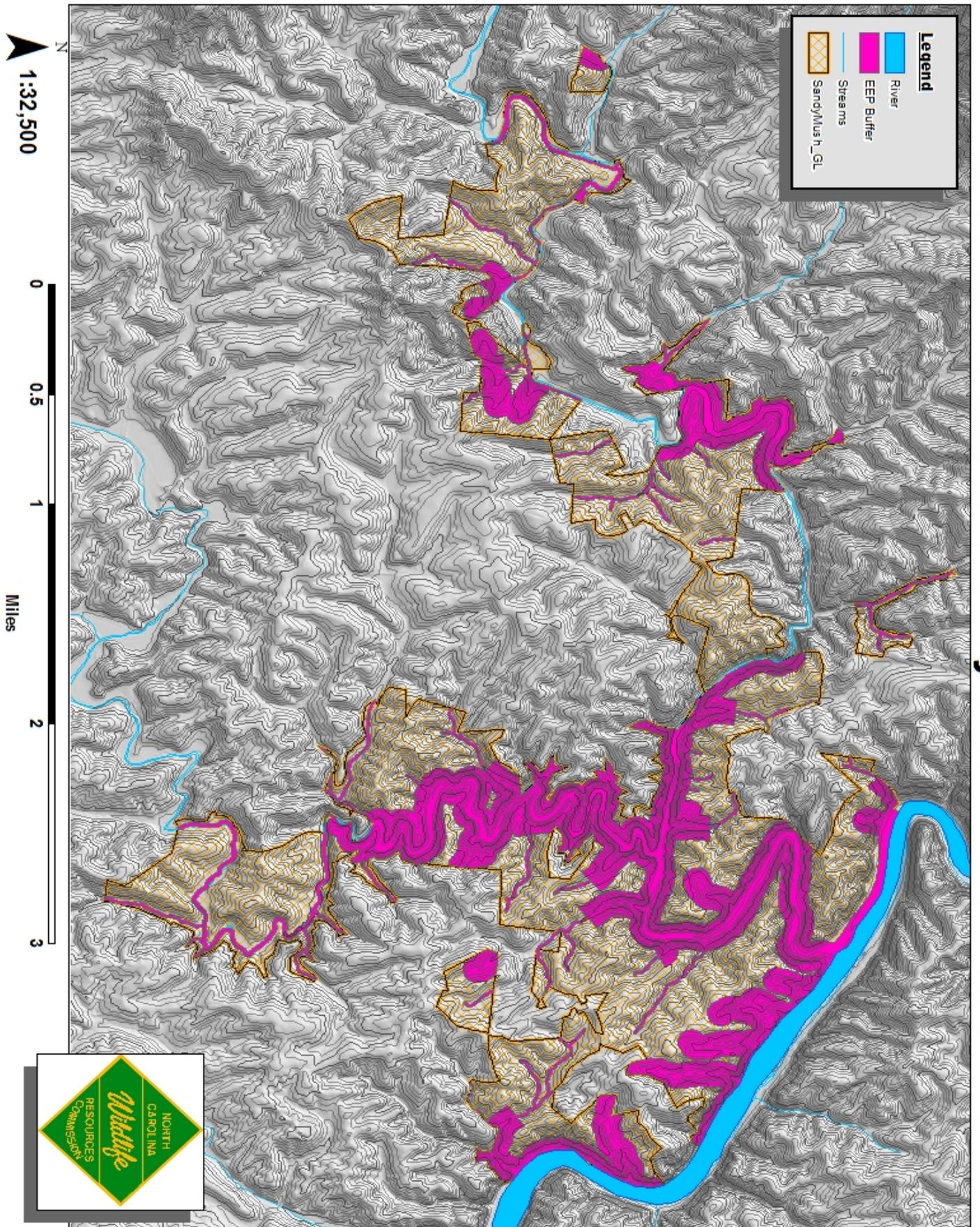
# Sandy Mush Game Land - Habitats



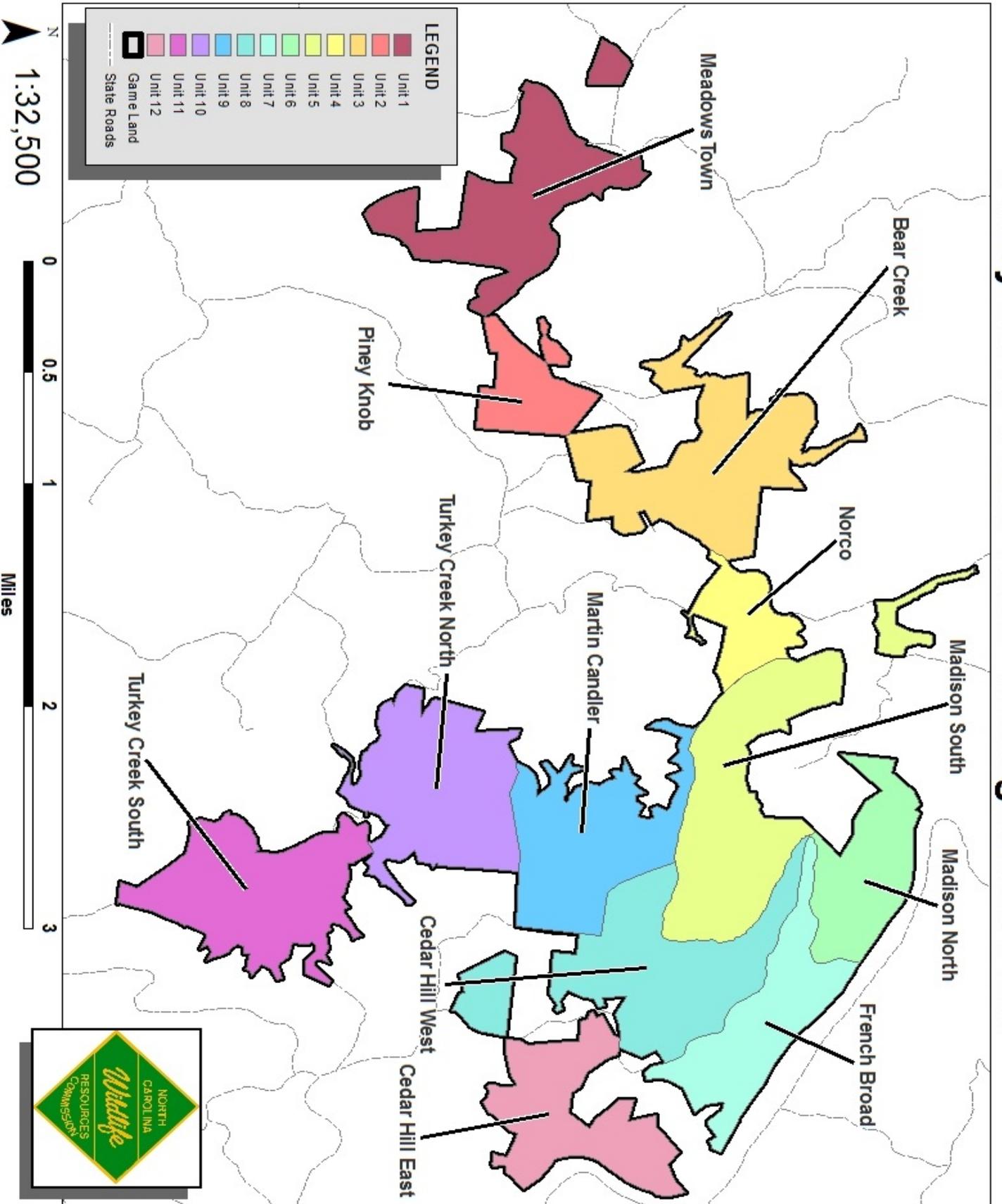
# Sandy Mush Game Land- Habitat Types



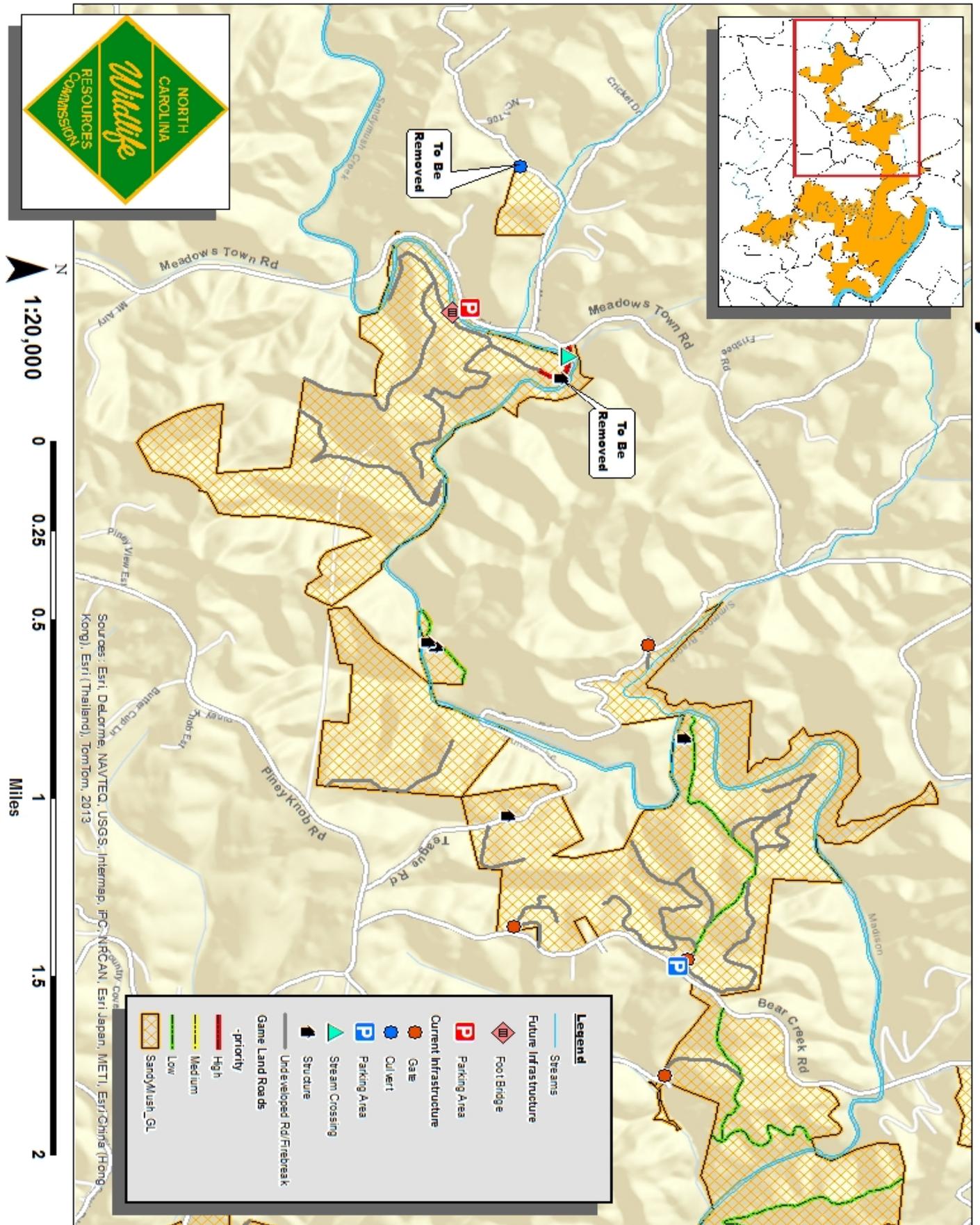
# EEP Buffer Areas - Sandy Mush Game Land



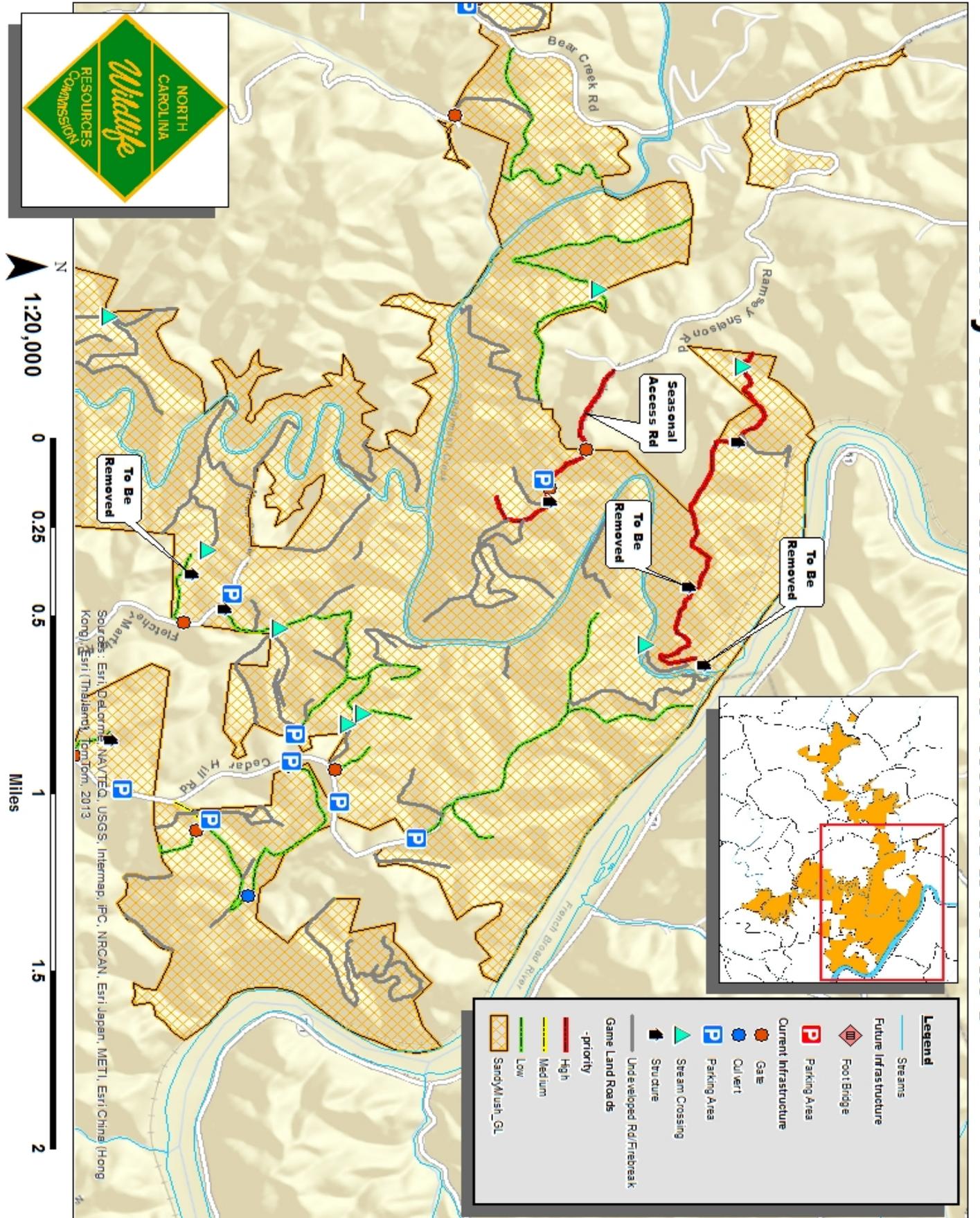
# Sandy Mush Game Land- Management Units



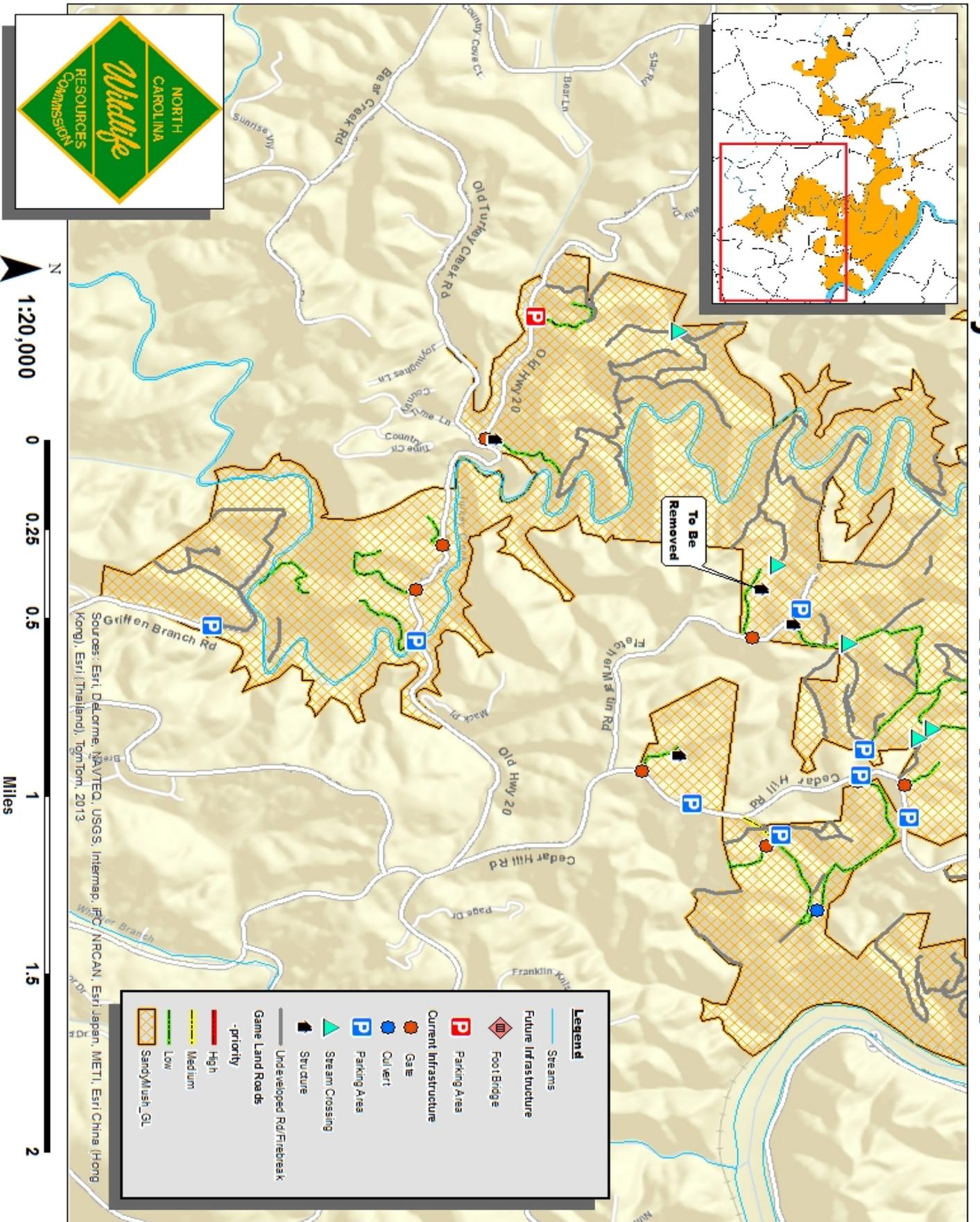
# Sandy Mush Game Land- Infrastructure



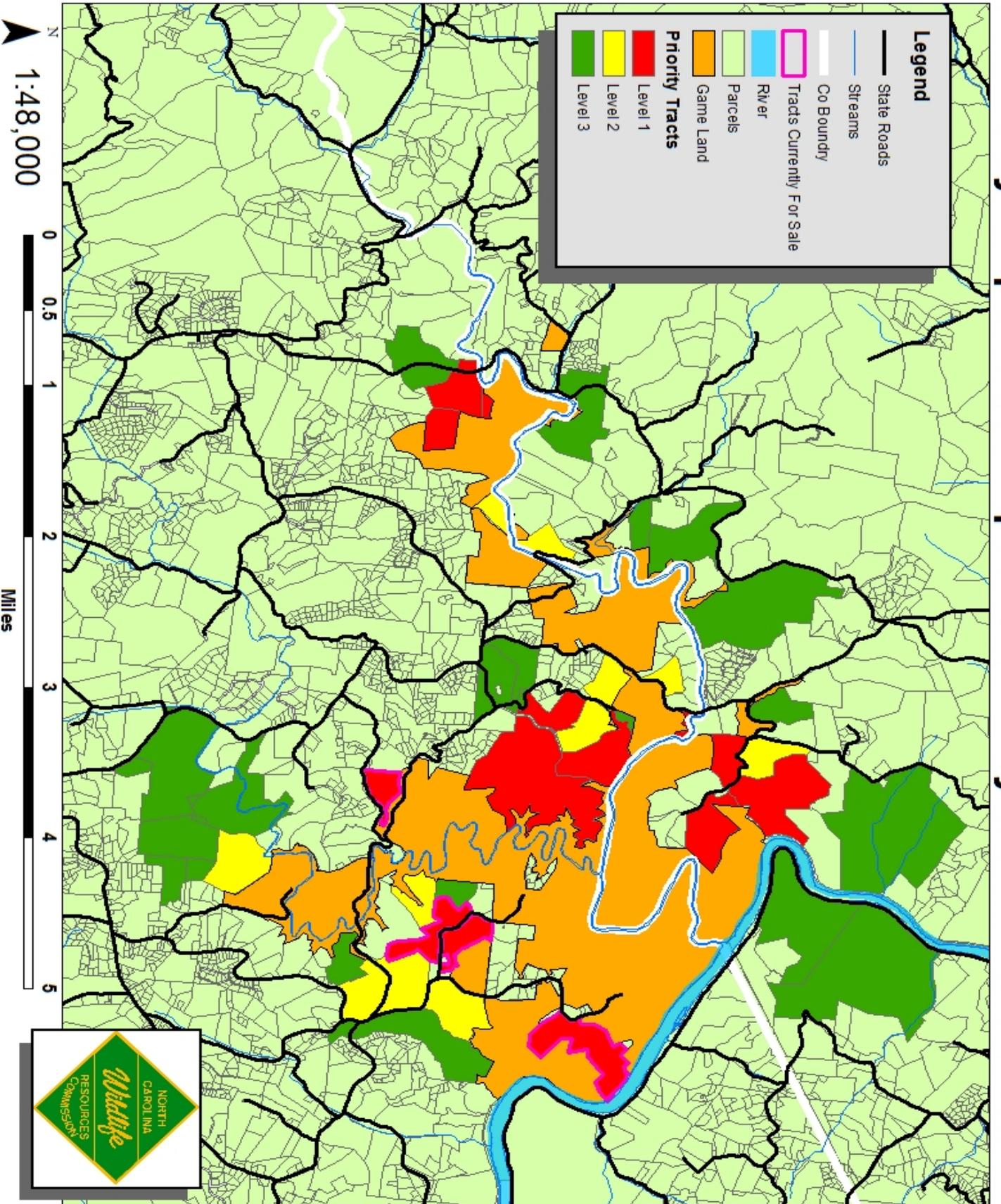
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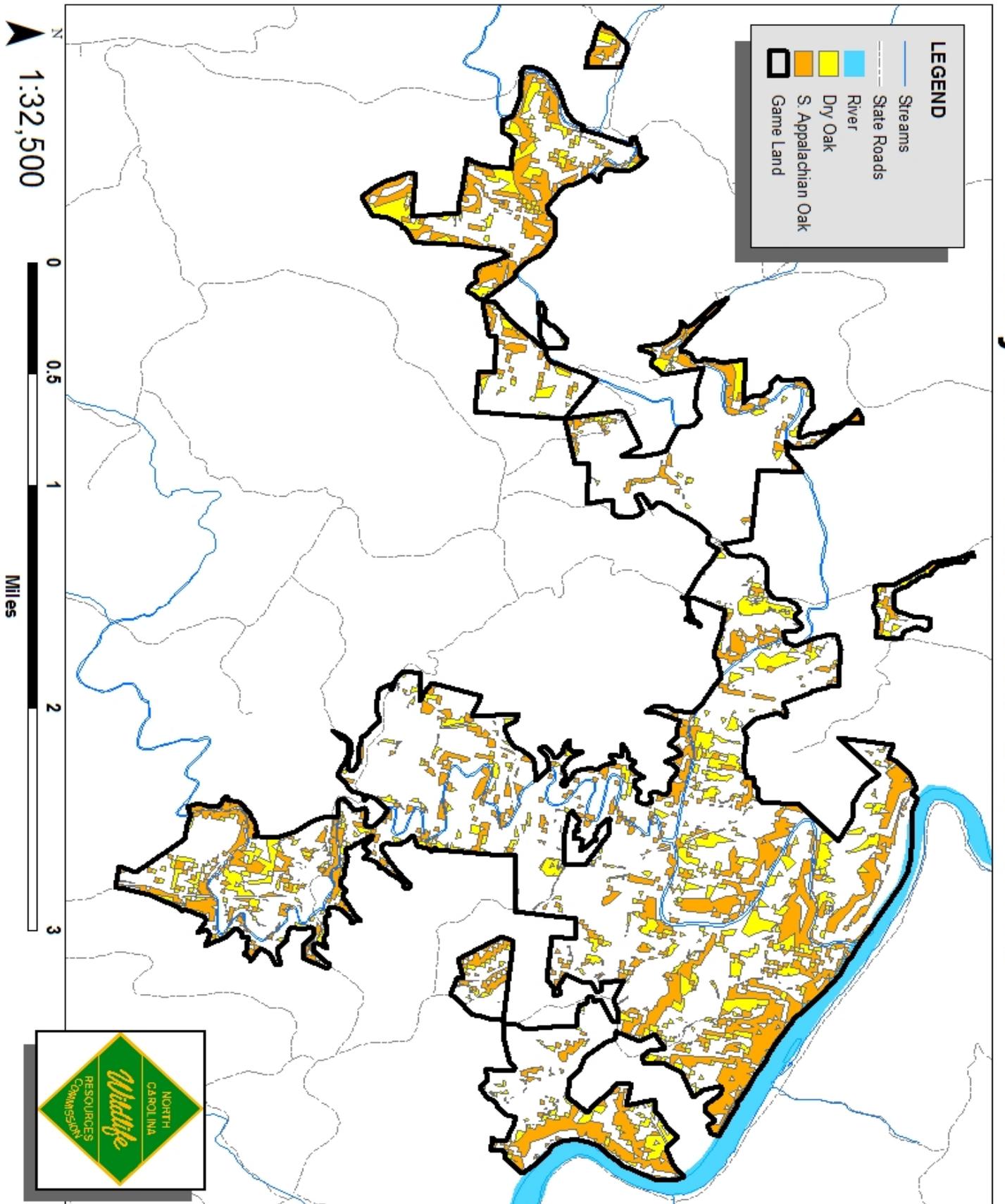
# Sandy Mush Game Land- Infrastructure



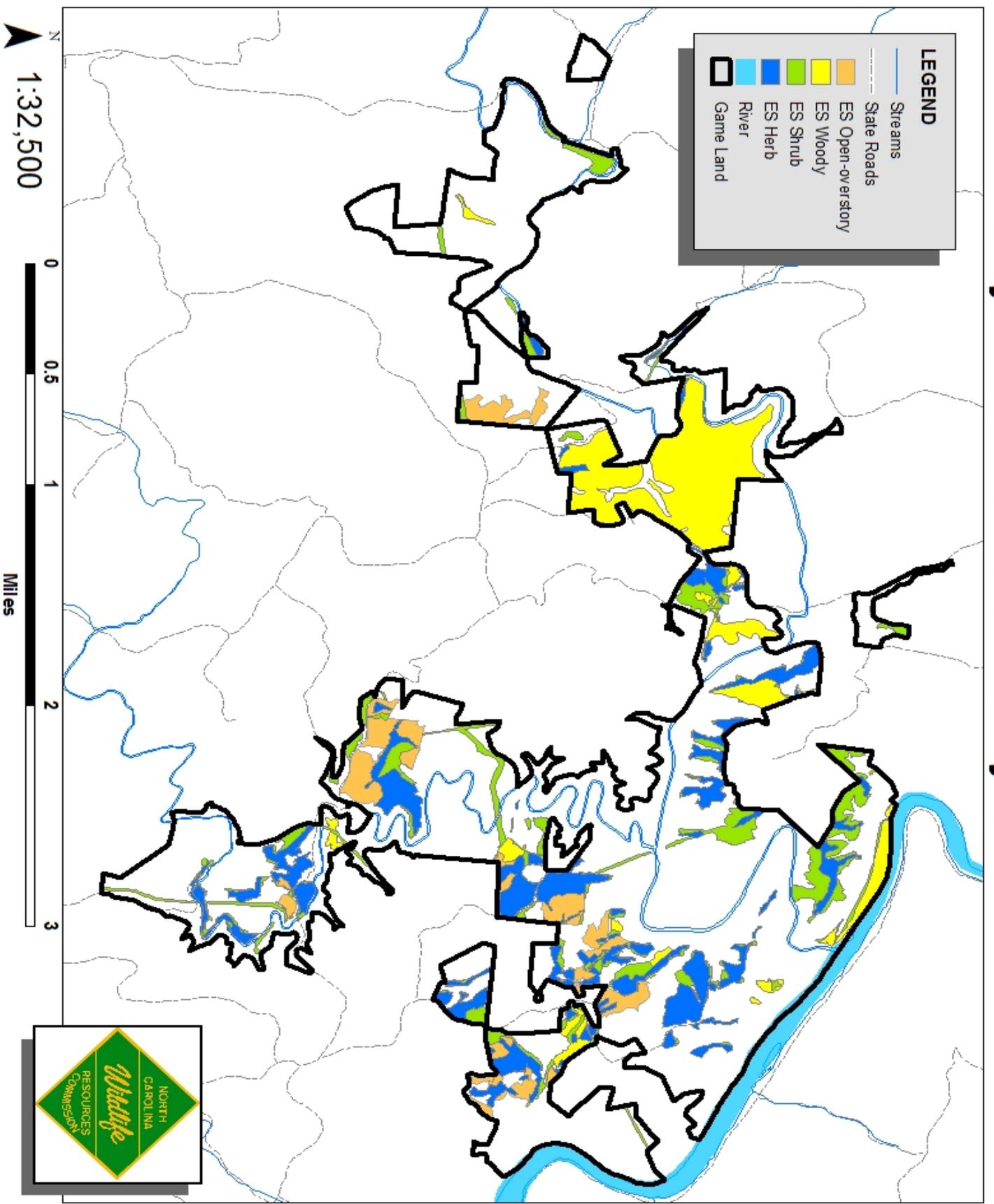
# Priority Acquisition Properties - Sandy Mush Game Land



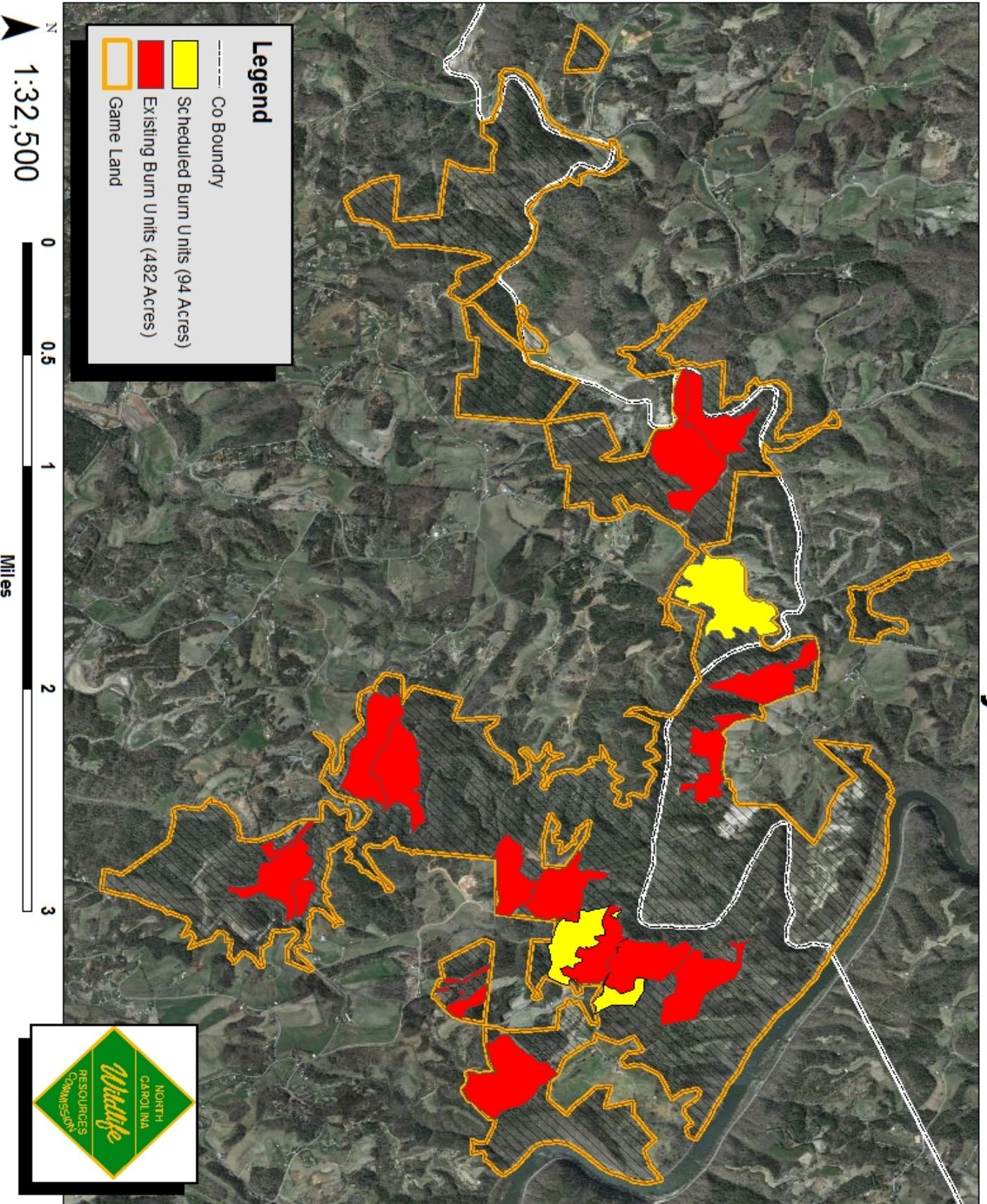
# Sandy Mush Game Land - Oak Forests



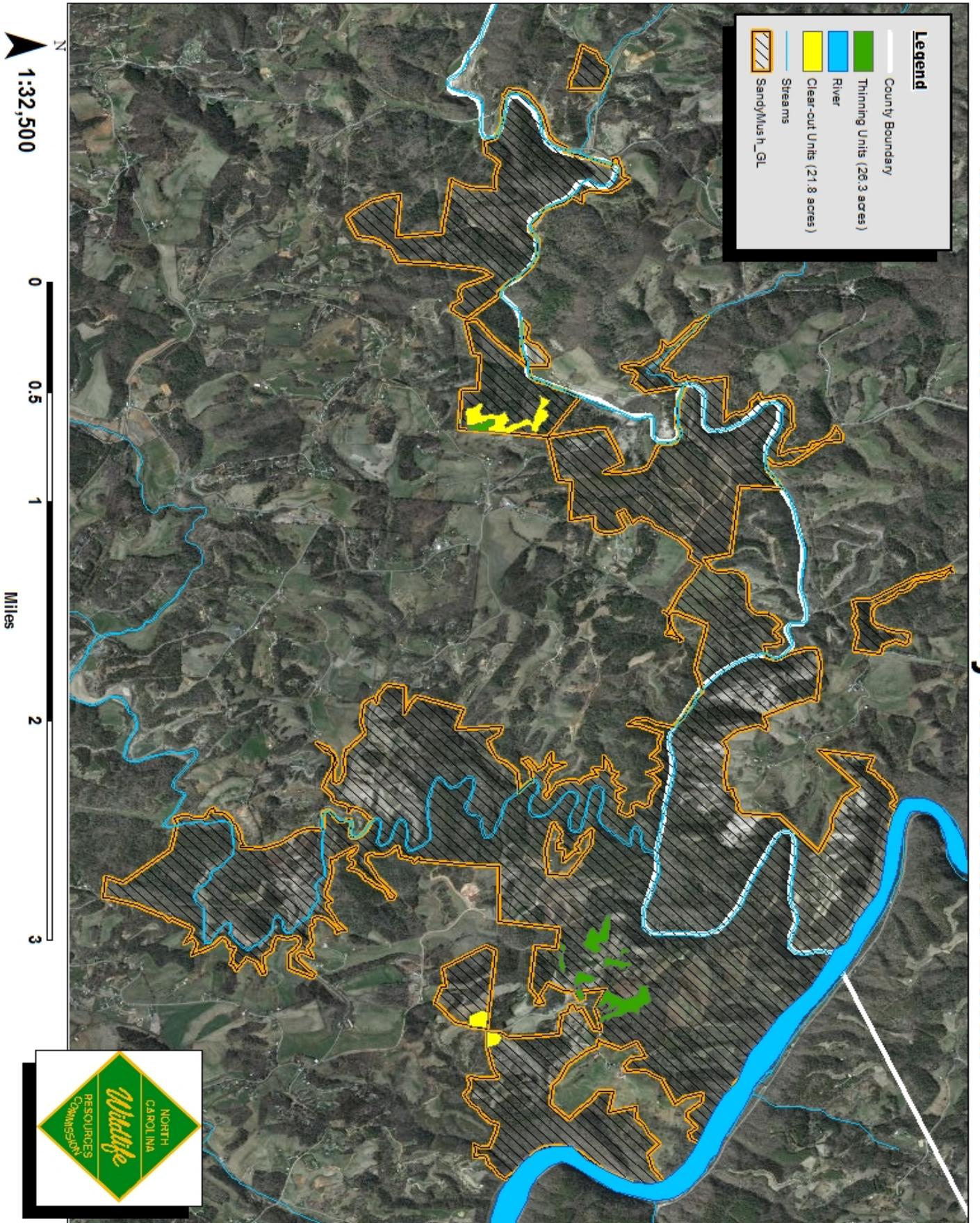
# Sandy Mush Game Land- Early Succession



Prescribed Burn Units - Sandy Mush Game Land



# Timber Sale Units- Sandy Mush Game Land



**GENERAL WARRANTY DEED WITH RESERVATION OF EASEMENTS**

Excise Tax: \$ 20,444.00

This instrument was prepared by or under the direction of:

David W. Berry, Smith, Anderson, Blount, Dorsett, Mitchell & Jernigan, L.L.P., P.O. Box 2611,  
Raleigh, North Carolina 27602-2611 (NO OPINION ON TITLE)

Mail after recording to:

J. Douglas Hill, Assistant Attorney General, North Carolina Department of Justice, 9001 Mail Service Center,  
Raleigh, North Carolina 27699-9001

Brief Description for Index: 2,655 acres, more or less, in Buncombe and Madison Counties

Tax PIN Nos.: (See Exhibit A)

STATE OF NORTH CAROLINA

COUNTIES OF BUNCOMBE AND MADISON

THIS GENERAL WARRANTY DEED WITH RESERVATION OF EASEMENTS (the "Deed") is made and entered into this 23 day of December, 2004, from CAROLINA POWER & LIGHT COMPANY, a North Carolina public service corporation d/b/a PROGRESS ENERGY CAROLINAS, INC., c/o PEC Real Estate Management, Post Office Box 1551, Raleigh, North Carolina 27602-1551 ("GRANTOR" or "PEC"), to the STATE OF NORTH CAROLINA, c/o State Property Office, 1321 Mail Service Center, Raleigh, North Carolina 27699-1321 ("GRANTEE").

#750477\_6.DOC

WITNESSETH:

That GRANTOR, for and in consideration of the sum of Ten Dollars (\$10.00) and other valuable consideration to it paid by GRANTEE, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell, and convey to GRANTEE, its successors and assigns, in fee simple and subject to the transmission and distribution easements reserved unto GRANTOR herein (collectively the "GRANTOR's Easements"), all of those certain tracts or parcels of land lying in Buncombe County, North Carolina and Madison County, North Carolina, which are more particularly described on Exhibit A attached hereto and incorporated herein by reference (hereinafter collectively referred to as the "Property"), together with all appurtenant rights and other easements pertaining thereto.

TO HAVE AND TO HOLD the Property, subject to the GRANTOR's Easements reserved herein as more particularly set forth and described on Exhibit B attached hereto and incorporated herein by reference, together with all privileges and appurtenances thereto belonging, to GRANTEE, its successors and assigns, in fee simple forever.

Subject to the GRANTOR's Easements reserved herein, GRANTOR covenants with GRANTEE, its successors and assigns, that it is seized of the Property in fee simple and has the right to convey the same in fee simple; that the title is free and clear from all encumbrances, except for the permitted encumbrances set forth on Exhibit C attached hereto and incorporated herein by reference; and that GRANTOR will warrant and forever defend the title thereto against the claims of all persons whomsoever, except for the reservations set forth on Exhibit B and the permitted encumbrances set forth on Exhibit C.

The GRANTEE has received funding from the N.C. Ecosystem Enhancement Program for acquisition of the Property as conveyed and described in this Deed. In consideration of this

funding, the N.C. Ecosystem Enhancement Program requires that the Declarations and Restrictions, as forth on **Exhibit D** attached hereto and incorporated herein by reference, shall be inserted in this Deed. By its acceptance of the delivery and the recording of this Deed, the GRANTEE and the N.C. Ecosystem Enhancement Program acknowledge and agree that the GRANTOR's Easements are hereby excepted from the Declarations and Restrictions and that the GRANTOR's Easements and all rights, privileges, and easements reserved unto GRANTOR in this Deed shall not be subject to, burdened, abridged, limited, restricted, prohibited, or otherwise affected in any manner by the Declarations and Restrictions.

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IN WITNESS WHEREOF, GRANTOR has caused this DEED WITH RESERVATION OF EASEMENTS to be signed in its corporate name by its duly authorized officer, by authority of its Board of Directors, as of the day and year first above written.

CAROLINA POWER & LIGHT COMPANY, a  
North Carolina public service corporation d/b/a  
PROGRESS ENERGY CAROLINAS, INC.

By: [Signature]  
Name: Darren Dasburg, P.E.  
Title: VP REAL ESTATE

STATE OF NORTH CAROLINA  
COUNTY OF WAKE

I, LEIGH E. HELMS, a Notary Public of WAKE County, North Carolina, certify that DARREN DASBURG, P.E., personally appeared before me this day and acknowledged that he/she is the VP-REAL ESTATE of Carolina Power & Light Company, a North Carolina public service corporation doing business as Progress Energy Carolinas, Inc., and as VP-REAL ESTATE, being authorized to do so, executed the foregoing instrument on behalf of the corporation.

Witness my hand and official stamp or seal, this 23 day of December, 2004.



Leigh E. Helms  
Notary Public

My commission expires: 6/9/07

(Notary Seal)

**EXHIBIT A**  
**DESCRIPTION OF THE PROPERTY**

Being all of those certain tracts or parcels of land lying and situate in Buncombe County, North Carolina and Madison County, North Carolina, containing approximately 2,655 acres in the aggregate, more or less, which are more particularly described in the following instruments recorded in the Buncombe County Registry and/or Madison County Registry, as noted below, together with all appurtenant rights and easements pertaining thereto. The legal descriptions of said tracts or parcels of land set forth in the following instruments are incorporated herein by reference as if each such legal description were written out herein in full. The Buncombe and Madison County Tax Parcel or Identification Numbers referenced below are provided for informational purposes only and shall not be considered part of the Property's legal description.

1. Deed from Howard C. Andrew and wife, Lelia Mae Andrew, to Carolina Power & Light Company recorded on January 21, 1975, in Book 1114, Page 145, Buncombe County Registry and recorded on January 21, 1975, in Book 119, Page 454, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4246 (dated July 1974), which is incorporated herein by reference.  
(Buncombe County Pin # \_\_\_\_\_ ; Madison County Pin # 8793 38 1692)

2. Deed from Lina D. Angel, widow, to Carolina Power & Light Company recorded on March 10, 1976, in Book 1137, Page 706, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3921 (dated February 1974), which is incorporated herein by reference.  
(Buncombe County Pin # 9702-00-89-9493)

3. Deed from Mack W. Angel and wife, Evelyn Angel, to Carolina Power & Light Company recorded on March 10, 1976, in Book 1137, Page 714, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3920 (dated February 1974), which is incorporated herein by reference.  
(Buncombe County Pin #9702-00-99-5962; #9712-01-09-1534)

4. Deed from Bluffard W. Bradburn and wife, Zola Bradburn, to Carolina Power & Light Company recorded on June 5, 1975, in Book 1120 Page 489, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4164 (dated June 1974), which is incorporated herein by reference.  
(Buncombe County Pin #9713-00-06-4482)

5. Deed from James Orr Bradburn and wife, Kay B. Bradburn, to Carolina Power & Light Company recorded on November 30, 1973, in Book 1091, Page 533, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4392 (dated October 1974), which is incorporated herein by reference. (Buncombe County Pin #9713-00-27-6787)
6. Deed from T.M. Bradburn and wife, L. M. Bradburn, to Carolina Power & Light Company recorded on February 18, 1974, in Book 1095, Page 169, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4578 (dated November 1974), which is incorporated herein by reference. (Buncombe County Pin #9713-00-18-6022)
7. Deed from Thomas Merritt Bradburn, Jr. and wife, Sue Bradburn, to Carolina Power & Light Company recorded on March 29, 1974, in Book 1097, Page 351, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4387 (dated October 1974), which is incorporated herein by reference. (Buncombe County Pin #9713-00-27-0776)
8. Deed from Billy Joe Chandler and wife, Linda Chandler; and Orville C. Chandler, single, to Carolina Power & Light Company recorded on March 5, 1974, in Book 1096, Page 111, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4390 (dated October 1974), which is incorporated herein by reference. (Buncombe County Pin #9714-00-22-0483)
9. Deed of Correction from Ford Davis and wife, Nell S. Davis, to Carolina Power & Light Company recorded on November 22, 1976, in Book 1155, Page 103, Buncombe County Registry (which corrects the legal description set forth in the prior Deed from Ford Davis and wife, Nell S. Davis, to Carolina Power & Light Company previously recorded on November 12, 1976, in Book 1154, Page 333, Buncombe County Registry); said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4030 (dated April 1974), which is incorporated herein by reference. (Buncombe County Pin # \_\_\_\_\_)
10. Deed from Hughes Davis and wife, Joyce Davis, to Carolina Power & Light Company recorded on June 18, 1975, in Book 1121, Page 309, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4125 (dated June 1974), which is incorporated herein by reference. (Buncombe County Pin #9703-00-72-1598)
11. Deed from Palma C. Edney, widow, to Carolina Power & Light Company recorded on April 25, 1978, in Book 1188, Page 415, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4697 (dated July 1975), which is incorporated herein by reference. (Buncombe County Pin #9703-00-39-8748)
12. Deed from James M. Ferguson and wife, Viola H. Ferguson, to Carolina Power & Light Company recorded on March 6, 1974, in Book 1096, Page 169, Buncombe County Registry. (Buncombe County Pin #9703-00-84-4930)

Parcel One of Tract One described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4398 (dated October 1974), which is incorporated herein by reference.

Parcel Two of Tract One described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4399 (dated October 1974), which is incorporated herein by reference.

Parcel Three of Tract One described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4345 (dated September 1974), which is incorporated herein by reference.

Parcel Four of Tract One described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4530 (dated October 1974), which is incorporated herein by reference.

Tract Two described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4395 (dated June 1974), which is incorporated herein by reference.

Tract Three described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4396 (dated July 1974), which is incorporated herein by reference.

13. (a) Deed from Douglas C. Fox, single, to Carolina Power & Light Company recorded on February 18, 1974, in Book 1095, Page 187, Buncombe County Registry.

(b) Deed from Charles L. Buckner and wife, Sarah B. Buckner; and Ruby B. Warren, unmarried, to Carolina Power & Light Company, recorded on December 11, 1973 in Book 1092, Page 127, Buncombe County Registry.

(c) Deed from Thomas A. Fox and wife, Lucy Fox, to Carolina Power & Light Company recorded on December 10, 1973 in Book 1092, Page 63, Buncombe County Registry.

The tracts or parcels of land described in the three Deeds above-referenced in subparts (a) through (c) are further shown and described on Carolina Power & Light Company Drawing No. L-D-4115 (dated June 1974), which is incorporated herein by reference. (Buncombe County Pin # \_\_\_\_\_)

14. Deed from Collis Franklin and wife, Helen Franklin, to Carolina Power & Light Company recorded on August 7, 1974, in Book 1105, Page 300, Buncombe County Registry. (Buncombe County Pin #9713-00-46-7397; #9713-00-65-6866)

Tract One and Tract Two described in the aforesaid Deed are further shown and described on Carolina Power & Light Company Drawing No. L-D-4414 (dated October 1974), which is incorporated herein by reference.

Tract Three described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4189 (dated July 1974), which is incorporated herein by reference.

15. Deed from Marvin G. Giezentanner and wife, Susie C. Giezentanner; James W. Giezentanner (a/k/a James H. Giezentanner a/k/a James G. Giezentanner) and wife, Lois A. Giezentanner; and Doris Giezentanner, widow, to Carolina Power & Light Company recorded on March 25, 1974, in Book 1097, Page 129, Buncombe County Registry; said property being

further shown and described on Carolina Power & Light Company Drawing No. L-D-4575 (dated November 1974), which is incorporated herein by reference.  
(Buncombe County Pin # \_\_\_\_\_)

16. Deed from Stella Griffin, widow, to Carolina Power & Light Company recorded on July 9, 1974, in Book 1103, Page 358, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3945 (dated February 1974), which is incorporated herein by reference.  
(Buncombe County Pin # \_\_\_\_\_)

17. Deed from Paul Hawkins and wife, Nell H. Hawkins, to Carolina Power & Light Company recorded on April 3, 1975, in Book 1117, Page 327, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3918 (dated February 1974), which is incorporated herein by reference.  
(Buncombe County Pin #9702-00-89-3612)

18. Deed from Raymond Hawkins and wife, Betsey Hawkins, to Carolina Power & Light Company recorded on October 16, 1974, in Book 1109, Page 619, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3985 (dated April 1974), which is incorporated herein by reference.  
(Buncombe County Pin #9712-01-09-9859)

19. Deed from Harold H. Hoagland and wife, Ruth L. Hoagland, to Carolina Power & Light Company recorded on March 25, 1974, in Book 1097, Page 135, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4309 (dated September 1974), which is incorporated herein by reference.  
(Buncombe County Pin #9713-00-39-3218)

20. Deed from Wilma Angel Hollifield, unmarried, to Carolina Power & Light Company recorded on February 27, 1975, in Book 1115, Page 633, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4497 (dated December 1974 and revised February 1975), which is incorporated herein by reference. (Buncombe County Pin #9702-00-99-4204)

21. Deed from Willa Lee J. Little and William A. Joyner, Attorneys in Fact for Mae Redmon Joyner, widow, to Carolina Power & Light Company recorded on January 24, 1975, in Book 1114, Page 329, Buncombe County Registry and recorded on January 27, 1975, in Book 119, Page 471, Madison County Registry.  
(Buncombe County Pin #9704-00-00-2125; Madison County Pin #8793-00-86-2331)

Parcel One described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4264 (dated August 1974), which is incorporated herein by reference.

Parcel Two described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4265 (dated August 1974), which is incorporated herein by reference.

LESS AND EXCEPT from Parcel Two described in the aforesaid Deed that certain tract or parcel of land containing approximately 1.5 acres previously conveyed from Carolina Power & Light Company to the Trustees of Redmon Baptist Church by Deed recorded on March 14, 1983, in Book 1315, Page 780, Buncombe County Registry.

GRANTOR hereby assigns and conveys unto GRANTEE, the GRANTOR's perpetual right, as more fully set forth in Book 1315, Page 780, Buncombe County Registry, to re-enter in the northwestern corner of the said 1.5-acre tract hereinabove excepted the remains of up to twenty (20) graves that either, are presently, or were formerly, located on Parcel Two described in the aforesaid Deed recorded in Book 1114, Page 329, Buncombe County Registry.

22. Deed from Boyd Mace and wife, Edith Mace, to Carolina Power & Light Company recorded on March 15, 1976, in Book 1138, Page 172, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3922 (dated February 1974 and revised March 1975), which is incorporated herein by reference. (Buncombe County Pin #9702-00-98-8658)

23. Deed from Demerria Martin, widow, to Carolina Power & Light Company recorded on November 30, 1973, in Book 1091, Page 525, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4573 (dated November 1974), which is incorporated herein by reference. (Buncombe County Pin #9714-00-50-1603)

24. Deed from A.L. Massey and wife, Grace B. Massey, to Carolina Power & Light Company, recorded on January 23, 1976, in Book 1135, Page 129, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4205 (dated July 1974 and revised January 1976), which is incorporated herein by reference. (Buncombe County Pin #8793-00-45-4096)

25. Deed from Andrew H. McDaniel and wife, Louise B. McDaniel, to Carolina Power & Light Company recorded on December 5, 1974, in Book 1112, Page 189, Buncombe County Registry. (Buncombe County Pin # \_\_\_\_\_)

Tract One described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4378 (dated October 1974), which is incorporated herein by reference.

Tract Two described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4165 (dated June 1974), which is incorporated herein by reference.

26. Deed from James Bernard Meadows (a/k/a J.B. Meadows) to Carolina Power & Light Company recorded on April 30, 1975, in Book 1118, Page 486, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4310 (dated September 1974 and revised February 1975), which is incorporated herein by reference. (Buncombe County Pin #9713-00-25-4294)

27. Deed from Jerry W. Meadows and wife, Myrtle M. Meadows, to Carolina Power & Light Company recorded on January 2, 1974, in Book 1093, Page 33, Buncombe County

Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3753 (dated December 1973), which is incorporated herein by reference. (Buncombe County Pin #9703-00-62-3999)

28. Deed from Jerry W. Meadows and wife, Myrtle M. Meadows, to Carolina Power & Light Company recorded on July 24, 1974, in Book 1104, Page 273, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4167 (dated July 1974), which is incorporated herein by reference. (Buncombe County Pin #9703-00-53-7408)

29. Deed from I.J. Miller and wife, Mary Ann Miller, to Carolina Power & Light Company recorded on May 13, 1977, in Book 1164, Page 560, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4056 (dated May 1974), which is incorporated herein by reference. (Buncombe County Pin #9713-00-01-3694)

30. Deed from Garrett Pegg and wife, Merita Pegg, to Carolina Power & Light Company recorded on June 2, 1975, in Book 1120, Page 331, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4166 (dated June 1974, revised May 1975, and revised August 1975), which is incorporated herein by reference. (Buncombe County Pin #9703-00-86-3333)

31. (a) Deed from Jeter M. Rash and wife, Eunau Rash; Una R. Maxwell and husband, Andrew Maxwell; Zennie R. Candler and husband, A.N. Candler; Dora R. Cranford, widow; Maloy R. Rash and wife, Leila Rash; Annie Joe Rash, widow; and Joan Hardin and husband, Charles C. Hardin, to Carolina Power & Light Company recorded on February 20, 1974, in Book 1095, Page 487, Buncombe County Registry.

(b) Deed from Don E. Rash and wife, Donna Rash; and Barbara Des Jardins and husband, Paul Des Jardins to Carolina Power & Light Company recorded on February 20, 1974, in Book 1095, Page 509, Buncombe County Registry.

The tract or parcel of land described in the two Deeds above-referenced in subparts (a) and (b) are further shown and described on Carolina Power & Light Company Drawing No. L-D-4389 (dated October 1974), which is incorporated herein by reference. (Buncombe County Pin #9713-00-36-8994)

32. (a) Deed from James Rash and wife, Norma Sue Rash; Mary Lee McCraven and husband, Steve McCraven; William G. Rash and wife, Jane Rash; Marie R. Rice and husband, Carlie E. Rice; Paul Foster and wife, Louise S. Foster; Arthur R. Rash and wife, Anna S. Rash; and Ruby R. Price, widow, to Carolina Power & Light Company recorded on January 25, 1974, in Book 1094, Page 141, Buncombe County Registry.

(b) Deed from Norma R. Vicknair and husband, Raymond J. Vicknair, to Carolina Power & Light Company recorded on January 25, 1974, in Book 1094, Page 123, Buncombe County Registry.

(c) Deed from Carl Dale Rash and wife, Juanita Rash, to Carolina Power & Light Company recorded on January 25, 1974 in Book 1094, Page 119, Buncombe County Registry.

(d) Deed from Dillard S. Foster and wife, Dolly C. Foster, to Carolina Power & Light Company recorded on January 25, 1974, in Book 1094, Page 115, Buncombe County Registry.

The FIRST TRACT, THIRD TRACT, AND FOURTH TRACT as described in the four Deeds above-referenced in subparts (a) through (d) are further shown and described on Carolina Power & Light Company Drawing No. L-D-4394 (dated October 1974), which is incorporated herein by reference.

LESS AND EXCEPT the SECOND TRACT as described in the four Deeds above-referenced in subparts (a) through (d) previously conveyed from Carolina Power & Light Company to Jessie W. Russell by that Deed recorded on February 21, 1986 in Book 1420, Page 314, Buncombe County Registry; said excepted SECOND TRACT being further shown and described on Carolina Power & Light Company Drawing No. L-D-4393 (dated October 1974), which is incorporated herein by reference.

(e) Deed from Della R. Sargeant and husband, George Sargeant; Jessie W. Russell and husband, J.U. Russell; Buford E. Rash and wife, Helen P. Rash; Edith R. Greene and husband, Lester Greene; Herbert H. Rash and wife, Peggy B. Rash; Thelma R. Vaughn, widow; Charles A. Rash and wife, Louise Rash; Eleanor R. Swilling and husband, W.M. Swilling; Dorothy R. Evans and husband, H.B. Evans, to Carolina Power & Light Company recorded on February 21, 1986, in Book 1420, Page 301, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4394 (dated October 1974), which is incorporated herein by reference.

(Buncombe County Pin # \_\_\_\_\_)

33. Deed from Tony A. Rash and wife, Glenda D. Rash; and Everett C. Ponder and wife, Brenda M. Ponder, to Carolina Power & Light Company recorded on April 5, 1974, in Book 1097, Page 578, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4579 (dated October 1974), which is incorporated herein by reference. (Buncombe County Pin #9713-00-08-5916)

34. Deed from T. M. Rash and wife, Onnie M. Rash, to Carolina Power & Light Company recorded on April 16, 1974, in Book 1098, Page 101, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4388 (dated October 1974), which is incorporated herein by reference. (Buncombe County Pin #9714-00-21-7648)

35. Deed from James L. Reeves and wife, Verlene R. Reeves, to Carolina Power & Light Company recorded on September 25, 1974, in Book 1108, Page 528, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4263 (dated August 1974), which is incorporated herein by reference. (Buncombe County Pin # \_\_\_\_\_)

36. Deed from Dewey Talmadge Rice and wife, Lela Meadows Rice, to Carolina Power & Light Company recorded on September 12, 1974, in Book 1107, Page 623, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4245 (dated August 1974 and revised September 1974). (Buncombe County Pin # \_\_\_\_\_)

37. Deed from Marie Rash Rice and husband, Carlie E. Rice, to Carolina Power & Light Company recorded on April 26, 1974, in Book 1098, Page 627, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4581 (dated December 1974), which is incorporated herein by reference. (Buncombe County Pin #9713-00-17-9248)

38. Deed from Kenneth Eugene Rigsby and wife, Betty Briggs Rigsby, to Carolina Power & Light Company recorded on December 19, 1973, in Book 1092, Page 453, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4391 (dated October 1974), which is incorporated herein by reference. (Buncombe County Pin #9714-00-30-9727)

39. Deed from Lewis Roberts and wife, Sally Lee Roberts, to Carolina Power & Light Company recorded on May 1, 1974, in Book 1098, Page 731, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3870 (dated February 1974), which is incorporated herein by reference. (Buncombe County Pin #4793-00-87-9429)

40. Deed from Alonzo W. Robinson and wife, Martha Ann Robinson; and Raymond F. Robinson and wife, Clara Robinson, to Carolina Power & Light Company recorded on March 11, 1976, in Book 1138, Page 12, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4095 (dated May 1974 and revised March 1976), which is incorporated herein by reference. (Buncombe County Pin #)

41. Deed from Jeffrey Russell, unmarried; and Richard J. Russell and wife, Gloria C. Russell, to Carolina Power & Light Company recorded on December 31, 1998, in Book 2067, Page 613, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4495 (dated December 1974 and revised June 1996), which is incorporated herein by reference. (Buncombe County Pin #9713-00-17-2041)

42. Deed from Joe Daniel Sellars (a/k/a Joe Daniel Sellers) and wife, Mildred G. Sellars, to Carolina Power & Light Company recorded on March 29, 1974, in Book 1097, Page 335, Buncombe County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4334 (dated September 1974), which is incorporated herein by reference. (Buncombe County Pin #9714-00-20-5712)

43. Deed from Albert J. Shelton and wife, Minnie R. Shelton, to Carolina Power & Light Company recorded on June 18, 1974, in Book 1101, Page 743, Buncombe County Registry. (Buncombe County Pin #9713-00-38-3642; #9713-00-28-5804)

Parcel One described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4411 (dated November 1974), which is incorporated herein by reference.

Light Company recorded on May 14, 1974, in Book 117, Page 13, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3919 (dated February 1974), which is incorporated herein by reference.

(b) Deed from Andrew H. McDaniel and wife, Louise B. McDaniel, to Carolina Power & Light Company recorded on April 1, 1976, in Book 123, Page 472, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3919 (dated February 1974), which is incorporated herein by reference. (Madison County Pin #8793 07 7973)

LESS AND EXCEPT from that property described in the Andrew H. McDaniel, *et ux.* Deed above-referenced in subpart (b) that certain tract or parcel of land previously conveyed from Carolina Power & Light Company to Neal W. Klimek and wife, Judy M. Klimek, by Deed recorded on March 24, 1994, in Book 212, Page 87, Madison County Registry; said excepted tract or parcel of land being further shown and described on Carolina Power & Light Company Drawing No. L-A-8886 (dated September 1993), which is incorporated herein by reference.

58. Deed from Harry Baldwin and wife, Brenda G. Baldwin; and Doris Hensley Baldwin, unmarried, to Carolina Power & Light Company recorded on June 10, 1975, in Book 121, Page 133, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4329 (dated September 1974), which is incorporated herein by reference. (Madison County Pin # \_\_\_\_\_)

59. Deed from Marie Ponder Clark, widow, to Carolina Power & Light Company recorded on January 16, 1976, in Book 123, Page 28, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4328 (dated September 1974), which is incorporated herein by reference. (Madison County Pin # \_\_\_\_\_)

60. Deed from James M. Ferguson and wife, Viola H. Ferguson, to Carolina Power & Light Company recorded on March 6, 1974, in Book 116, Page 374, Madison County Registry. (Madison County Pin # \_\_\_\_\_)

Tract One and Tract Two described in the aforesaid Deed are further shown and described on Carolina Power & Light Company Drawing No. L-D-4331 (dated September 1974), which is incorporated herein by reference.

Tract Three and Tract Four described in the aforesaid Deed are further shown and described on Carolina Power & Light Company Drawing No. L-D-4330 (dated September 1974), which is incorporated herein by reference.

Tract Five described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4412 (dated November 1974), which is incorporated herein by reference.

Tract Six described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4397 (dated October 1974), which is incorporated herein by reference.

61. Deed from Porter Graham and wife, Doscia Graham, to Carolina Power & Light Company recorded on May 14, 1974, in Book 117, Page 20, Madison County Registry; said

property being further shown and described on Carolina Power & Light Company Drawing No. L-D-3946 (dated February 1974), which is incorporated herein by reference.  
(Madison County Pin #8793 76 3921)

62. Deed from Cleone King, unmarried, to Carolina Power & Light Company recorded on April 15, 1975, in Book 120, Page 315, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4126 (dated June 1974 and revised March 1975), which is incorporated herein by reference.  
(Madison County Pin #8793 76 3606)

63. Deed from Cleone King, unmarried; Helen K. Rice and husband, Rankin Rice; Irene K. Teague and husband, Houston Teague; and Janice K. Payne and husband, Reeves E. Payne, to Carolina Power & Light Company recorded on October 18, 1974, in Book 118, Page 496, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4098 (dated May 1974), which is incorporated herein by reference. (Madison County Pin #8794 60 5368)

64. Deed from Reagan J. Marler, widower, to Carolina Power & Light Company recorded on December 12, 1974, in Book 119, Page 209, Madison County Registry; said property said being further shown and described on Carolina Power & Light Company Drawing No. L-D-4293 (dated August 1974), which is incorporated herein by reference.  
(Madison County Pin #8794 92 7550)

65. Deed from Sherman W. Ramsey, single, to Carolina Power & Light Company recorded on February 27, 1976, in Book 123, Page 294, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4327 (dated September 1974 and revised August 1975), which is incorporated herein by reference.  
(Madison County Pin # )

66. Deed from Eugene Roberts and wife, Gladys Roberts, to Carolina Power & Light Company recorded on April 15, 1975, in Book 120, Page 312, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4326 (dated August 1974), which is incorporated herein by reference.  
(Madison County Pin # )

67. Deed from Bryan Teague and wife, Ethel P. Teague, to Carolina Power & Light Company recorded on August 11, 1975, in Book 121, Page 524, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4185 (dated July 1974), which is incorporated herein by reference.  
(Madison County Pin #8793 79 6582)

68. Deed from Frank Teague, single; Cleone King, unmarried; Doscia Graham and husband, Porter Graham; and Samantha R. Teague, widow, conveying their four-fifth (4/5<sup>th</sup>) undivided interest in said property to Carolina Power & Light Company recorded on August 15, 1975, in Book 121, Page 604, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4162 (dated June 1974),

which is incorporated herein by reference. (Madison County Pin # \_\_\_\_\_)

69. Deed from Samantha R. Teague, widow, to Carolina Power & Light Company recorded on November 21, 1974, in Book 119, Page 68, Madison County Registry.  
(Madison County Pin #8793 79 8221)

Tract One described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4127 (dated June 1974), which is incorporated herein by reference.

Tract Two described in the aforesaid Deed is further shown and described on Carolina Power & Light Company Drawing No. L-D-4057 (dated June 1974), which is incorporated herein by reference.

70. Deed from Hughes Treadway and wife, Shirley Treadway, to Carolina Power & Light Company recorded on June 18, 1975, in Book 121, Page 201, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4294 (dated August 1974), which is incorporated herein by reference.  
(Madison County Pin #8794 81 5707)

71. Deed from George Reed Teague and wife, Freda Teague, to Carolina Power & Light Company recorded on October 31, 1974, in Book 1110, Page 555, Buncombe County Registry and recorded on October 31, 1974, in Book 118, Page 547, Madison County Registry; said property being further shown and described on Carolina Power & Light Company Drawing No. L-D-4238 (dated July 1974 and revised October 1974), which is incorporated herein by reference. (Buncombe County Pin # \_\_\_\_\_ ; Madison County Pin # \_\_\_\_\_)

**EXHIBIT B**

**GRANTOR'S EASEMENTS**

**RESERVATION OF TRANSMISSION EASEMENT**

This Deed and conveyance of the Property is made SUBJECT TO AND RESERVING unto GRANTOR, its affiliates, successors, and assigns, the right, privilege, and easement to go in and upon Tract Nos. 4, 9, 25, 32, 47, and 60 of the Property as further described on Exhibit A, and to construct, install, operate, utilize, inspect, rebuild, repair, replace, remove, and maintain overhead and/or underground facilities consisting of electric, communication, or other related facilities (hereinafter sometimes collectively referred to as the "Facilities" or "facilities") within the Transmission Easement Area hereinafter defined, and together with the right to do all things necessary or convenient thereto, including the following:

- (a) the right of officers, agents, and workmen of PEC and its contractors to go to and from said Transmission Easement Area at all times over Tract Nos. 4, 9, 25, 32, 47, and 60 of the Property by such route or routes, including private roads and ways then existing thereon, on foot or by conveyance, with materials, machinery, supplies, and equipment as may be desirable; provided that, existing roads and ways thereon shall be used to the extent that they afford ingress and egress to and from said Transmission Easement Area; and within the Transmission Easement Area, to construct, reconstruct, work upon, repair, alter, inspect and in general do any other thing necessary or convenient to maintain and operate said facilities for the purpose aforesaid;
- (b) the right to install and maintain guys, anchors, grounding, counterpoise, and appurtenant devices, together with the right to install at the angle points of its overhead facilities guy wires and guy anchors outside of said Transmission Easement Area for the support of the structures of said overhead facilities;
- (c) the right to clear, and keep cleared, from said Transmission Easement Area all structures (other than fences that existed prior to this easement with the understanding that such fences may be opened and re-closed or temporarily removed and replaced, or PEC may provide suitable gates therein so that PEC shall have unimpeded access along said Transmission Easement Area) and all trees, undergrowth, stumps, and roots, and to use: (1) lawful chemicals, (2) machinery, and (3) other forms of equipment and devices in so doing;

- (d) the right to cut down at any time and from time to time, in PEC's discretion, any tree standing outside said Transmission Easement Area the length of which tree plus five (5) feet equals or exceeds the distance from the base of such tree (also known as a "danger tree") to the nearest overhead facility or to a point on the ground directly underneath the nearest overhead facility, and to cut and remove any limb or any part thereof from any tree standing outside said Transmission Easement Area when such limb or any part thereof protrudes or is likely to protrude into said Transmission Easement Area; and
- (e) the right to construct, install, operate, utilize, inspect, rebuild, remove, and maintain structures, wires, cables, lines, conduits, markers, and other appurtenant devices in conjunction with said facilities with the right to intermingle and interchange the one with the other, and to alter, substitute for, and add other devices from time to time as PEC may deem advisable.

The Transmission Easement Area herein reserved unto GRANTOR is in three (3) segments, which are more particularly described as follows:

FIRST SEGMENT (affects Tract No. 9 of the Property):

The FIRST SEGMENT is triangular in shape, the northeastern edge of said FIRST SEGMENT being a northeastern property line of the Property, the southeastern edge of said FIRST SEGMENT being a southeastern property line of the Property, and the western edge of said FIRST SEGMENT being thirty-five (35) feet west of and parallel to a survey line in the vicinity of Station No. 306+20, said FIRST SEGMENT being further shown and described on Sheet No. 3 of Carolina Power & Light Company Drawing No. RW-D-7504 (dated October, 1985, revised 10-13-87), which is incorporated herein by reference.

SECOND SEGMENT (affects Tract Nos. 4, 25, 32, 47, and 60 of the Property):

The SECOND SEGMENT is seventy (70) feet wide, extending thirty-five (35) feet on each side of the following-described survey line: BEGINNING at point V1, as shown on the Drawing hereinafter referred to, being located in a northern property line of, now or formerly, French Broad Electric Membership Corporation and the southern property line of the Property; and runs thence North 21 degrees 12 minutes 31 seconds West approximately 3755 feet to point X1, on said Drawing, being located in the center of Sandymush Creek and being the county line between Buncombe and Madison Counties; and thence North 21 degrees 12 minutes 31 seconds West approximately 2720 feet to point Y1, on said Drawing, being located in a western property line of the Property and an eastern property line of, now or formerly, Garrett C. Ramsey, *et al.*, said SECOND SEGMENT being further shown and described on Sheet No. 4 of Carolina Power & Light Company Drawing No. RW-D-7504 (dated October, 1985), which is incorporated herein by reference.

THIRD SEGMENT (affects Tract No. 60 of the Property):

The THIRD SEGMENT is seventy (70) feet wide, extending thirty-five (35) feet on each side of the following-described survey line: BEGINNING at point A2, as shown on the Drawing hereinafter referred to, being located in a northern property line of, now or formerly, Ernest Snelson and the southern property line of the Property; and runs thence North 21 degrees 12 minutes 31 seconds West approximately 508 feet to point B2, on said Drawing, being located in a northern property line of the Property and a southern property line of, now or formerly, Harold L. Snelson, said THIRD SEGMENT being further shown and described on Sheet No. 4 of Carolina Power & Light Company Drawing No. RW-D-7504 (dated October, 1985), which is incorporated herein by reference.

The aforesaid Sheets of said Drawing also show the respective complementing side lines going to make up the respective FIRST, SECOND, and THIRD SEGMENTS of said Transmission Easement Area.

In addition to those rights set out in paragraph (d) above commonly referred to as "danger tree" rights, PEC also reserves the right to cut "danger trees" along a northeastern property line of Tract No. 9 of the Property, which lies west of a survey line between Station Nos. 306+20 and 306+96, said area being further shown and described on Sheet No. 3 of Carolina Power & Light Company Drawing No. RW-D-7504 (dated October, 1985, revised 10-13-87), which is incorporated herein by reference.

It is understood and agreed by the parties that: (1) in the initial clearing of said Transmission Easement Area, any tree cut within said Transmission Easement Area and any danger tree, as defined in paragraph (d) above, cut outside said Transmission Easement Area shall belong to and may be removed by PEC, provided that if any tree is not removed by PEC within a reasonable period of time after being cut, then such tree shall belong to the GRANTEE; (2) after the initial clearing of said Transmission Easement Area, any tree cut shall belong to the GRANTEE; and (3) the above consideration includes payment for cutting and trimming all trees and no future compensation shall be paid by PEC for any trees cut or trimmed as defined in this easement.

GRANTEE shall have the right to use the Property over which said Transmission Easement Area and easement rights are hereby reserved for all purposes not inconsistent with

said easement rights, the National Electrical Safety Code, PEC specifications, and any federal, state, or local law, rule, or regulation; provided that PEC and GRANTEE agree that: (1) notwithstanding anything to the contrary herein, GRANTEE shall give written notification to PEC and GRANTEE shall obtain written approval from PEC prior to any activity as defined in items (2)–(6) of this paragraph; (2) the clearance between any overhead facilities and the surface of the ground shall not be reduced by grading or any other work and any slopes within said Transmission Easement Area shall be no greater than a one to four (1:4) ratio; (3) if streets, roads, or water or sewer lines are constructed across said Transmission Easement Area, they shall be located at an angle of more than forty-five (45) degrees between the center line of said streets, roads, or water or sewer lines and the center line of said Transmission Easement Area, and shall be located more than thirty (30) feet from any structure or anchor installed by PEC, and outside limit of any cut or fill shall be more than thirty (30) feet from said structures or anchors; (4) future fences shall not exceed eight (8) feet in height and have minimum twelve (12) foot wide gate(s) installed by GRANTEE so that PEC can have unimpeded access along said Transmission Easement Area; (5) if, under limited circumstances and pursuant to PEC conditions and/or specifications, GRANTEE desires to install future improvements such as temporary or movable buildings or sheds, trailers, billboards, signs, street or area lights, hunting stands, recreational facilities, parking, landscaping, dumpsters, garbage, trash, uprooted stumps, boulders, rubble, flammable materials, building materials, junk or inoperable vehicles, satellite signal receiver systems, erosion control, ponds, or storage facilities within said Transmission Easement Area, then the requested improvements shall not adversely affect, in PEC's sole discretion, the access to, safety, construction, reconstruction, operation, or maintenance of PEC's facilities and PEC shall not be liable for damages to said future improvements installed within

said Transmission Easement Area; (6) GRANTEE shall not do anything to: (a) interfere with PEC's access or maintenance to its facilities, or (b) endanger the safety of GRANTEE, PEC, or the general public; (7) under no circumstances shall permanent or immovable buildings, mobile homes, wells, septic tanks and/or related drainfields, swimming pools, absorption pits, air strips, underground vaults, burial grounds, or burning be allowed upon or within said Transmission Easement Area; (8) PEC reserves the right to construct future Facilities within said Transmission Easement Area and GRANTEE shall not interfere with or object to the construction of said future Facilities; and (9) all Facilities installed by PEC shall be and remain the property of PEC and may be removed by it at any time and from time to time.

PEC agrees that it shall be responsible for actual damages to improvements that existed prior to this easement, improvements outside the Transmission Easement Area that are installed subsequent to this easement, and annual crops of GRANTEE both inside and outside said Transmission Easement area on the Property caused by the construction, installation, operation, utilization, inspection, rebuilding, removal, and maintenance of said facilities, and in going to and from said Transmission Easement Area, and shall be responsible for the breakage caused to any bridge and any damage to any road, due to heavy hauling to and from said Transmission Easement Area, if claim is made within one hundred twenty (120) days after such damages are sustained.

TO HAVE AND TO HOLD said rights, privilege, and easement unto PEC, its affiliates, successors, and assigns, so long as PEC maintains its Facilities. If said Facilities are removed for a continuous period of twelve (12) months, then the Transmission Easement Area and easement rights herein reserved shall be deemed abandoned.

## RESERVATION OF DISTRIBUTION EASEMENT

This Deed and conveyance of the Property is made further SUBJECT TO AND RESERVING unto GRANTOR, its affiliates, successors, and assigns, the right, privilege, and easement to go in and upon the Property as further described on Exhibit A, and to construct, maintain, and operate electric and/or communication facilities thereon consisting of poles, cables, wires, guys, anchors, underground conduits, enclosures, and other pertinent facilities within the Distribution Easement Areas hereinafter described, together with the right to do all things necessary, including, but not limited to the following:

- (a) the right to enter said Distribution Easement Areas at all times over the Property to inspect, repair, maintain, and alter said facilities;
- (b) the right to keep said Distribution Easement Areas cleared of trees, shrubs, undergrowth, buildings, structures, and obstructions;
- (c) the right to trim or cut any tree adjacent to said Distribution Easement Areas that may, in the opinion of PEC, endanger the overhead facilities or hinder the maintenance, operation, and use of the same; and
- (d) the right to install at the angle points of the overhead facilities, guy wires and anchors outside of said Distribution Easement Areas.

The Distribution Easement Areas herein reserved unto GRANTOR are thirty (30) feet wide, extending fifteen (15) feet on each side of the center line of any existing electric line currently located on the Property.

It is understood and agreed by the parties that: (1) the facilities installed by PEC shall be and remain the property of PEC and may be removed by PEC at any time and from time to time; (2) GRANTEE reserves the right to use the Property for all purposes not herein reserved to PEC; (3) PEC agrees that it shall pay the actual damages to the Property caused by the construction, operation, maintenance, inspection, rebuilding, relocation, addition, and removal of said facilities (unless the changes to PEC facilities are requested by GRANTEE, its successors or assigns, in

which case PEC shall not be responsible for any damages incurred in performing such changes) and in going to and from said facilities and shall repair any damage to any road due to heavy hauling to and from said facilities; and (4) this reservation is made subject to the condition that PEC shall properly obtain all necessary permits required by State and Federal law. Failure to obtain such permits in a timely manner shall be deemed an abandonment of the Distribution Easement Area(s) associated with such failure and such specifically related easement rights thereto.

TO HAVE AND TO HOLD the aforesaid right, privilege, and easement unto PEC, its affiliates, successors and assigns, for so long as PEC maintains said facilities for public use and no longer. If said facilities are not operated at any Distribution Easement Area(s) for a continuous period of twelve (12) months, then such Distribution Easement Area(s) and such specifically related easement rights thereto shall be deemed abandoned.

**EXHIBIT C**

**PERMITTED ENCUMBRANCES**

- All real and personal property taxes and assessments accruing after the date of this Deed;
- All present and future environmental and zoning laws, ordinances, resolutions, orders, and regulations of all municipal, county, state, or federal governments having jurisdiction over the Property and the use thereof;
- All building codes, regulations, ordinances, and restrictions heretofore or hereafter adopted by a public agency, insurance and rating codes and regulations, and any other laws, regulations, or ordinances affecting the Property or its use adopted by any authority having jurisdiction over the Property and the use thereof;
- Any and all utility easements, rights of way, leases, public transportation rights (including road and railroad rights and easements), and other encumbrances of record affecting the Property;
- Agricultural or farm leases of portion(s) of the Property that have not been terminated prior to the date of this Deed;
- Rights of others in and to the continued uninterrupted flow of any creeks or streams crossing the Property;
- All matters that would be revealed by a current survey of the Property; and
- GRANTOR's Mortgage and Deed of Trust, dated May 1, 1940, as supplemented, to which GRANTOR is entitled to and will obtain a release for said Property from said lien within 120 days after the date this Deed is delivered to GRANTEE. The GRANTOR's Mortgage and Deed of Trust shall be released within one hundred twenty (120) days after the date this Deed is delivered to GRANTEE.
- That certain Indemnification Agreement respecting the release of the herein described Mortgage and Deed of Trust shall survive the delivery and closing of this Deed.

**EXHIBIT D**

**DECLARATIONS AND RESTRICTIONS**

The GRANTEE, State of North Carolina, sets aside, declares, reserves and recognizes, for all related State Agencies, and for the benefit of the people of the State, a perpetual riparian buffer on the Property, hereinafter identified as the "Restricted Area". The Restricted Area extends outwardly 300' (Three Hundred Feet) from both sides of the top of bank of Sandy Mush Creek, including all associated stream channels, creeks, rivers and all other identified tributaries. The Restricted Area also applies to any and all identified or defined wetlands on the Property. The Restricted Area as defined herein is subject to the restrictions set forth on this **Exhibit D** and will be forever conserved and managed in a manner that will improve and protect the quality of the waters of the Sandy Mush and Turkey Creeks, and otherwise promote the public purposes authorized under the provisions of N.C. General Statute § 143-214.8.

**EXCEPTION TO DECLARATIONS AND RESTRICTIONS**

The GRANTEE, State of North Carolina, and the N.C. Ecosystem Enhancement Program acknowledge and agree that the GRANTOR's Easements are hereby excepted from these Declarations and Restrictions and that the GRANTOR's Easements and all rights, privileges, and easements reserved unto GRANTOR in this Deed shall not be subject to, burdened, abridged, limited, restricted, prohibited, or otherwise affected in any manner by these Declarations and Restrictions.

**PURPOSES OF RESTRICTIONS**

The purposes of these restrictions are to maintain, restore, enhance, create and preserve wetland and/or riparian resources within the Restricted Area that contribute to the protection and improvement of water quality, flood prevention, fisheries, aquatic habitat, wildlife habitat, and recreational opportunities; to maintain permanently the Restricted Area in its natural condition, consistent with these purposes; and to prevent any use of the Restricted Area that will significantly impair or interfere with these purposes. To achieve these purposes, the following conditions and restrictions are set forth:

**RESERVED USES AND RESTRICTED ACTIVITIES**

**A. Motorized Vehicles.** Usage of motorized vehicles in the Restricted Area is prohibited, except as they are used exclusively for management, maintenance, or stewardship purposes, and on existing trails, paths or roads for the purposes recited above.

**B. Vegetative Cutting.** Except as related to the removal of non-native plants, diseased or damaged trees, and vegetation that obstructs, destabilizes or renders unsafe the Restricted Area to persons or natural habitat, all cutting, removal, mowing, harming, or destruction of any trees and vegetation in the Restricted Area is prohibited.

**C. Industrial, Agricultural, Residential and Commercial Uses.** All are prohibited in

the Restricted Area.

**D. New Construction.** There shall be no building, facility, mobile home, antenna, utility pole, tower, or other structure constructed or placed in the Restricted Area.

**E. Roads and Trails.** There shall be no new construction of roads, trails, walkways, or paving in the Restricted Area. Existing roads or trails located in the Restricted Area may be maintained in order to minimize runoff, sedimentation and for access to the interior of the Property for management, maintenance, stewardship purposes, or undeveloped recreational and educational uses of the Restricted Area. Existing roads, trails or paths may be maintained with loose gravel, soil, or permanent vegetation to stabilize or cover the surfaces.

**F. Signs.** No signs shall be permitted in the Restricted Area except interpretive signs describing restoration activities and the conservation values of the Restricted Area, signs identifying the owner of the Property, signs giving directions, or signs prescribing rules and regulations for the use of the Restricted Area may be allowed.

**G. Dumping or Storing.** Dumping or storage of soil, trash, ashes, garbage, waste, abandoned vehicles, appliances or machinery, or other material in the Restricted Area is prohibited.

**H. Grading, Mineral Use, Excavation, Dredging.** Unless related to approved restoration activities, there shall be no grading, filling, excavation, dredging, mining, or drilling within the Restricted Area.

**I. Water Quality and Drainage Patterns.** Unless related to approved restoration activities, there shall be no diking, draining, dredging, channeling, filling, leveling, pumping, impounding or diverting, causing, allowing or permitting the diversion of surface or underground water in the Restricted Area. No altering or tampering with water control structures or devices, or disruption or alteration of the restored, enhanced, or created drainage patterns. Any use of pesticide or biocides is prohibited. In the event of an emergency interruption or shortage of all other water sources, water from within the Restricted Area may temporarily be used for good cause shown as needed for the survival of livestock and agricultural production.

**J. Subdivision and Conveyance.** No further subdivision, partitioning, or dividing of the Restricted Area is allowed.

**K. Disturbance of Natural Features.** Any change, disturbance, alteration or impairment of the natural features of the Restricted Area or any intentional introduction of non-native plants, trees and/or animal species is prohibited.

**L. Restoration Activities Are Permitted.** Includes but not limited to planting of trees, shrubs and herbaceous vegetation, installation of monitoring wells, utilization of heavy equipment to grade, fill, and prepare the soil, modification of the hydrology of the site, and installation of natural and manmade materials as needed to direct in-stream, above ground, and

subterranean water flow according to a restoration plan as provided, contracted, or managed by the N.C. Ecosystem Enhancement Program.

**M. Permission.** Permission to vary from the above restrictions may be granted by the N.C. Ecosystem Enhancement Program for good cause shown, provided that any such request is consistent with the purposes of these Restrictions. Permission and approval to vary must be obtained in writing from the N.C. Ecosystem Enhancement Program, whose mailing address is 1652 Mail Services Center, Raleigh, NC 27699-1652.

**N. Enforcement.** The right of enforcement of these Restrictions is hereby granted to and vested entirely with the N.C. Ecosystem Enhancement Program, its successors and assigns. The GRANTOR is not reserving any right of enforcement in these Declarations or Restrictions or any other right, title or interest in the Property, except for the GRANTOR's Easements or as otherwise set forth in this Deed.

**COPY**

11-066, 001 D002

Prepared By: Attorney General's Office / Property Control Section  
9001 MSC/Property Control, Raleigh, NC 27699-9001  
SPO File No.: 011-AAK

After Recording Return to: \_\_\_\_\_

STATE OF NORTH CAROLINA  
COUNTY OF BUNCOMBE

EASEMENT

THIS EASEMENT ("Easement"), made and entered into as of the date set forth in the notary acknowledgment below, by and between the STATE OF NORTH CAROLINA, a body politic and corporate, hereinafter referred to as GRANTOR, and the NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, hereinafter referred to as GRANTEE:

WITNESSETH:

THAT, WHEREAS, the North Carolina Department of Environment and Natural Resources, Wildlife Resources Commission, has authorized and approved the execution of this Easement for the purposes herein expressed; and,

WHEREAS, the execution of this Easement for and on behalf of the State of North Carolina has been duly approved by the Council of State by resolution adopted at a meeting held in the City of Raleigh, North Carolina, on the 12<sup>th</sup> day of September, 2006; and

WHEREAS, Grantor owns that certain parcel or tract of land being more particularly

described in Book 3881, Page 145, Buncombe County Registry (the "Property"); and

WHEREAS, it is the intent of Grantee to construct and maintain certain road improvements upon a portion of the Property and SR 1628 (Griffin Branch Road), French Broad Township, Buncombe County, North Carolina, in accordance with North Carolina Department of Transportation plans for the improvement and repair of SR 1628 (Griffin Branch Road) (hereinafter sometimes referred to as the "Project Plan", the improvements constructed in accordance with said Project Plan are sometimes referred to herein as the "Project" ).

NOW, THEREFORE, in consideration of the sum of TEN DOLLARS (\$10.00), paid to Grantor, receipt of which is hereby acknowledged, Grantor does hereby grant, sell and convey unto Grantee, and its successors, the right, privilege, right of way and easement for ingress and egress, together with the right to construct, improve, reconstruct, repair, replace, inspect, maintain and use for highway right of way purposes, permanent rights of way, drainage, sedimentation control and necessary cut and/or fill slopes within and upon the Easement Area, as hereinafter described, and the area adjacent to the Project and being located in French Broad Township, Buncombe County, North Carolina, upon and along SR 1628 (Griffin Branch Road), and being more particularly described as follows:

**Right of Way Easement Area**

Commencing at GIS marker NAD 83 (2007) having grid coordinates N = 35 42 17.09382082, W = 34 22.86350; thence South 42 degrees 27' 22" West 5294.38 feet to a point at the intersection of the western right of way of SR 1628 (Griffin Branch Road), the northeastern corner of property described in Book 79CD, Page 2529, Buncombe County Registry and the southeastern corner of property described in Book 3881, Page 145, Buncombe County Registry; thence 22.5 feet easterly and perpendicular to the centerline of SR1628 to the point of beginning; thence 22.5 feet on each side of the centerline of said SR 1628 as constructed, the approximate location of the centerline being shown on the Project Plans, northerly to the point of terminus at Station 49+50, as said 45 foot wide right of way easement is shown on the Project Plan, reference to which is hereby made for a more particular description (the "Easement Area").

IT IS UNDERSTOOD AND AGREED BETWEEN GRANTOR AND GRANTEE:

1. The purpose of this Easement is to allow Grantee to widen and improve SR 1628 (Griffin Branch Road), French Broad Township, Buncombe County, North Carolina in accordance with the Project Plan.
2. This Easement shall cover that portion of SR 1628 (Griffin Branch Road) on or adjacent to the Property, as shown on the Project Plan. Permission is also granted to Grantee to exceed the Easement Area, for the purpose of cut and fill slopes that are needed for the construction of the Project. Grantee shall have the right to perform such work as is reasonably necessary in order to accomplish construction of the Project, together with the right to maintain and repair the Project for so long as necessary to maintain that portion of SR 1628 (Griffin Branch Road) described herein, as part of the State maintained road system.
3. Grantee agrees that it will utilize the Easement Area for no purpose other than the construction of the Project as shown on the Project Plan and for the maintenance of same thereafter. Grantee further agrees that it will not permit anyone to encroach upon nor grant to anyone encroachment rights within the Easement Area.
4. This Easement is granted subject to all existing rights of way and easements within the Easement Area.
5. Grantor reserves the right to utilize the area within the Easement Area for all purposes not inconsistent with the easement rights herein conveyed.
6. Pursuant to the delegation of authority, under G.S. § 113A-56(b), to administer its own sedimentation and erosion control program, Grantee agrees to construct the Project consistent with the mandatory requirements of G.S. § 113A-57 and the Regulations promulgated

thereunder in 15A North Carolina Administrative Code, Chapter 4. Likewise, Grantee agrees that it will, to the extent practical, return the Easement Area and any other areas of the Property affected by the construction of the Project, to preconstruction condition, including if necessary, replacing any trees which may be destroyed during construction.

7. It is understood and agreed that Grantee shall have the right to construct and maintain the cut and/or fill slopes in the Easement Area until such time that the property owners alter the adjacent lands in such a manner that the lateral support of the cut and/or fill slope is no longer needed. Any additional construction areas lying beyond the cut and/or fill slopes and extending beyond the right of way limits will terminate upon completion of the Project.

8. It is understood and agreed that Grantee will correct any drainage problems on the Property related to the construction of the Project in a timely manner and to Grantor's satisfaction.

TO HAVE AND TO HOLD the aforesaid rights, privileges and easements unto Grantee, its successors and assigns in perpetuity.

**REMAINDER OF PAGE INTENTIONALLY LEFT BLANK**

IN TESTIMONY WHEREOF, the STATE OF NORTH CAROLINA has caused this instrument to be executed in its name by MICHAEL F. EASLEY, Governor, attested by ELAINE F. MARSHALL, Secretary of State, and the Great Seal of the State of North Carolina to be hereto affixed by virtue of the power and authority aforesaid.

STATE OF NORTH CAROLINA

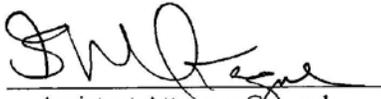
By:   
Governor

ATTEST:

By:   
Secretary of State

APPROVED AS TO FORM:

ROY COOPER  
ATTORNEY GENERAL

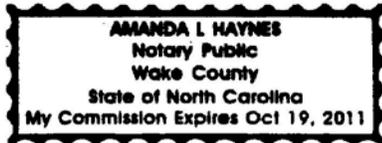
By:   
Assistant Attorney General

STATE OF NORTH CAROLINA

COUNTY OF WAKE

I, Amanda L. Haynes, a Notary Public in and for the aforesaid County of Wake and State of North Carolina, do hereby certify that ELAINE F. MARSHALL, Secretary of State of North Carolina, personally came before me this day and acknowledged that she is Secretary of State of North Carolina, and that by authority duly given and as the act of the State, the foregoing instrument was signed in its name by MICHAEL F. EASLEY Governor of the State of North Carolina, sealed with the Great Seal of the State of North Carolina, and attested by herself as Secretary of State of North Carolina.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this the 30 day of October, 2008.



Amanda L. Haynes  
Notary Public

Print Name: Amanda L. Haynes

My Commission Expires: Oct. 19, 2011

Sandy Mush Game Land, Madison County Easement

11-066,001 D001

Prepared By: Attorney General's Office / Property Control Section  
9001 MSC/Property Control, Raleigh, NC 27699-9001  
SPO File No.: 057-H

After Recording Return to: \_\_\_\_\_

STATE OF NORTH CAROLINA

EASEMENT

COUNTY OF MADISON

THIS EASEMENT ("Easement"), made and entered into as of the date set forth in the notary acknowledgment below, by and between the STATE OF NORTH CAROLINA, a body politic and corporate, hereinafter referred to as GRANTOR, and the NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, hereinafter referred to as GRANTEE:

WITNESSETH:

THAT, WHEREAS, the North Carolina Department of Environment and Natural Resources, Wildlife Resources Commission, has authorized and approved the execution of this Easement for the purposes herein expressed; and,

WHEREAS, the execution of this Easement for and on behalf of the State of North Carolina has been duly approved by the Council of State by resolution adopted at a meeting held in the City of Raleigh, North Carolina, on the 12<sup>th</sup> day of September, 2006; and,

WHEREAS, Grantor owns that certain parcel or tract of land being more particularly described in Book 344, Page 314, Madison County Registry (the "Property"); and,

WHEREAS, it is the intent of Grantee to construct and maintain certain road improvements upon a portion of the Property and SR 1113 (Teague Road), Sandy Mush Township, Madison County, North Carolina, in accordance with North Carolina Department of Transportation plans for the improvement and repair of SR 1113 (Teague Road) (hereinafter sometimes referred to as the "Project Plan", the improvements constructed in accordance with

said Project Plan are sometimes referred to herein as the "Project").

NOW, THEREFORE, in consideration of the sum of TEN DOLLARS (\$10.00), paid to Grantor, receipt of which is hereby acknowledged, Grantor does hereby grant, sell and convey unto Grantee, and its successors, the right, privilege, right of way and easement for ingress and egress, together with the right to construct, improve, reconstruct, repair, replace, inspect, maintain and use for highway right of way purposes, permanent rights of way, drainage, sedimentation and erosion control, and necessary cut and/or fill slopes within and upon the Easement Area, as hereinafter described, and the area adjacent to the Project and being located in Sandy Mush Township, Madison County, North Carolina, upon and along SR 1113 (Teague Road), and being more particularly described as follows:

**Right of Way Easement Area**

Commencing at NC monument GIS marker FB1101 (N) 35 43 49 (W) 82 43 15; thence South 19 degrees 31' 38" East 774.25 feet to the intersection of the easterly right of way line of SR 1113 (Teague Road) and the common boundary line of property more particularly described in Book 208, Page 656 and Book 344, Page 314, Madison County Registry; thence 25-feet west (perpendicular) to the center line of SR 1113, being the point of BEGINNING; thence along the centerline of said SR 1113 southerly to a point; thence 25-feet east (perpendicular) from said centerline to a point at Station 57+80 being the intersection of the easterly right of way of SR 1113 and the common boundary line of property more particularly described in Book 130, Page 15 and Book 344, Page 314, Madison County Registry, said point being the POINT OF TERMINATION; being the eastern twenty-five (25) foot portion of a fifty (50) foot wide easement extending twenty-five (25) feet on either side of the centerline of SR 1113 as shown on the Project Plan, reference to which is hereby made for a more particular description (sometimes referred to herein as the "Easement Area").

IT IS UNDERSTOOD AND AGREED BETWEEN GRANTOR AND GRANTEE:

1. The purpose of this Easement is to allow Grantee to improve SR 1113 (Teague Road), Sandy Mush Township, Madison County, North Carolina in accordance with the Project Plan.
2. This Easement shall cover that portion of SR 1113 (Teague Road) on or adjacent to the Property, as shown on the Project Plan. Permission is also granted to Grantee to exceed the Easement Area, for the purpose of cut and fill slopes that are needed for the construction of the Project. Grantee shall have the right to perform such work as is reasonably necessary in order to accomplish construction of the Project, together with the right to maintain and repair the Project for so long as necessary to maintain that portion of SR 1113 (Teague Road) described herein, as part of the State maintained road system.
3. Grantee agrees that it will utilize the Easement Area for no purpose other than the construction of the Project as shown on the Project Plan and for the maintenance of same

thereafter. Grantee further agrees that it will not permit anyone to encroach upon nor grant to anyone encroachment rights within the Easement Area.

4. This Easement is granted subject to all existing rights of way and easements within the Easement Area.

5. Grantor reserves the right to utilize the area within the Easement Area for all purposes not inconsistent with the easement rights herein conveyed.

6. Pursuant to the delegation of authority, under G.S. § 113A-56(b), to administer its own sedimentation and erosion control program, Grantee agrees to construct the Project consistent with the mandatory requirements of G.S. § 113A-57 and the Regulations promulgated thereunder in 15A North Carolina Administrative Code, Chapter 4. Likewise, Grantee agrees that it will, to the extent practical, return the Easement Area and any other areas of the Property affected by the construction of the Project, to preconstruction condition, including if necessary, replacing any trees which may be destroyed during construction.

7. It is understood and agreed that Grantee shall have the right to construct and maintain the cut and/or fill slopes in the Easement Area until such time that the property owners alter the adjacent lands in such a manner that the lateral support of the cut and/or fill slope is no longer needed. Any additional construction areas lying beyond the cut and/or fill slopes and extending beyond the right of way limits will terminate upon completion of the Project.

8. It is understood and agreed that Grantee will correct any drainage problems on the Property related to the construction of the Project in a timely manner and to Grantor's satisfaction.

TO HAVE AND TO HOLD the aforesaid rights, privileges and easements unto Grantee, its successors and assigns in perpetuity.

**REMAINDER OF PAGE INTENTIONALLY LEFT BLANK**

IN TESTIMONY WHEREOF, the STATE OF NORTH CAROLINA has caused this instrument to be executed in its name by BEVERLY E. PERDUE, Governor, attested by ELAINE F. MARSHALL, Secretary of State, and the Great Seal of the State of North Carolina to be hereto affixed by virtue of the power and authority aforesaid.

STATE OF NORTH CAROLINA

By: Beverly E. Perdue  
Governor

ATTEST:

By: Elaine F. Marshall  
Secretary of State

APPROVED AS TO FORM:

ROY COOPER  
ATTORNEY GENERAL

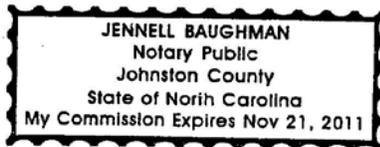
By: Roy Cooper  
Assistant Attorney General

STATE OF NORTH CAROLINA

COUNTY OF WAKE

I, Jennell Baughman, a Notary Public in and for the aforesaid County of Johnston and State of North Carolina, do hereby certify that ELAINE F. MARSHALL, Secretary of State of North Carolina, personally came before me this day and acknowledged that she is Secretary of State of North Carolina, and that by authority duly given and as the act of the State, the foregoing instrument was signed in its name by BEVERLY E. PERDUE, Governor of the State of North Carolina, sealed with the Great Seal of the State of North Carolina, and attested by herself as Secretary of State of North Carolina.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this the 16<sup>th</sup> day of February, 2009.



Jennell Baughman  
Notary Public

Print Name: Jennell Baughman

My Commission Expires: 11-21-2011

## Norco Tract Easement

2

Because this easement includes a grant of access to the public for hunting, fishing and other outdoor recreation, this Property will add to other land owned by the State of North Carolina that is open to public hunting and fishing and will thereby enhance and improve public recreation along Sandy Mush Creek.

D. The North Carolina Conservation and Historic Preservation Agreements Act, N.C.G.S. § 121-34, et seq., authorizes and permits the creation and enforcement of conservation easements for the purpose of, inter alia, retaining land areas predominantly in their historic, agricultural, natural, scenic open or wooded condition. Grantee is a holder as defined under said Act.

E. The conservation purposes of this Conservation Easement are recognized by, and the grant of this Conservation Easement will serve, the following clearly delineated governmental conservation policies:

- (1) The Soil and Water Conservation Districts Act, N.C.G.S. § 139-1. et seq., which provides for the preservation of farm, forest and grazing lands.
- (2) The North Carolina Wildlife Resources Law, N.C.G.S. § 143-237 et seq., which was enacted “to the end that there may be provided a sound, constructive, comprehensive, continuing and economical game, game fish, and wildlife program... .”
- (3) The North Carolina Clean Water Management Trust Fund Act, N.C.G.S. § 113A-251, et seq., which provides “that a critical need exists in this State to clean up pollution in the State’s surface water and to protect and conserve those waters that are not yet polluted.”

F. The condition of the Property as of the date of this Deed of Conservation Easement is executed is set out in the Baseline Documentation which is on file in the office of the Grantee and describes the condition of the property.

NOW, THEREFORE, in consideration of the premises and mutual benefits recited herein, together with other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties hereto, the Grantor hereby unconditionally and irrevocably gifts, grants and conveys forever and in perpetuity to the Grantee, its successors and assigns, and the Grantee hereby accepts a Grant of Conservation Easement of the nature and character and to the extent hereinafter set forth in, over, through and across the Property, as described in Exhibit A hereto, together with the right to preserve and protect the public recreation and other conservation values thereof as described in the Recitals herein.

The purposes of this Conservation Easement are to provide access to the public for hunting and fishing, to provide environmental protection for surface waters in Sandy Mush Creek and to protect the historic, scenic, pastoral, wildlife and natural heritage values of the Property and it shall be so held and maintained, and used therefore. It is the further purpose of this Conservation Easement to prevent any use of the Easement Area that will significantly

16

Drafted by: R. Michael Leonard, Womble Carlyle Sandridge & Rice, PLLC  
& return to: One West Fourth Street, Winston-Salem, NC 27101

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Doc ID: 02063390016 Type: CRP  
Recorded: 12/31/2007 at 01:30:40 PM  
Fee Amt: \$59.00 Page 1 of 16  
Workflow# 2419742  
Buncombe County, NC  
Otto W. DeBruhl Register of Deeds  
BK 4506 PG 1566-1581

STATE OF NORTH CAROLINA  
COUNTY OF BUNCOMBE

**DEED OF GIFT OF CONSERVATION EASEMENT FOR  
NORCO CONSERVATION TRACT  
BUNCOMBE COUNTY, NORTH CAROLINA**

This Conservation Easement (hereinafter "Conservation Easement") is made this 24th day of December, 2007, by and between **Norco, LLC**, a Virginia limited liability company, **Paul E. Norris and wife, Melonie E. Norris** with an address of 2823 Plantation Road, Charlotte, North Carolina (collectively referred to as "Grantor") and **The State of North Carolina**, a body politic and corporate, with an address of State Property Office, 1321 Mail Service Center, Raleigh, North Carolina 27699-1321 ("Grantee").

**RECITALS & CONSERVATION PURPOSES**

A. Grantor is the sole owner in fee simple of the property ("Property") being approximately 50.59 acres in Buncombe County, North Carolina, and being all of that tract as more particularly described in **Exhibit A** attached hereto and by this reference incorporated.

B. The State of North Carolina is authorized to hold and preserve land in its natural, scenic, and open space condition for protection of water quality and other scientific, educational, charitable, historic and aesthetic purposes, and is willing to accept this Conservation Easement under the terms and conditions hereinafter described, and is a "qualified organization" and "eligible donee" within the meaning of Section 170(h)(3) of the Internal Revenue Code and regulations promulgated thereunder.

C. The Property is located along Sandy Mush Creek and, Bear Creek Road in Buncombe County, North Carolina. The Property contains of frontage along Sandy Mush Creek. The Property has been deemed by the State of North Carolina to qualify as a riparian buffer, addressing the cleanup and prevention of pollution of the State's surface waters, and the establishment of a network of riparian buffers. The Property lies adjacent to land purchased and held by the State of North Carolina to protect water quality, provide publicly owned green space and to provide hunting, fishing and other outdoor recreation opportunities for the general public.

impair or interfere with the preservation of said conservation values. Grantor intends that this Conservation Easement will restrict use of the Easement Area to such activities as are consistent with the conservation values described in the Recitals herein.

**ARTICLE I: DURATION OF EASEMENT**

This Conservation Easement shall be perpetual. Under N.C.G.S. § 47B-2(8), this Easement is exempt from the Real Property Marketable Title Act, N.C.G.S. § 47B-1, et seq. It is an easement in gross, runs with the land, and is enforceable as provided in Article IV of this Conservation Easement by the Grantee against Grantor, its representatives, successors, assigns, lessees, agents, and licensees.

**ARTICLE II: RIGHTS RESERVED TO GRANTOR**

Grantor reserves certain rights accruing from ownership of the Property, including the right to engage in or permit others to engage in uses of the Property that are consistent with the conservation purpose(s) of this Conservation Easement. All rights reserved by Grantor are reserved for Grantor, its representatives, successors and assigns, are considered to be consistent with the conservation purposes of this Conservation Easement, and, except as specifically stated otherwise herein, require no prior notification to or approval by Grantee. The following rights are expressly reserved to Grantor, its representatives, successors and assigns:

A. Quiet Enjoyment. All rights accruing from Grantor’s ownership of the Property, including the right to engage in or permit or invite others to engage in all uses of the Property that are not expressly prohibited or restricted herein and are consistent with the conservation purposes of this Conservation Easement, including the right of the State to manage the Property as gameland open to public hunting and fishing, are permitted.

B. Recreational and Other Uses. The Grantor can utilize the property for passive non-developed outdoor recreation to the same extent as the general public under the access and hunting and fishing rights granted to the Grantee herein and Grantor specifically retains:

- (1) The right to engage and permit others to engage in passive recreational uses of the Easement Area requiring no surface alteration of the land and posing no threat to conservation values, including, without limitation, walking, fishing, or animal and plant observation; and any other purpose consistent with maintaining the conservation values of this Conservation Easement.
- (2) The right for the Grantor and guests to fish and hunt on the Property subject to, and in compliance with rules and regulations issued by the State of North Carolina, provided that such right shall not interfere with the access, hunting and fishing rights granted to the Grantee hereunder.
- (3) The right for Grantor to build an eighteen (18) foot wide paved road, with a thirty (30) foot right-of-way, to provide access from Bear Creek Road to

property owned by Grantor to the east of the Property. Such road shall not be constructed unless Grantor first obtains written permission of Grantee as to the location of said road, which permission shall not be unreasonably withheld.

Notwithstanding the foregoing, the total cleared pervious and impervious surfaced areas, not re-vegetated, and associated with all aforesaid improvements, including, but not limited to the eighteen (18) foot wide paved road permitted under this Article II, shall not exceed ten (10) percent of the total area of the Easement Area. Furthermore, Grantor and Grantee have no right to agree to any activity that would result in the termination of this Conservation Easement.

**ARTICLE III: GRANT OF HUNTING AND FISHING AND PUBLIC ACCESS RIGHTS**

Grantor grants to Grantee the right to make the Property available to the general public for hiking, hunting, fishing and nature study pursuant to, and in compliance with, rules and regulations issued by State of North Carolina. It is expressly understood by Grantor and Grantee that:

- (1) Grantee has the right to manage the Property (except the 300 foot buffer referenced in subparagraph [4] of this Article III) as State of North Carolina game land, and this right will include the right to make wildlife plantings on the Property provided that any tree plantings must be approved by Grantor and to clear game openings provided that such game openings do not exceed two (2) acres in size and are not located within three hundred (300) feet of Sandy Mush Creek.
- (2) By granting such right of general public access, Grantor's property is subject to the terms of the North Carolina statute providing limited liability for landowners that make their property available for public recreation (N.C.G.S. § 38A-1 through 38A-4).
- (3) The portion of the Property within 300 feet of the section of the property boundary set out in Exhibit "B" can be made available by Grantor to the general public for hiking or other dispersed non-motorized recreation but shall not be made available by the Grantee for hunting, target shooting, or any other activity that might involve or permit the discharge of any gun, rifle, pistol or bow and arrow.

**ARTICLE IV: GENERAL PROVISIONS CONCERNING PROHIBITED AND RESTRICTED ACTIVITIES**

Any activity on, or use of, the Property inconsistent with the purposes of this Conservation Easement is prohibited. Other than as provided herein, the Property shall be maintained in its natural, scenic, wooded and open condition and restricted from any use that

would impair or interfere with the conservation purposes of this Conservation Easement set forth herein.

Notwithstanding the foregoing, Grantor and Grantee have no right to agree to any activity that would result in the termination of this Conservation Easement.

Except for those rights specifically reserved to Grantor in Article II and without limiting the generality of the foregoing, the following activities and uses are expressly prohibited and restricted:

A. Industrial or Commercial Use. Industrial and commercial activities are prohibited on the Property.

B. Agricultural, Timber Harvesting, Grazing and Horticultural Use. Agricultural, timber harvesting, grazing, horticultural and animal husbandry operations are prohibited, provided this provision shall not prohibit plantings for wildlife habitat or wildlife management and shall not prohibit the clearing and management of game openings provided that such openings do not exceed over two (2) acres in size and are not located within three hundred (300) feet of Sandy Mush Creek.

C. Disturbance of Natural Features, Plants and Animals. There shall be no cutting or removal of trees, or the disturbance of other natural features except for the following: (1) as incidental to boundary marking, fencing or the clearing of game openings allowed hereunder; and (2) cutting and prescribed burning or clearing of vegetation for fire containment and protection, insect or disease control, control of non-native plants or removal of trees that threaten to fall on trails or on land outside the boundaries of the Property, provided that any removal of brush or trees, other than the removal of not more than fifteen (15) trees per year which are immediately threatening to fall on trails or on land outside the boundaries of the Property, is subject to the prior approval of Grantee.

D. Dumping and Filling. The dumping, accumulation, storage, or burying of soil, trash, ashes, garbage, waste, appliances, abandoned or unlicensed vehicles, inoperable or broken machinery, debris, junk, radioactive or hazardous waste, or other materials on the Property is prohibited. Automobiles, trailers, machinery and recreational vehicles cannot be stored on the property.

E. Subdivision. The Property may not be subdivided or partitioned.

F. Wetlands and Water Quality. There shall be no pollution or alteration of water bodies and no activities that would be detrimental to water purity or that would alter natural water levels, drainage, sedimentation and/or flow in or over the Easement Area or into any surface waters, or cause soil degradation or erosion nor diking, dredging, alteration, draining, filling or removal of wetlands, except activities to restore natural hydrology or wetlands enhancement as permitted by state and any other appropriate authorities.

G. Signage. The Display of fixed billboards, signs or advertisements is prohibited on or over the Property. Grantee has the right to post signs along the boundary of the Property that state that the Property is under an easement held by the Grantee or is managed as a State of North Carolina game land.

H. Mineral Use, Excavation, Dredging. There shall be no filling, excavation, dredging, mining or drilling; no removal of topsoil, sand, gravel, rock, peat minerals or other minerals, and no change in the topography of the land on the Property in any manner except as reasonably necessary for the purposes of combating erosion and as reasonably necessary for any activities otherwise permitted on the Property pursuant to the terms of this Conservation Easement.

I. Structures, Residential Use, Improvements and Construction. There shall be no residential use of the Property. There shall be no constructing or placing of any building, mobile home, billboard or other advertising display, antenna, utility pole, tower, conduit line, pier landing dock or any other temporary or permanent structure or facility on or above the Property except for the following: placement and display of no trespassing signs, local, state or federal traffic or similar informational signs, for sale or lease signs, boundary fencing, signs identifying the conservation values of the Easement Area, and/or signs identifying the Grantor as owner of the Property and State as holders of this Conservation Easement, educational and interpretative signs, identification labels or any other similar temporary or permanent signs, reasonably satisfactory to the Grantee.

J. Christmas Trees. There shall be no raising, growing, cultivation or harvesting of Christmas trees on the Property.

K. Roads. There shall be no construction or clearing of any paved or unpaved roads on the Property, except as provided in paragraph B (3) of Article II.

L. Mechanized Vehicles. There shall be no use of motorized or mechanized vehicles on the Property except by Grantee as part of and incidental to Grantee's management of the Property as State of North Carolina game land, provided that bicycles are not considered to be mechanized vehicles for the purposes of this easement.

M. Ongoing Responsibilities of Grantors and Grantee. Other than as specified herein, this Conservation Easement is not intended to impose any legal or other responsibility on the Grantee, or in any way to affect any existing obligation of the Grantors as owners of the Property. Among other things, this shall apply to:

- (1) Taxes – The Grantors shall continue to be solely responsible for payment of all taxes and assessments levied against the Property. If the Grantee is ever required to pay any taxes or assessments on its interest in the Property, the Grantor will reimburse the Grantee for the same.
- (2) Upkeep and Maintenance – The Grantors retain all responsibilities and shall bear all costs and liability of any kind related to the ownership,

operation, and upkeep and maintenance of the Property, including the maintenance of adequate comprehensive general liability insurance coverage, provided that Grantee shall bear all responsibilities for management and maintenance of the Property as State of North Carolina game land should Grantee open any portion of the Property to the public as State of North Carolina game land.

- (3) Liability and Indemnification – Grantor agrees to indemnify and hold Grantee harmless from any and all costs, claims or liability, including but not limited to reasonable attorneys’ fees arising from any personal injury, accidents, negligence or damage relating to the Property, caused by Grantor or Grantor’s guests due to the negligence of Grantor or its agents, in which case liability shall be as provided by law.
- (4) Grantee agrees to indemnify and hold Grantor harmless from any and all costs, claims or liability, including but not limited to reasonable attorneys fees arising from any personal injury, accidents or negligence or damage arising from or related to the use or management of the Property by Grantee or the general public as State of North Carolina game land, provided that any such indemnification shall be pursuant to, and limited by, the provisions of the North Carolina Tort Claims Act, N.C.G.S. § 143-291 through 143-300.A1.

N. Mitigation. There shall be no use of the Easement Area or any portion thereof to satisfy compensatory mitigation requirement under 33 U.S.C. Section 1344 or N.C.G.S. § 143-214.11.

**ARTICLE IV: ENFORCEMENT AND REMEDIES**

A. Enforcement. To accomplish the purposes of this Conservation Easement, Grantee is allowed to prevent any activity on or use of the Easement Area that is inconsistent with the purposes of this Conservation Easement and to require the restoration of such areas or features of the Easement Area that may have been damaged by such activity or use. Upon any breach of the terms of this Conservation Easement by Grantor that comes to the attention of the Grantee, the Grantee shall, except as provided below, notify the Grantor in writing of such breach. A breach of this Conservation Easement can include actions that the Grantor has not completed but has begun to take through either action on the property itself or by taking such action, such as a contract with a third party, that could lead to a breach of this Conservation Easement should the contract be performed. The Grantor shall have ninety (90) days after receipt of such notice to begin undertaking actions that are reasonably calculated to correct or prevent promptly the conditions constituting such breach. If the breach remains uncured after ninety (90) days, the Grantee may enforce this Conservation Easement by appropriate legal proceedings including damages, injunctive and other relief. The Grantee shall have the power and authority, consistent with statutory authority: (a) to prevent any impairment of the Property by acts which may be unlawful or in violation of this Conservation Easement; (b) to require restoration of any areas of the Property damaged by actions that are unlawful or in violation of

this Conservation Easement to the condition of the Property at the time of the grant of this easement by Grantor; (c) to otherwise preserve or protect its interest in the Property; or (d) to seek damages from any appropriate person or entity. Notwithstanding the foregoing, the Grantee reserves the immediate right, without notice, to obtain a temporary restraining order, injunctive or other appropriate relief if the breach of any term of this Conservation Easement is or would irreversibly or otherwise materially impair the benefits to be derived from this Conservation Easement. The Grantor and Grantee acknowledge that under such circumstances damage to the Grantee would be irreparable and remedies at law will be inadequate. The rights and remedies of the Grantee provided hereunder shall be in addition to, and not in lieu of, all other rights and remedies available to the Grantee in connection with this Conservation Easement.

B. Right of Entry and Inspection. The Grantee, its employees, agents and contractors and its successors and assigns, have the right, with reasonable advance notice, to enter the Property at reasonable times for the purpose of inspecting the Property to determine whether the Grantor, Grantor’s representatives, or assigns are complying with the terms, conditions and restrictions of this Conservation Easement.

C. Acts Beyond Grantor’s Control. Nothing contained in this Conservation Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury or change in the Property caused by third parties, resulting from causes beyond the Grantor’s control, including, without limitation, fire, flood, storm and earth movement, or from any prudent action taken in good faith by the Grantor under emergency conditions to prevent, abate or mitigate significant injury to life, damage to property or harm to the Property resulting from such causes.

D. No Waiver. Enforcement of this Easement shall be at the discretion of the Grantee and any forbearance by the Grantee to exercise its rights hereunder in the event of any breach of any term set forth herein shall not be deemed or construed to be a waiver by the Grantee of such term or of any subsequent breach of the same or of any other term of this easement or of the rights of the Grantee. No delay or omission by the Grantee in exercise of any right or remedy shall impair such right or remedy or be construed as a waiver.

**ARTICLE V: DOCUMENTATION AND TITLE**

A. Easement Area Condition. The parties acknowledge that the Easement Area is undeveloped, with no improvements and easements and rights of way of record.

B. Title. The Grantor covenants and represents that the Grantor is the sole owner and is seized of the Property in fee simple and has good right to grant and convey the aforesaid Conservation Easement; that there is legal access to the Property, that the Property is free and clear of any and all encumbrances, except easements of record. Grantor shall defend its title against the claims of all persons whomsoever, and Grantor covenants that the Grantee shall have the use of and enjoy all of the benefits derived from the arising out of the aforesaid Conservation Easement.

C. Other Representations. There are no actions, suits or proceedings pending, or to the knowledge of Grantor threatened against or affecting the Grantor before any court, arbitrator or governmental or administrative body or agency which might affect the Grantor's ability to perform its obligations under this Conservation Easement. Upon execution and delivery of this Conservation Easement, this Conservation Easement will be a valid and binding agreement enforceable in accordance with the terms hereof.

**ARTICLE VI: MISCELLANEOUS**

A. Subsequent Transfers of Property by Grantor. Grantor agrees for itself, its successors and assigns, to notify Grantee in writing of the names and addresses of any party to whom the Property, or any part thereof, is to be transferred at or prior to the time said transfer is consummated. Grantor, for itself, its successors and assigns, further agrees to make specific reference to this Conservation Easement in a separate paragraph of any subsequent lease, deed or other legal instrument by which any interest in the Property is conveyed.

B. Conservation Purpose. Grantee, for itself, its successors and assigns, agrees that this Conservation Easement shall be held exclusively for conservation purposes, as defined in Section 170(h)(4)(A) of the Internal Revenue Code of 1986 ("Code") (or any successor section) This Conservation Easement shall be construed to promote the purposes of the North Carolina enabling statute set forth in N.C.G.S. § 121-34 et. Seq. which authorizes the creation of Conservation Easements for purposes including those set forth in the Recitals herein, and the conservation purposes of this Conservation Easement, including such purposes as are defined in Section 170(h)(4)(A) of the Internal Revenue Code.

C. Proportionate Value and Procedure in the Event of Termination of Conservation Easement.

- (1) The donation of this Conservation Easement gives rise to a property right, immediately vested in the Grantee, with a fair market value equal to the proportionate value that the Conservation Easement bears to the value of the Property as a whole. That proportionate value of Grantee's property rights shall remain constant.
- (2) If a change in conditions occurs, which makes impossible or impractical any continued protection of the Property for conservation purposes, the restrictions contained herein may only be extinguished by judicial proceeding. Upon such proceedings and upon a subsequent sale, exchange or involuntary conversion of the Property, Grantee shall be entitled to a portion of the proceeds at least equal to that proportionate value of the Conservation Easement and Grantee shall use its share of the proceeds in a manner consistent with the conservation purposes set forth in the Recitals herein.

D. Procedure in the Event of Condemnation or Eminent Domain. Whenever all or part of the Property is taken in exercise of eminent domain by public, corporate, or other

authority, or by negotiated sale in lieu of condemnation, so as to abrogate the restrictions imposed by this Conservation Easement, the Grantor shall immediately give notice to Grantee, and shall take all appropriate actions at the time of such taking or sale to recover the full value of the taking and all incidental or direct damages resulting from the taking. The Grantee, its successors and assigns, shall be entitled to a portion of the proceeds of such sale, exchange, involuntary conversion of the Property, or any damage award with respect to any judicial proceeding. Such portion shall be equal to the proportionate value that Grantees' its successors' and assigns', interest in the Easement Area bears to the value of the Property as a whole as of the date of the recording of this Conservation Easement. "Proceeds of Sale" shall mean the cash value of all money and property paid, transferred or contributed in consideration for, or as otherwise required as a condition to the sale, exchange or involuntary conversion of the Conservation Area, or any damages otherwise awarded as a result of judicial proceeding, *minus* the Grantor's expenses from such transaction or proceeding.

E. Changed Conditions. When a change in conditions gives rise to the extinguishment of this Conservation Easement or a material term or provision hereof by judicial proceeding, the Grantee, its successor and assigns, shall be entitled to a portion of the proceeds of such sale, exchange, involuntary conversion of the Property, or any damage award with respect to any judicial proceeding. Such portion shall be equal to the proportionate value that Grantees', its successors' and assigns', interest in the Easement Area bears to the value of the Property as a whole as of the date of the recording of this Conservation Easement. "Proceeds of Sale" shall mean the cash value of all money and property paid, transferred or contributed in consideration for, or as otherwise required as a condition to the sale, exchange or involuntary conversion of the Conservation Area, or any damages otherwise awarded as a result of judicial proceeding, *minus* the Grantor's expenses from such transaction or proceeding.

F. Subsequent Transfers of the Conservation Easement. The Parties hereto recognize and agree that the benefits of this Conservation Easement are in gross and assignable. The Parties hereby covenant and agree, that in the event this Conservation Easement is transferred or assigned, the transferee or assignee of the Conservation Easement will be a qualified organization as that term is defined in Section 170(h)(3) of the Internal Revenue Code of 1986, as amended, or any successor section, and the regulations promulgated thereunder (the "Internal Revenue Code") which is organized or operated primarily for one of the conservation purposes specified in Section 170(h)(4)(A) of the Internal Revenue Code. The Parties further covenant and agree that the terms of the transfer or the assignment will be such that the transferee or assignee will be required to continue to carry out in perpetuity the conservation purposes that the contribution was originally intended to advance as set forth in the Recitals herein. Grantee, its successors or assigns, hereby covenants and agrees to monitor and observe the Easement Area in perpetuity for such purposes set forth by this Conservation Easement and Grant Agreement, and to report to the Fund and the State any observed violations on the Easement Area. . Grantee shall be released from the obligation to monitor the Conservation Easement with the written approval of the Fund, to a qualified organization as that term is defined in Section 170(h)(3) of the Internal Revenue Code of 1986, as amended, or any successor section, and the regulations promulgated there under (the "Internal Revenue Code") which is organized or operated primarily for one of the conservation purposes specified in Section 170(h)(4)(A) of the Internal Revenue Code.

G. Existing Responsibilities of Grantor and Grantee Not Affected. Other than as specified herein, this Conservation Easement is not intended to impose any legal or other responsibility on the Grantee, or in any way to affect any existing obligation to the Grantor as owner of the Property, which includes the Easement Area. Among other things, this shall apply to:

- (1) Taxes. The Grantor shall continue to be solely responsible for payment of all taxes and assessments levied against the Property. If the Grantee is ever required to pay any taxes or assessments on its interest in the Easement Area, the Grantor will reimburse the Grantee for the same.
- (2) Upkeep and Maintenance. The Grantor shall continue to be solely responsible for the upkeep and maintenance of the Easement Area, to the extent it may be required by law. The Grantee shall have no obligation for the upkeep or maintenance of the Easement Area.
- (3) Liability and Indemnification. If the Grantee is ever required by a court to pay damages resulting from personal injury or property damage that occurs on the Easement Area, the Grantor shall indemnify and reimburse the Grantee for these payments, as well as reasonable attorneys' fees and other expenses of defending itself, unless the Grantee has committed a deliberate act that is determined to be the sole cause of the injury or damage. In addition, Grantor warrants that Grantee shall be maintained as an additional insured on Grantor's liability insurance policies covering the Property.

H. Recording. Grantee shall record this instrument and any amendment hereto in timely fashion in the official records of Buncombe County, North Carolina, and may re-record it at any time as may be required to preserve its rights or the rights and interests of the Grantee.

I. Notices. All notices, requests or other communications permitted or required by this Conservation Easement shall be sent by registered or certified mail, return receipt requested, addressed to the parties as set forth above, or to such other addresses such party may establish in writing to the other. All such items shall be deemed given or made three (3) days after being placed in the United States mail as herein provided. In any case, where the terms of this Conservation Easement require the consent of any party, such consent shall be requested by written notice. Such consent shall be deemed denied unless, within ninety (90) days after receipt of notice, a written notice of approval and the reason therefore has been mailed to the party requesting consent.

J. Amendments. Grantor and Grantee are free to jointly amend this Conservation Easement to meet changing conditions, provided that no amendment will be allowed that is inconsistent with the purposes of this Conservation Easement or affects the perpetual duration of this Conservation Easement. Such amendment(s) shall be effective upon recording in the public records of Buncombe County, North Carolina. Any amendment of or change in the provisions set forth in this easement must be agreed to jointly by the Grantor and Grantee.

K. Environmental Condition of Property. The Grantor warrants, represents and covenants to the Grantee that to the best of its knowledge after appropriate inquiry and investigation that: (a) the Easement Area described herein is and at all times hereafter will continue to be in full compliance with all federal, state and local environmental laws and regulations, and (b) as of the date hereof there are no hazardous materials, substances, wastes, or environmentally regulated substances (including, without limitation, any materials containing asbestos) located on, in or under the Easement Area or used in connection therewith, and that there is no environmental condition existing on the Easement Area that may prohibit or impede use of the Easement Area for the purposes set forth in the Recitals and the Grantor will not allow such uses or conditions.

L. Entire Agreement. This instrument sets forth the entire agreement of the parties with respect to the Conservation Easement and supersedes all prior discussions, negotiations, undertakings or agreements relating to this Conservation Easement. If any provision is found to be invalid, the remainder of the provisions of this Conservation Easement, and the application of such provision to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby. The parties hereto intend this document to be an instrument executed under seal. If any party is an individual, partnership or limited liability company, such party by adopts the word "SEAL" following his/her signature and the name of the partnership or limited liability company as his/her/its legal seal. The Recitals set forth above and the Exhibits attached hereto are incorporated herein by reference.

M. Parties. Every provision of this Conservation Easement that apply to the Grantor or to the Grantee shall likewise apply to their respective successors, assigns and grantees and all other successors in interest herein.

N. Merger. The parties agree that the terms of this Conservation Easement shall survive any merger of the fee and easement interest in the Property.

O. Subsequent Liens. No provisions of this Conservation Easement shall be construed as impairing the ability of Grantor to use this Property for collateral for borrowing purposes, provided that any mortgage or lien arising therefrom shall be subordinated to this Conservation Easement.

P. Interpretation. This Conservation Easement shall be interpreted under the laws of the State of North Carolina and the laws of the United States, resolving any ambiguities and questions of the validity of specific provisions so as to give maximum effect to its conservation purposes.

Q. Perpetual Duration; Severability. The Conservation Easement created by this Deed shall be a servitude running with the land in perpetuity. Every provision of this Deed that applies to the Grantors or the Grantee shall also apply to their respective agents, heirs, executors, administrators, assigns, and all other successors as their interests may appear. Invalidity of any of the covenants, terms or conditions of this Conservation Easement, or any part thereof by court order or judgment shall in no way, affect the validity of any of the other provisions hereof which shall remain in full force and effect.

**TO HAVE AND TO HOLD** unto the State of North Carolina, its successors and assigns, forever. The covenants agreed to and the terms, conditions, restrictions and purposes imposed as aforesaid shall be binding upon Grantor, Grantor's representatives, successors and assigns and shall continue as a servitude running in perpetuity with the Property.

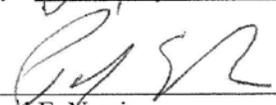
**IN WITNESS WHEREOF**, Grantor has caused these presents to be executed by its duly authorized officer and its corporate seal affixed, as of the dates shown below, to be effective upon the date of recordation in the public records of Buncombe County, North Carolina.

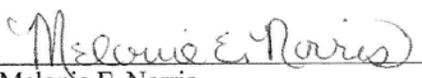
**GRANTORS:**

Norco, LLC

By:



 \_\_\_\_\_ (Seal)  
Paul E. Norris

 \_\_\_\_\_ (Seal)  
Melonie E. Norris

STATE OF NORTH CAROLINA )  
COUNTY OF Mecklenburg )

I certify that the following person personally appeared before me this day, acknowledging to me that he voluntarily signed the foregoing document for the purpose stated therein and in the capacity indicated: Paul E. Norris, Member/Manager of Norco, LLC, a North Carolina Limited Liability Company.

Date: 24th December, 2007

Loon T. Jansen  
Notary Public

My Commission Expires:  
6th April 2010



STATE OF NORTH CAROLINA )  
COUNTY OF Mecklenburg )

I certify that the following persons personally appeared before me this day, each acknowledging to me that he/she voluntarily signed the foregoing document for the purpose stated therein and in the capacity indicated: Paul E. Norris and Melonie E. Norris.

Date: 24th December, 2007

Loon T. Jansen  
Notary Public

My Commission Expires:  
6th April 2010



EXHIBIT A

DESCRIPTION OF NORCO CONSERVATION TRACT

Lying and being in Leicester Township, Buncombe County, North Carolina and being more particular described as follows:

Commencing at a point in the center of Bear Creek Road; thence N.76°24'17"E., a distance of 113.32 feet to a iron pin; thence S.81°01'32"E., a distance of 127.37 feet to a iron pin; thence N.35°03'39"E., a distance of 316.95 feet to a iron pin; thence S.55°37'51"E., a distance of 380.59 feet to a iron pin; thence S.49°09'13"E., a distance of 217.12 feet to a iron pin to the POINT OF BEGINNING; thence from the point of beginning S.55°44'56"E., a distance of 146.60 feet to a iron pin; thence S.63°15'19"E., a distance of 622.58 feet to a iron pin; thence N.38°38'43"E., a distance of 53.92 feet to a corner fence post; thence N.44°32'16"W., a distance of 21.51 feet to a point; thence continue northwesterly along said line, a distance of 95.49 feet to a point; thence N.23°03'29"E., a distance of 320.93 feet to a iron pin found; thence continue northeasterly along said line, a distance of 146.60 feet to a iron pin found; thence continue northeasterly along said line, a distance of 225.98 feet to a 6" hacked and marked poplar; thence continue northeasterly along said line, a distance of 125.85 feet to a iron pin found; thence S.75°19'28"E., a distance of 436.11 feet to a iron pin found; thence S.75°12'59"E., a distance of 62.92 feet to a iron pin found; thence S.75°20'44"E., a distance of 319.89 feet to a iron pin found; thence S.75°19'28"E., a distance of 266.50 feet to a iron pin found; thence N.68°11'52"E., a distance of 206.73 feet to a iron pin found; thence continue easterly along said line, a distance of 114.82 feet to a unmark point which is 2.61' from an iron pin offline; thence continue easterly along said line, a distance of 207.35 feet to a point in the center of Sandy Mush Creek; thence with the creek the following seven (7) courses: N.37°35'26"W., a distance of 181.86 feet; N.56°26'59"W., a distance of 63.73 feet; N.42°31'08"W., a distance of 204.83 feet; N.37°53'31"W., a distance of 115.66 feet; N.35°21'45"W., a distance of 284.00 feet; N.27°35'15"W., a distance of 441.74 feet; N.20°06'30"W., a distance of 16.06 feet; thence leaving the creek and running S.79°16'07"W., a distance of 15.05 feet to a iron pin; thence continue westerly along said line, a distance of 328.93 feet to a iron pin; thence N.17°01'15"W., a distance of 111.65 feet to a iron pin; thence S.88°51'10"W., a distance of 111.64 feet to a iron pin; thence S.65°15'02"W., a distance of 305.28 feet to a iron pin; thence S.23°11'27"E., a distance of 93.64 feet to a iron pin; thence S.06°42'17"W., a distance of 93.50 feet to a iron pin; thence S.39°04'32"W., a distance of 107.32 feet to a iron pin; thence S.70°11'59"W., a distance of 93.94 feet to a iron pin; thence N.75°53'17"W., a distance of 106.55 feet to a iron pin; thence N.71°14'35"W., a distance of 153.98 feet to a iron pin; thence S.88°06'31"W., a distance of 132.16 feet to a iron pin; thence S.63°46'29"W., a distance of 108.84 feet to a iron pin; thence S.42°30'46"W., a distance of 110.78 feet to a iron pin; thence S.23°02'39"W., a distance of 127.32 feet to a iron pin; thence S.08°20'19"W., a distance of 87.73 feet to a iron pin; thence S.13°35'25"E., a distance of 64.62 feet to a iron pin; thence S.00°00'20"E., a distance of 202.08 feet to a iron pin; thence S.16°49'49"W., a distance of 240.90 feet to a iron pin; thence S.25°54'42"W., a distance of 250.61 feet to a iron pin; thence S.28°42'12"W., a distance of 151.72 feet to the POINT OF BEGINNING; containing 50.59 acres, more or less, and being that same property identified as "Conservation Easement #2" as shown on a plat prepared by Hutchinson-Biggs & Associates, Inc., dated December 14, 2007 and recorded in Plat Book 114, Page 190, Buncombe County Registry, to which plat reference is made for a more particular description.

**EXHIBIT B**

That portion of the south boundary of the conservation easement to which this Exhibit B is attached (the Easement) that lies between (a) the southern boundary of the conservation easement granted by Grantee (as defined in the Easement) in December 2006 and (b) the paved road existing at the southeast corner of the Easement, said portion being shown as lines L1 and L2 on the plat recorded at Plat Book 114, Page 190 of the Buncombe County Records.

16

Doc ID: 018121920016 Type: CRP  
 Recorded: 12/27/2006 at 11:58:16 AM  
 Fee Amt: \$89.00 Page 1 of 16  
 Workflow# 2086572  
 Buncombe County, NC  
 Otto W. DeBruhl Register of Deeds  
 BK 4338 PG 1095-1110

STATE OF NORTH CAROLINA  
COUNTY OF BUNCOMBE

DEED OF GIFT OF CONSERVATION EASEMENT FOR  
NORCO CONSERVATION TRACT  
BUNCOMBE COUNTY, NORTH CAROLINA

This Conservation Easement (hereinafter "Conservation Easement") is made this 22<sup>nd</sup> day of December, 2006, by and between Norco, LLC, Paul E. Norris and Melonie E. Norris with an address of 2823 Plantation Road, Charlotte, North Carolina (collectively referred to as "Grantor") and **The State of North Carolina** with an address of State Property Office, 1321 Mail Service Center, Raleigh, North Carolina 27699-1321 ("Grantee").

RECITALS & CONSERVATION PURPOSES

A. Grantor is the sole owner in fee simple of the property ("Property") being approximately 37.66 acres in Buncombe County, North Carolina, and being all of that tract as more particularly described in Exhibit A attached hereto and by this reference incorporated.

B. The State of North Carolina is authorized to hold and preserve land in its natural, scenic, and open space condition for protection of water quality and other scientific, educational, charitable, historic and aesthetic purposes, and is willing to accept this Conservation Easement under the terms and conditions hereinafter described, and is a "qualified organization" and "eligible donee" within the meaning of Section 170(h)(3) of the Internal Revenue Code and regulations promulgated thereunder.

C. The Property is located along Sandy Mush Creek and, Bear Creek Road in Buncombe County, North Carolina. The Property contains of frontage along Sandy Mush Creek. The Property has been deemed by the State of North Carolina to qualify as a riparian buffer, addressing the cleanup and prevention of pollution of the State's surface waters, and the establishment of a network of riparian buffers. The Property lies adjacent to land purchased and held by the State of North Carolina to protect water quality, provide publicly owned green space

WCSR 3467309v3

Drawn by:  
Worble Carlyle Sandridge & Rice, PLLC

Mail to: John Barbour  
State Property Office  
1321 Mail Service Center  
Raleigh, NC 27699

and to provide hunting, fishing and other outdoor recreation opportunities for the general public. Because this easement includes a grant of access to the public for hunting, fishing and other outdoor recreation, this Property will add to other land owned by the State of North Carolina that is open to public hunting and fishing and will thereby enhance and improve public recreation along Sandy Mush Creek.

D. The North Carolina Conservation and Historic Preservation Agreements Act, N.C.G.S. § 121-34, et seq., authorizes and permits the creation and enforcement of conservation easements for the purpose of, inter alia, retaining land areas predominantly in their historic, agricultural, natural, scenic open or wooded condition. Grantee is a holder as defined under said Act.

E. The conservation purposes of this Conservation Easement are recognized by, and the grant of this Conservation Easement will serve, the following clearly delineated governmental conservation policies:

- (1) The Soil and Water Conservation Districts Act, N.C.G.S. § 139-1, et seq., which provides for the preservation of farm, forest and grazing lands.
- (2) The North Carolina Wildlife Resources Law, N.C.G.S. § 143-237 et seq., which was enacted "to the end that there may be provided a sound, constructive, comprehensive, continuing and economical game, game fish, and wildlife program..."
- (3) The North Carolina Clean Water Management Trust Fund Act, N.C.G.S. § 113A-251, et seq., which provides "that a critical need exists in this State to clean up pollution in the State's surface water and to protect and conserve those waters that are not yet polluted."

F. The condition of the Property as of the date of this Deed of Conservation Easement is executed is set out in the Baseline Documentation which is on file in the office of the Grantee and describes the condition of the property.

NOW, THEREFORE, in consideration of the premises and mutual benefits recited herein, together with other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the parties hereto, the Grantor hereby unconditionally and irrevocably gifts, grants and conveys forever and in perpetuity to the Grantee, its successors and assigns, and the Grantee hereby accepts a Grant of Conservation Easement of the nature and character and to the extent hereinafter set forth in, over, through and across the Property, as described in Exhibit A hereto, together with the right to preserve and protect the public recreation and other conservation values thereof as described in the Recitals herein.

The purposes of this Conservation Easement are to provide access to the public for hunting and fishing, to provide environmental protection for surface waters in Sandy Mush Creek and to protect the historic, scenic, pastoral, wildlife and natural heritage values of the Property

-2-

WCSR 3467309v3

and it shall be so held and maintained, and used therefore. It is the further purpose of this Conservation Easement to prevent any use of the Easement Area that will significantly impair or interfere with the preservation of said conservation values. Grantor intends that this Conservation Easement will restrict use of the Easement Area to such activities as are consistent with the conservation values described in the Recitals herein.

**ARTICLE I: DURATION OF EASEMENT**

This Conservation Easement shall be perpetual. Under N.C.G.S. § 47B-2(8), this Easement is exempt from the Real Property Marketable Title Act, N.C.G.S. § 47B-1, et seq. It is an easement in gross, runs with the land, and is enforceable as provided in Article IV of this Conservation Easement by the Grantee against Grantor, its representatives, successors, assigns, lessees, agents, and licensees.

**ARTICLE II: RIGHTS RESERVED TO GRANTOR**

Grantor reserves certain rights accruing from ownership of the Property, including the right to engage in or permit others to engage in uses of the Property that are consistent with the conservation purpose(s) of this Conservation Easement. All rights reserved by Grantor are reserved for Grantor, its representatives, successors and assigns, are considered to be consistent with the conservation purposes of this Conservation Easement, and, except as specifically stated otherwise herein, require no prior notification to or approval by Grantee. The following rights are expressly reserved to Grantor, its representatives, successors and assigns:

A. Quiet Enjoyment. All rights accruing from Grantor's ownership of the Property, including the right to engage in or permit or invite others to engage in all uses of the Property that are not expressly prohibited or restricted herein and are consistent with the conservation purposes of this Conservation Easement, including the right of the State to manage the Property as gamelands open to public hunting and fishing, are permitted.

B. Recreational and Other Uses. The Grantor can utilize the property for passive non-developed outdoor recreation to the same extent as the general public under the access and hunting and fishing rights granted to the Grantee herein and Grantor specifically retains:

- (1) The right to engage and permit others to engage in passive recreational uses of the Easement Area requiring no surface alteration of the land and posing no threat to conservation values, including, without limitation, walking, fishing, or animal and plant observation; and any other purpose consistent with maintaining the conservation values of this Conservation Easement.
- (2) The right for the Grantor and guests to fish and hunt on the Property subject to, and in compliance with rules and regulations issued by the State of North Carolina, provided that such right shall not interfere with the access, hunting and fishing rights granted to the Grantee hereunder.

4

- (3) The right for Grantor to build an eighteen (18) foot wide paved road, with a thirty (30) foot right-of-way, to provide access from Bear Creek Road to property owned by Grantor to the east of the Property. Such road shall not be constructed unless Grantor first obtains written permission of Grantee as to the location of said road, which permission shall not be unreasonably withheld.

Notwithstanding the foregoing, the total cleared pervious and impervious surfaced areas, not re-vegetated, and associated with all aforesaid improvements, including, but not limited to the eighteen (18) foot wide paved road permitted under this Article II, shall not exceed ten (10) percent of the total area of the Easement Area. Furthermore, Grantor and Grantee have no right to agree to any activity that would result in the termination of this Conservation Easement.

**ARTICLE III: GRANT OF HUNTING AND FISHING AND PUBLIC ACCESS RIGHTS**

Grantor grants to Grantee the right to make the Property available to the general public for hiking, hunting, fishing and nature study pursuant to, and in compliance with, rules and regulations issued by State of North Carolina. It is expressly understood by Grantor and Grantee that:

- (1) Grantee has the right to manage the Property (except the 300 foot buffer referenced in subparagraph [4] of this Article III) as State of North Carolina game land, and this right will include the right to make wildlife plantings on the Property provided that any tree plantings must be approved by Grantor and to clear game openings provided that such game openings do not exceed two (2) acres in size and are not located within three hundred (300) feet of Sandy Mush Creek.
- (2) By granting such right of general public access, Grantor's property is subject to the terms of the North Carolina statute providing limited liability for landowners that make their property available for public recreation (N.C.G.S. § 38A-1 through 38A-4).
- (3) The portion of the Property within 300 feet of the section of the property boundary set out in Exhibit "B" can be made available by Grantor to the general public for hiking or other dispersed non-motorized recreation but shall not be made available by the Grantee for hunting, target shooting, or any other activity that might involve or permit the discharge of any gun, rifle, pistol or bow and arrow.

**ARTICLE IV: GENERAL PROVISIONS CONCERNING PROHIBITED AND RESTRICTED ACTIVITIES**

5

Any activity on, or use of, the Property inconsistent with the purposes of this Conservation Easement is prohibited. Other than as provided herein, the Property shall be maintained in its natural, scenic, wooded and open condition and restricted from any use that would impair or interfere with the conservation purposes of this Conservation Easement set forth herein.

Notwithstanding the foregoing, Grantor and Grantee have no right to agree to any activity that would result in the termination of this Conservation Easement.

Except for those rights specifically reserved to Grantor in Article II and without limiting the generality of the foregoing, the following activities and uses are expressly prohibited and restricted:

A. Industrial or Commercial Use. Industrial and commercial activities are prohibited on the Property.

B. Agricultural, Timber Harvesting, Grazing and Horticultural Use. Agricultural, timber harvesting, grazing, horticultural and animal husbandry operations are prohibited, provided this provision shall not prohibit plantings for wildlife habitat or wildlife management and shall not prohibit the clearing and management of game openings provided that such openings do not exceed over two (2) acres in size and are not located within three hundred (300) feet of Sandy Mush Creek.

C. Disturbance of Natural Features, Plants and Animals. There shall be no cutting or removal of trees, or the disturbance of other natural features except for the following: (1) as incidental to boundary marking, fencing or the clearing of game openings allowed hereunder; and (2) cutting and prescribed burning or clearing of vegetation for fire containment and protection, insect or disease control, control of noxious plants or removal of trees that threaten to fall on trails or on land outside the boundaries of the Property, provided that any removal of brush or trees, other than the removal of not more than fifteen (15) trees per year which are immediately threatening to fall on trails or on land outside the boundaries of the Property, is subject to the prior approval of Grantee.

D. Dumping and Filling. The dumping, accumulation, storage, or burying of soil, trash, ashes, garbage, waste, appliances, abandoned or unlicensed vehicles, inoperable or broken machinery, debris, junk, radioactive or hazardous waste, or other materials on the Property is prohibited. Automobiles, trailers, machinery and recreational vehicles cannot be stored on the property.

E. Subdivision. The Property may not be subdivided or partitioned.

F. Wetlands and Water Quality. There shall be no pollution or alteration of water bodies and no activities that would be detrimental to water purity or that would alter natural water levels, drainage, sedimentation and/or flow in or over the Easement Area or into any surface waters, or cause soil degradation or erosion nor diking, dredging, alteration, draining,

-5-

WCSR 3467309v3

filling or removal of wetlands, except activities to restore natural hydrology or wetlands enhancement as permitted by state and any other appropriate authorities.

G. Signage. The Display of fixed billboards, signs or advertisements is prohibited on or over the Property. Grantee has the right to post signs along the boundary of the Property that state that the Property is under an easement held by the Grantee or is managed as a State of North Carolina game land.

H. Mineral Use, Excavation, Dredging. There shall be no filling, excavation, dredging, mining or drilling; no removal of topsoil, sand, gravel, rock, peat minerals or other minerals, and no change in the topography of the land on the Property in any manner except as reasonably necessary for the purposes of combating erosion and as reasonably necessary for any activities otherwise permitted on the Property pursuant to the terms of this Conservation Easement.

I. Structures, Residential Use, Improvements and Construction. There shall be no residential use of the Property. There shall be no constructing or placing of any building, mobile home, billboard or other advertising display, antenna, utility pole, tower, conduit line, pier landing dock or any other temporary or permanent structure or facility on or above the Property except for the following: placement and display of no trespassing signs, local, state or federal traffic or similar informational signs, for sale or lease signs, boundary fencing, signs identifying the conservation values of the Easement Area, and/or signs identifying the Grantor as owner of the Property and State as holders of this Conservation Easement, educational and interpretative signs, identification labels or any other similar temporary or permanent signs, reasonably satisfactory to the Grantee.

J. Christmas Trees. There shall be no raising, growing, cultivation or harvesting of Christmas trees on the Property.

K. Roads. There shall be no construction or clearing of any paved or unpaved roads on the Property, except as provided in paragraph B (3) of Article II.

L. Mechanized Vehicles. There shall be no use of motorized or mechanized vehicles on the Property except by Grantee as part of and incidental to Grantee's management of the Property as State of North Carolina game land, provided that bicycles are not considered to be mechanized vehicles for the purposes of this easement.

M. Ongoing Responsibilities of Grantors and Grantee. Other than as specified herein, this Conservation Easement is not intended to impose any legal or other responsibility on the Grantee, or in any way to affect any existing obligation of the Grantors as owners of the Property. Among other things, this shall apply to:

- (1) Taxes – The Grantors shall continue to be solely responsible for payment of all taxes and assessments levied against the Property. If the Grantee is

7

ever required to pay any taxes or assessments on its interest in the Property, the Grantor will reimburse the Grantee for the same.

- (2) Upkeep and Maintenance – The Grantors retain all responsibilities and shall bear all costs and liability of any kind related to the ownership, operation, and upkeep and maintenance of the Property, including the maintenance of adequate comprehensive general liability insurance coverage, provided that Grantee shall bear all responsibilities for management and maintenance of the Property as State of North Carolina game land should Grantee open any portion of the Property to the public as State of North Carolina game land.
- (3) Liability and Indemnification – Grantor agrees to indemnify and hold Grantee harmless from any and all costs, claims or liability, including but not limited to reasonable attorneys’ fees arising from any personal injury, accidents, negligence or damage relating to the Property, caused by Grantor or Grantor’s guests due to the negligence of Grantor or its agents, in which case liability shall be as provided by law.
- (4) Grantee agrees to indemnify and hold Grantor harmless from any and all costs, claims or liability, including but not limited to reasonable attorneys fees arising from any personal injury, accidents or negligence or damage arising from or related to the use or management of the Property by Grantee or the general public as State of North Carolina game land, provided that any such indemnification shall be pursuant to, and limited by, the provisions of the North Carolina Tort Claims Act, N.C.G.S. §

N. Mitigation. There shall be no use of the Easement Area or any portion thereof to satisfy compensatory mitigation requirement under 33 U.S.C. Section 1344 or N.C.G.S. § 143-214.11.

**ARTICLE IV: ENFORCEMENT AND REMEDIES**

A. Enforcement. To accomplish the purposes of this Conservation Easement, Grantee is allowed to prevent any activity on or use of the Easement Area that is inconsistent with the purposes of this Conservation Easement and to require the restoration of such areas or features of the Easement Area that may have been damaged by such activity or use. Upon any breach of the terms of this Conservation Easement by Grantor that comes to the attention of the Grantee, the Grantee shall, except as provided below, notify the Grantor in writing of such breach. A breach of this Conservation Easement can include actions that the Grantor has not completed but has begun to take through either action on the property itself or by taking such action, such as a contract with a third party, that could lead to a breach of this Conservation Easement should the contract be performed. The Grantor shall have ninety (90) days after receipt of such notice to begin undertaking actions that are reasonably calculated to correct or prevent

-7-

WCSR 3467309v3

8

promptly the conditions constituting such breach. If the breach remains uncured after ninety (90) days, the Grantee may enforce this Conservation Easement by appropriate legal proceedings including damages, injunctive and other relief. The Grantee shall have the power and authority, consistent with statutory authority: (a) to prevent any impairment of the Property by acts which may be unlawful or in violation of this Conservation Easement; (b) to require restoration of any areas of the Property damaged by actions that are unlawful or in violation of this Conservation Easement to the condition of the Property at the time of the grant of this easement by Grantor; (c) to otherwise preserve or protect its interest in the Property; or (d) to seek damages from any appropriate person or entity. Notwithstanding the foregoing, the Grantee reserves the immediate right, without notice, to obtain a temporary restraining order, injunctive or other appropriate relief if the breach of any term of this Conservation Easement is or would irreversibly or otherwise materially impair the benefits to be derived from this Conservation Easement. The Grantor and Grantee acknowledge that under such circumstances damage to the Grantee would be irreparable and remedies at law will be inadequate. The rights and remedies of the Grantee provided hereunder shall be in addition to, and not in lieu of, all other rights and remedies available to the Grantee in connection with this Conservation Easement.

B. Right of Entry and Inspection. The Grantee, its employees, agents and contractors and its successors and assigns, have the right, with reasonable advance notice, to enter the Property at reasonable times for the purpose of inspecting the Property to determine whether the Grantor, Grantor's representatives, or assigns are complying with the terms, conditions and restrictions of this Conservation Easement.

C. Acts Beyond Grantor's Control. Nothing contained in this Conservation Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury or change in the Property caused by third parties, resulting from causes beyond the Grantor's control, including, without limitation, fire, flood, storm and earth movement, or from any prudent action taken in good faith by the Grantor under emergency conditions to prevent, abate or mitigate significant injury to life, damage to property or harm to the Property resulting from such causes.

D. No Waiver. Enforcement of this Easement shall be at the discretion of the Grantee and any forbearance by the Grantee to exercise its rights hereunder in the event of any breach of any term set forth herein shall not be deemed or construed to be a waiver by the Grantee of such term or of any subsequent breach of the same or of any other term of this easement or of the rights of the Grantee. No delay or omission by the Grantee in exercise of any right or remedy shall impair such right or remedy or be construed as a waiver.

**ARTICLE V: DOCUMENTATION AND TITLE**

A. Easement Area Condition. The parties acknowledge that the Easement Area is undeveloped, with no improvements and easements and rights of way of record.

B. Title. The Grantor covenants and represents that the Grantor is the sole owner and is seized of the Property in fee simple and has good right to grant and convey the aforesaid

Conservation Easement; that there is legal access to the Property, that the Property is free and clear of any and all encumbrances, except easements of record. Grantor shall defend its title against the claims of all persons whomsoever, and Grantor covenants that the Grantee shall have the use of and enjoy all of the benefits derived from the arising out of the aforesaid Conservation Easement.

C. Other Representations. There are no actions, suits or proceedings pending, or to the knowledge of Grantor threatened against or affecting the Grantor before any court, arbitrator or governmental or administrative body or agency which might affect the Grantor's ability to perform its obligations under this Conservation Easement. Upon execution and delivery of this Conservation Easement, this Conservation Easement will be a valid and binding agreement enforceable in accordance with the terms hereof.

**ARTICLE VI: MISCELLANEOUS**

A. Subsequent Transfers of Property by Grantor. Grantor agrees for itself, its successors and assigns, to notify Grantee in writing of the names and addresses of any party to whom the Property, or any part thereof, is to be transferred at or prior to the time said transfer is consummated. Grantor, for itself, its successors and assigns, further agrees to make specific reference to this Conservation Easement in a separate paragraph of any subsequent lease, deed or other legal instrument by which any interest in the Property is conveyed.

B. Conservation Purpose. Grantee, for itself, its successors and assigns, agrees that this Conservation Easement shall be held exclusively for conservation purposes, as defined in Section 170(h)(4)(A) of the Internal Revenue Code of 1986 ("Code") (or any successor section) This Conservation Easement shall be construed to promote the purposes of the North Carolina enabling statute set forth in N.C.G.S. § 74-34 et. Seq. which authorizes the creation of Conservation Easements for purposes including those set forth in the Recitals herein, and the conservation purposes of this Conservation Easement, including such purposes as are defined in Section 170(h)(4)(A) of the Internal Revenue Code.

C. Proportionate Value and Procedure in the Event of Termination of Conservation Easement.

- (1) The donation of this Conservation Easement gives rise to a property right, immediately vested in the Grantee, with a fair market value equal to the proportionate value that the Conservation Easement bears to the value of the Property as a whole. That proportionate value of Grantee's property rights shall remain constant.
- (2) If a change in conditions occurs, which makes impossible or impractical any continued protection of the Property for conservation purposes, the restrictions contained herein may only be extinguished by judicial proceeding. Upon such proceedings and upon a subsequent sale, exchange or involuntary conversion of the Property, Grantee shall be entitled to a

portion of the proceeds at least equal to that proportionate value of the Conservation Easement and Grantee shall use its share of the proceeds in a manner consistent with the conservation purposes set forth in the Recitals herein.

D. Procedure in the Event of Condemnation or Eminent Domain. Whenever all or part of the Property is taken in exercise of eminent domain by public, corporate, or other authority, or by negotiated sale in lieu of condemnation, so as to abrogate the restrictions imposed by this Conservation Easement, the Grantor shall immediately give notice to Grantee, and shall take all appropriate actions at the time of such taking or sale to recover the full value of the taking and all incidental or direct damages resulting from the taking. The Grantee, its successors and assigns, shall be entitled to a portion of the proceeds of such sale, exchange, involuntary conversion of the Property, or any damage award with respect to any judicial proceeding. Such portion shall be equal to the proportionate value that Grantees' its successors' and assigns' interest in the Easement Area bears to the value of the Property as a whole as of the date of the recording of this Conservation Easement. "Proceeds of Sale" shall mean the cash value of all money and property paid, transferred or contributed in consideration for, or as otherwise required as a condition to the sale, exchange or involuntary conversion of the Conservation Area, or any damages otherwise awarded as a result of judicial proceeding, *minus* the Grantor's expenses from such transaction or proceeding.

E. Changed Conditions. When a change in conditions gives rise to the extinguishment of this Conservation Easement or a material term or provision hereof by judicial proceeding, the Grantee, its successor and assigns, shall be entitled to a portion of the proceeds of such sale, exchange, involuntary conversion of the Property, or any damage award with respect to any judicial proceeding. Such portion shall be equal to the proportionate value that Grantees', its successors' and assigns', interest in the Easement Area bears to the value of the Property as a whole as of the date of the recording of this Conservation Easement. "Proceeds of Sale" shall mean the cash value of all money and property paid, transferred or contributed in consideration for, or as otherwise required as a condition to the sale, exchange or involuntary conversion of the Conservation Area, or any damages otherwise awarded as a result of judicial proceeding, *minus* the Grantor's expenses from such transaction or proceeding.

F. Subsequent Transfers of the Conservation Easement. The Parties hereto recognize and agree that the benefits of this Conservation Easement are in gross and assignable. The Parties hereby covenant and agree, that in the event this Conservation Easement is transferred or assigned, the transferee or assignee of the Conservation Easement will be a qualified organization as that term is defined in Section 170(h)(3) of the Internal Revenue Code of 1986, as amended, or any successor section, and the regulations promulgated thereunder (the "Internal Revenue Code") which is organized or operated primarily for one of the conservation purposes specified in Section 170(h)(4)(A) of the Internal Revenue Code. The Parties further covenant and agree that the terms of the transfer or the assignment will be such that the transferee or assignee will be required to continue to carry out in perpetuity the conservation purposes that the contribution was originally intended to advance as set forth in the Recitals herein. Grantee, its successors or assigns, hereby covenants and agrees to monitor and observe the Easement Area

in perpetuity for such purposes set forth by this Conservation Easement and Grant Agreement, and to report to the Fund and the State any observed violations on the Easement Area. Grantee shall be released from the obligation to monitor the Conservation Easement with the written approval of the Fund, to a qualified organization as that term is defined in Section 170(h)(3) of the Internal Revenue Code of 1986, as amended, or any successor section, and the regulations promulgated there under (the "Internal Revenue Code") which is organized or operated primarily for one of the conservation purposes specified in Section 170(h)(4)(A) of the Internal Revenue Code.

G. Existing Responsibilities of Grantor and Grantee Not Affected. Other than as specified herein, this Conservation Easement is not intended to impose any legal or other responsibility on the Grantee, or in any way to affect any existing obligation to the Grantor as owner of the Property, which includes the Easement Area. Among other things, this shall apply to:

- (1) Taxes. The Grantor shall continue to be solely responsible for payment of all taxes and assessments levied against the Property. If the Grantee is ever required to pay any taxes or assessments on its interest in the Easement Area, the Grantor will reimburse the Grantee for the same.
- (2) Upkeep and Maintenance. The Grantor shall continue to be solely responsible for the upkeep and maintenance of the Easement Area, to the extent it may be required by law. The Grantee shall have no obligation for the upkeep or maintenance of the Easement Area.
- (3) Liability and Indemnification. If the Grantee is ever required by a court to pay damages resulting from personal injury or property damage that occurs on the Easement Area, the Grantor shall indemnify and reimburse the Grantee for these payments, as well as reasonable attorneys' fees and other expenses of defending itself, unless the Grantee has committed a deliberate act that is determined to be the sole cause of the injury or damage. In addition, Grantor warrants that Grantee shall be maintained as an additional insured on Grantor's liability insurance policies covering the Property.

H. Recording. Grantee shall record this instrument and any amendment hereto in timely fashion in the official records of Buncombe County, North Carolina, and may re-record it at any time as may be required to preserve its rights or the rights and interests of the Grantee.

I. Notices. All notices, requests or other communications permitted or required by this Conservation Easement shall be sent by registered or certified mail, return receipt requested, addressed to the parties as set forth above, or to such other addresses such party may establish in writing to the other. All such items shall be deemed given or made three (3) days after being placed in the United States mail as herein provided. In any case, where the terms of this Conservation Easement require the consent of any party, such consent shall be requested by written notice. Such consent shall be deemed denied unless, within ninety (90) days after receipt

of notice, a written notice of approval and the reason therefore has been mailed to the party requesting consent.

J. Amendments. Grantor and Grantee are free to jointly amend this Conservation Easement to meet changing conditions, provided that no amendment will be allowed that is inconsistent with the purposes of this Conservation Easement or affects the perpetual duration of this Conservation Easement. Such amendment(s) shall be effective upon recording in the public records of Buncombe County, North Carolina. Any amendment of or change in the provisions set forth in this easement must be agreed to jointly by the Grantor and Grantee.

K. Environmental Condition of Property. The Grantor warrants, represents and covenants to the Grantee that to the best of its knowledge after appropriate inquiry and investigation that: (a) the Easement Area described herein is and at all times hereafter will continue to be in full compliance with all federal, state and local environmental laws and regulations, and (b) as of the date hereof there are no hazardous materials, substances, wastes, or environmentally regulated substances (including, without limitation, any materials containing asbestos) located on, in or under the Easement Area or used in connection therewith, and that there is no environmental condition existing on the Easement Area that may prohibit or impede use of the Easement Area for the purposes set forth in the Recitals and the Grantor will not allow such uses or conditions.

L. Entire Agreement. This instrument sets forth the entire agreement of the parties with respect to the Conservation Easement and supersedes all prior discussions, negotiations, undertakings or agreements relating to this Conservation Easement. If any provision is found to be invalid, the remainder of the provisions of this Conservation Easement, and the application of such provision to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby. The parties hereto intend this document to be an instrument executed under seal. If any party is an individual, partnership or limited liability company, such party by adopts the word "SEAL" following his/her signature and the name of the partnership or limited liability company as his/her/its legal seal. The Recitals set forth above and the Exhibits attached hereto are incorporated herein by reference.

M. Parties. Every provision of this Conservation Easement that apply to the Grantor or to the Grantee shall likewise apply to their respective successors, assigns and grantees and all other successors in interest herein.

N. Merger. The parties agree that the terms of this Conservation Easement shall survive any merger of the fee and easement interest in the Property.

O. Subsequent Liens. No provisions of this Conservation Easement shall be construed as impairing the ability of Grantor to use this Property for collateral for borrowing purposes, provided that any mortgage or lien arising therefrom shall be subordinated to this Conservation Easement.

P. Interpretation. This Conservation Easement shall be interpreted under the laws of the State of North Carolina and the laws of the United States, resolving any ambiguities and questions of the validity of specific provisions so as to give maximum effect to its conservation purposes.

Q. Perpetual Duration; Severability. The Conservation Easement created by this Deed shall be a servitude running with the land in perpetuity. Every provision of this Deed that applies to the Grantors or the Grantee shall also apply to their respective agents, heirs, executors, administrators, assigns, and all other successors as their interests may appear. Invalidation of any of the covenants, terms or conditions of this Conservation Easement, or any part thereof by court order or judgment shall in no way, affect the validity of any of the other provisions hereof which shall remain in full force and effect.

**TO HAVE AND TO HOLD** unto the State of North Carolina, its successors and assigns, forever. The covenants agreed to and the terms, conditions, restrictions and purposes imposed as aforesaid shall be binding upon Grantor, Grantor's representatives, successors and assigns and shall continue as a servitude running in perpetuity with the Property.

**IN WITNESS WHEREOF**, Grantor has caused these presents to be executed by its duly authorized officer and its corporate seal affixed, as of the dates shown below, to be effective upon the date of recordation in the public records of Buncombe County, North Carolina.

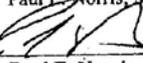
GRANTORS:

NORCO, LLC

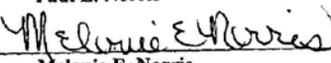
By:

  
Paul E. Norris, Member/Manager

(SEAL)

  
Paul E. Norris

COPY

  
Malonie E. Norris (SEAL)

STATE OF NORTH CAROLINA  
COUNTY OF MECKLENBURG

I certify that the following person personally appeared before me this day, acknowledging to me that he voluntarily signed the foregoing document for the purpose stated therein and in the capacity indicated: Paul E. Norris, Member/Manager of Norco, LLC, a North Carolina Limited Liability Company

Date: 12/22/06  
[Signature]  
Notary Public

Typed or Printed Name of Notary Public:  
John C MacNeill, Jr.

My Commission Expires: 9/1/10



STATE OF NORTH CAROLINA  
COUNTY OF MECKLENBURG

I certify that the following persons personally appeared before me this day, each acknowledging to me that he/she voluntarily signed the foregoing document for the purpose stated therein and in the capacity indicated: Paul E. Norris and Melonie E. Norris

Date: 12/22/06  
[Signature]  
Notary Public

Typed or Printed Name of Notary Public:  
John C MacNeill, Jr.

My Commission Expires: 9/1/10



LEGAL DESCRIPTION

Beginning at a rebar lying in the center of Bear Creek Rd. at the intersection of a soil road also known as Old NC Hwy 20, said point being the POINT OF BEGINNING; thence with the center of the soil road, also known as Old NC Hwy 20, the following 36 courses: North 80°07'02" East, a distance of 27.02 feet to a point; thence North 80°45'43" East, a distance of 22.46 feet to a point; thence North 55°35'04" East, a distance of 19.04 feet to a point; thence North 25°20'10" East, a distance of 39.85 feet to a point; thence North 21°18'07" East, a distance of 40.85 feet to a point; thence North 33°09'32" East, a distance of 39.49 feet to a point; thence North 41°51'32" East, a distance of 40.24 feet to a point; thence North 51°41'03" East, a distance of 42.19 feet to a point; thence North 65°01'15" East, a distance of 41.93 feet to a point; thence North 68°54'43" East, a distance of 40.86 feet to a point; thence North 75°37'30" East, a distance of 36.26 feet to a point; thence South 83°57'42" East, a distance of 20.03 feet to a point; thence South 52°31'18" East, a distance of 26.15 feet to a point; thence South 31°49'10" East, a distance of 44.57 feet to a point; thence South 39°39'40" East, a distance of 34.17 feet to a point; thence South 49°51'46" East, a distance of 43.86 feet to a point; thence South 60°27'04" East, a distance of 22.81 feet to a point; thence South 76°31'20" East, a distance of 18.37 feet to a point; thence North 76°34'30" East, a distance of 27.81 feet to a point; thence North 53°21'13" East, a distance of 32.48 feet to a point; thence North 43°23'04" East, a distance of 127.16 feet to a point; thence North 40°34'21" East, a distance of 42.07 feet to a point; thence North 55°23'21" East, a distance of 35.58 feet to a point; thence North 79°38'10" East, a distance of 28.65 feet to a point; thence South 69°00'38" East, a distance of 25.05 feet to a point; thence South 44°24'14" East, a distance of 37.70 feet to a point; thence South 31°39'09" East, a distance of 38.98 feet to a point; thence South 23°00'35" East, a distance of 40.52 feet to a point; thence South 06°22'04" East, a distance of 30.42 feet to a point; thence South 07°11'05" West, a distance of 33.83 feet to a point; thence South 01°09'26" East, a distance of 30.78 feet to a point; thence South 13°07'42" East, a distance of 28.38 feet to a point; thence South 17°47'19" East, a distance of 42.74 feet to a point; thence South 14°44'34" East, a distance of 39.08 feet to a point; thence South 11°04'35" East, a distance of 71.04 feet to a point; thence South 11°37'50" East, a distance of 44.01 feet to a rebar; thence leaving Old NC 20 East, a distance of 253.71 feet to a point in the eastern bank of Sandy Mush Creek; thence South 30°03'34" West, a distance of 60.16 feet to a point in the center of Sandy Mush Creek; thence with the center of Sandy Mush Creek the following 2 courses: South 06°56'30" East, a distance of 97.75 feet to a point; thence South 20°06'30" East, a distance of 128.33 feet to a point; thence leaving the center of Sandy Mush Creek South 79°16'07" West, a distance of 15.05 feet to a iron pin; thence continue South 79°16'07" West along said line, a distance of 328.93 feet to a iron pin; thence North 17°01'15" West, a distance of 111.85 feet to a iron pin; thence South 98°51'10" West, a distance of 111.64 feet to a iron pin; thence South 65°15'02" West, a distance of 305.28 feet to a iron pin; thence South 23°11'27" East, a distance of 93.64 feet to a iron pin; thence South 06°42'17" West, a distance of 93.50 feet to a iron pin; thence South 39°04'32" West, a distance of 107.32 feet to a iron pin; thence South 70°11'59" West, a distance of 93.94 feet to a iron pin; thence North 75°53'17" West, a distance of 106.55 feet to a iron pin; thence North 71°14'35" West, a distance of 153.98 feet to a iron pin; thence South 88°06'31" West, a distance of 132.16 feet to a iron pin; thence South 63°46'29" West, a distance of 108.84 feet to a iron pin; thence South 42°30'46" West, a distance of 110.78 feet to a iron pin; thence South 23°02'39" West, a distance of 127.32 feet to a iron pin; thence South 08°20'19" West, a distance of 87.73 feet to a iron pin; thence South 13°35'25" East, a distance of 64.62 feet to a iron pin;

thence South 00°00'20" East, a distance of 202.08 feet to a iron pin; thence South 16°49'49" West, a distance of 240.90 feet to a iron pin; thence South 25°54'42" West, a distance of 250.61 feet to a iron pin; thence South 28°42'12" West, a distance of 151.72 feet to a iron pin; thence North 49°09'13" West, a distance of 217.12 feet to a iron pin; thence North 55°37'51" West, a distance of 380.59 feet to a iron pin; thence South 35°03'39" West, a distance of 316.95 feet to a iron pin; thence North 81°01'32" West, a distance of 127.37 feet to a iron pin; thence South 76°24'17" West, a distance of 113.32 feet to a point in the center of Bear Creek Rd; thence with the center of Bear Creek Rd the following 55 courses: North 37°30'11" East, a distance of 57.12 feet to a point ; thence North 34°54'20" East, a distance of 58.89 feet to a point ; thence North 32°00'50" East, a distance of 59.28 feet to a point ; thence North 30°45'46" East, a distance of 106.38 feet to a point ; thence North 31°22'41" East, a distance of 43.96 feet to a point ; thence North 33°49'03" East, a distance of 43.28 feet to a point ; thence North 38°17'48" East, a distance of 44.78 feet to a point ; thence North 45°17'26" East, a distance of 39.56 feet to a point ; thence North 47°28'22" East, a distance of 19.49 feet to a point ; thence North 54°13'02" East, a distance of 44.50 feet to a point ; thence North 58°35'53" East, a distance of 93.53 feet to a point ; thence North 55°26'40" East, a distance of 44.90 feet to a point ; thence North 48°46'55" East, a distance of 44.75 feet to a point ; thence North 40°20'14" East, a distance of 45.04 feet to a point ; thence North 32°06'48" East, a distance of 44.71 feet to a point ; thence North 24°33'18" East, a distance of 44.52 feet to a point ; thence North 17°13'16" East, a distance of 43.99 feet to a point ; thence North 06°24'20" East, a distance of 44.18 feet to a point ; thence North 00°56'47" East, a distance of 43.79 feet to a point ; thence North 04°10'21" West, a distance of 43.93 feet to a point ; thence North 06°35'57" West, a distance of 73.69 feet to a point ; thence North 06°24'06" West, a distance of 44.68 feet to a point ; thence North 04°10'00" West, a distance of 44.25 feet to a point ; thence North 00°26'07" East, a distance of 44.22 feet to a point ; thence North 07°12'44" East, a distance of 43.72 feet to a point ; thence North 14°58'40" East, a distance of 44.22 feet to a point ; thence North 22°35'56" East, a distance of 42.88 feet to a point ; thence North 30°07'27" East, a distance of 43.70 feet to a point ; thence North 36°27'09" East, a distance of 45.05 feet to a point ; thence North 43°19'56" East, a distance of 43.31 feet to a point ; thence North 49°50'20" East, a distance of 44.09 feet to a point ; thence North 56°53'49" East, a distance of 42.18 feet to a point ; thence North 63°40'49" East, a distance of 43.95 feet to a point ; thence North 71°24'24" East, a distance of 43.67 feet to a point ; thence North 79°01'16" East, a distance of 44.03 feet to a point ; thence North 84°48'55" East, a distance of 43.66 feet to a point ; thence North 87°51'17" East, a distance of 41.63 feet to a point ; thence South 89°43'43" East, a distance of 94.94 feet to a point ; thence South 89°07'57" East, a distance of 144.58 feet to a point ; thence North 89°45'45" East, a distance of 70.21 feet to a point ; thence North 87°11'52" East, a distance of 43.37 feet to a point ; thence North 82°16'25" East, a distance of 43.02 feet to a point ; thence North 75°09'17" East, a distance of 44.10 feet to a point ; thence North 66°19'00" East, a distance of 43.63 feet to a point ; thence North 57°58'14" East, a distance of 44.44 feet to a point ; thence North 50°41'50" East, a distance of 43.06 feet to a point ; thence North 43°53'30" East, a distance of 42.44 feet to a point ; thence North 37°40'58" East, a distance of 41.79 feet to a point ; thence North 29°36'18" East, a distance of 43.25 feet to a point ; thence North 20°23'28" East, a distance of 44.53 feet to a point ; thence North 10°41'12" East, a distance of 44.17 feet to a point ; thence North 02°27'28" East, a distance of 44.09 feet to a point ; thence North 03°49'06" West, a distance of 43.61 feet to a point ; thence North 07°24'10" West, a distance of 70.16 feet to a point ; thence North 05°48'40" West, a distance of 47.62 feet to a point, to the POINT OF BEGINNING. Containing 1,634,767 square feet or 37.53 acres, more or less.

DENR CONTRACT NO.: D06083

STATE OF NORTH CAROLINA  
COUNTY OF WAKE

11-066.001

## MEMORANDUM OF AGREEMENT

THIS MEMORANDUM OF AGREEMENT, made this the 18<sup>th</sup> day of January, 2005, by and between the NORTH CAROLINA WILDLIFE RESOURCES COMMISSION (hereinafter "WRC") AND THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, ECOSYSTEM ENHANCEMENT PROGRAM (hereinafter "EEP"),

## WITNESSETH:

NOW, THEREFORE, in consideration of the mutual promises, obligations and benefits hereunder exchanged and obtained, WRC and EEP mutually covenant and agree as follows:

## Purpose:

EEP and WRC have common goals in the protection, enhancement and conservation of wildlife and fishery resources in North Carolina, and in the protection of plant and animal habitats throughout the State. The purpose of this Memorandum of Agreement (hereinafter "MOA") is to establish an understanding between EEP and WRC for the management and protection of the State-owned property purchased from Progress Energy by EEP in December 2004, being approximately 2,600 acres in Madison and Buncombe Counties, and referred to as the **Sandy Mush Tract** (hereinafter "Tract").

## Background:

The Tract was purchased as compensatory mitigation for unavoidable losses in wetland and stream functions associated with NC DOT road improvements in the area. Restrictions in the deed of the Tract to the State provide for the protection of riparian buffers within 300' of the top of all stream banks as well as all wetlands on the Tract. Although some of the riparian area on the Tract is in very good condition, the majority of the streams on the Tract need to be restored or enhanced. There are three significant natural heritage areas on the Tract known as Turkey Creek Gorge, Sandy Mush Creek, and Alexander Cliffs and Slopes. These areas are not included in the restoration or enhancement activity. These three areas will be managed for the protection of the rare species or natural communities living there. Detailed reports listing the rare fish, animals and plants on the site are available from EEP or the Natural Heritage Program. Restoration and enhancement activities on the Tract will take place in several phases, with the first phase scheduled to begin on site in the winter of 2006.

## Agreement:

Although the upland portions of the Tract are not subject to the deed restrictions, the entire Tract shall be managed for conservation purposes. Protection of intermittent streams and the uplands, as well as managing the entire Tract for natural resource values, is necessary to maintain and enhance the ecosystem benefits and maximize mitigation credits.

Proposed activities on the Tract by the N.C. Audubon Society, Quail Unlimited, and other interest groups will only be allowed if the activities are consistent with the goals of both EEP and WRC and the required ecosystem protections and benefits.

The parties to this MOA agree that there will be no sale by or through either of them or use of the uplands on the Tract for non-conservation purpose.

**EEP Responsibilities:**

- To restore and enhance certain streams on the Tract for the benefit and protection of water quality.
- To request that the NC Dept. of Administration allocate the entire Tract to WRC for management.

**WRC Responsibilities:**

- To protect the entire Tract for conservation purposes, either as non-game or endangered species habitat or as game land.
- To prohibit any use of the property that would result in degradation of springs, seeps, streams or wetlands on the Tract.
- To allow EEP, its contractors and assigns, reasonable access across the Tract to the restoration and enhancement sites, and allow them to carry out all necessary restoration and enhancement activities on the Tract.
- To coordinate with EEP to restrict hunting activities, if necessary, during periods of fieldwork to protect EEP, its contractors and assigns.
- To provide an annual monitoring report describing the general conditions of the streams, wetlands and upland areas on the Tract as required by the regulatory agencies. No other monitoring reports describing the restored or enhanced stream characteristics will be required unless EEP agrees to provide funding for the additional reports.

This document sets forth the entire agreement between EEP and WRC, and supplants any and all earlier agreements between the parties regarding use of this property.

All conflicts arising from the implementation of the MOA which cannot be resolved by senior staff of the two agencies shall be finally resolved by the EEP and WRC Directors.

No amendments to this MOA may be made except by mutual agreement in writing by the parties.

**Termination for Cause**

If either party fails to perform or comply with any condition of this agreement and such failure should continue more than 30-days after written notice from the other party, and if the non-compliant party should not within 30-days commence to cure the failure with due diligence, the aggrieved party may terminate this MOA on written notice to the non-compliant party, termination to be effective not less than 15 days from the date of the written termination notice.

The effective date of this MOA is the date of the last signature below.

1/06/06  
Date

Richard B. Hamilton  
Richard Hamilton, Director  
NC Wildlife Resources Commission

1/19/06  
Date

William G. Ross  
William G. Ross, Secretary  
Department of Environment and Natural Resources