



Holly Shelter 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

EXECUTIVE SUMMARY

Holly Shelter Game Land is 64,743 acres in size. The game land is owned by the State of North Carolina, with the North Carolina Wildlife Resources Commission as the primary custodian. Holly Shelter Game Land occurs exclusively in Pender County, NC. and lies within the Northeast Cape Fear River basin; the largest in the state. Original land acquisition dates back to August, 1939 when a 38,500 acre land exchange occurred between the North Carolina Board of Education and the North Carolina Wildlife Resources Commission. Land acquisitions continued through 2007. Holly Shelter Game Land is managed for its primary users which include hunters, trappers, anglers, and wildlife viewers. Priority species include white-tailed deer, black bear, wild turkey, the eastern fox squirrel, and the red-cockaded woodpecker, *Picoides borealis*. In addition to the primary users, there are an increasing number of non-traditional users on Holly Shelter Game Land which include hikers/walkers, geocachers, horseback riders, researchers, and target shooters, etc. Seven habitat types occur on Holly Shelter Game Land. The largest of which is the pocosin habitat which covers greater than 61% of the Game Land. Thirteen endangered, threatened, or rare species occur on Holly Shelter Game Land. Management goals include providing a diversity of habitat types and forest age classes that are properly interspersed and juxtaposed across the landscape through science based land management, ensure that a wide variety of terrestrial and aquatic wildlife species are maintained on the game land, support game species at huntable levels through science based land management and sound regulations, provide quality habitat for endangered, threatened, and rare species, to ensure their populations are maintained or increased, and provide sufficient infrastructure and opportunity to allow all game lands users a quality experience with minimal habitat degradation and conflict among user groups. To assure these goals are met, the North Carolina Wildlife Resources Commission will need to collect various types of information regarding species and users of the game land, secure funding to accomplish management goals, acquire additional properties as they become available, maintain and develop regulations that promote the sustainable use of natural resources, and develop relationships with conservation partners that help meet management goals.

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

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INTRODUCTION

North Carolina Wildlife Resources Commission Mission Statement

“To conserve North Carolina’s wildlife resources and their habitats and provide programs and opportunities that allow hunters, anglers, boaters; other outdoor enthusiasts to enjoy wildlife-associated recreation.”

Creation of North Carolina Wildlife Resources Commission

The North Carolina Wildlife Resources Commission (NCWRC) was established in 1947. Prior to 1947, the tasks of managing state owned Wildlife Management Areas were executed by the Department of Conservation and Development. General dissatisfaction with the program led to the creation of the Wildlife Resources Law in 1947 that established the NCWRC (NCWRC Employee Handbook).

Since 1947, the NCWRC has been dedicated to the conservation and sustainability of the state’s fish and wildlife resources through research, scientific management, wise use, and public input. The NCWRC is the state regulatory agency responsible for the enforcement of fishing, hunting, trapping and boating laws and provides programs and opportunities for wildlife-related educational, recreational and sporting activities

Game Land Program History

Prior to 1971 game land use was tightly controlled for a limited number of species on Wildlife Management Areas. For example, hunting on HSGL was limited to white-tailed deer and bear. The current Game Lands Program began in 1971 with the addition of approximately 800,000 acres of land to be used for the purpose of hunting and fishing. The most significant inclusions were the four United States Department of Agriculture Forest Service (USDAFS) National Forests, The Croatan, Uwharrie, Pisgah, and the Nantahala.

The primary goals and objectives for the game lands were to provide public lands for hunting, fishing, and trapping opportunities. The NCWRC currently manages over 2 million acres of State and Federal lands in the game lands program. Land acquisition and management are funded, in part, by the Federal Aid in Wildlife Restoration act of 1937, also known as the Pittman Robertson Act; which is administered by the U.S. Fish and Wildlife Service (USFWS). What is now called the Wildlife and Sport Fish Restoration Act provides a 75/25 match to states for the selection, restoration, rehabilitation and improvement of wildlife habitat, wildlife management research, and the distribution of information produced by those projects. The dollars are derived from an 11 percent excise tax on sporting arms, ammunition, and archery equipment, and a 10 percent tax on handguns. Monies are appropriated to each state using a

formula considering the total area of the state and the number of licensed hunters in the state. To date the NCWRC has received approximately 258 million dollars.

Historically, our primary game land users were hunters, trappers, and fishers. We must keep in mind that there is currently a national surge in “non-consumptive” users. 2011 Surveys conducted by the USFWS showed that there were more wildlife watchers than hunters and fishers combined. The 2011 National Survey of Hunting, Fishing, and Wildlife Associated Recreation showed that 71.8 million people fed, photographed, or observed wildlife in 2011, as opposed to 33.1 million fishers and 13.7 million hunters (2011 USFWS). North Carolina is no exception. Currently, the NCWRC is receiving increasing numbers of requests for more “non-traditional” game land use.

Given these facts, the NCWRC must be mindful that the user base is expanding and allowances must be made to provide equal opportunities. The NCWRC’s game land program mission statement recognizes these needs. Lands administered by the Wildlife Resources Commission through the Game Lands Program, follow the Program’s Mission Statement:

“Consistent with the original establishment legislation for the 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 lands program consistent with this mission is the feasibility and desirability of multiple uses on lands owned by the state within the 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.”

Land acquisition is the primary tool for land conservation and management. Recent reductions in license sales have forced the NCWRC to look to other funding sources for land acquisition. Sources such as the Clean Water Management Trust Fund, Natural Heritage Trust Fund, The Forest Legacy Program, the Department Of Defense’s Recovery and Sustainment Program (RASP), and the North American Wetland Conservation Act have become primary funding sources. These funds are tax based and have contributed to the purchase of 162 million acres since their creation (NC WAP p.61).

Game Land Management Program Objectives:

1. To provide, protect, and actively manage habitat conditions to benefit aquatic and terrestrial wildlife resources.
2. To provide public opportunities for hunting, fishing, trapping, and wildlife viewing.
3. To provide 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.

4. To provide an optimally sustainable yield of forest products where feasible and appropriate and as directed by wildlife management objectives.

Purpose and Need for the Plan

The purpose of this Game Land Management Plan is to provide a guide for managers to follow in the creation of future wildlife and land management prescriptions. Fisheries and wildlife habitat enhancements will be given priority; outdoor and wildlife related requests/activities will be considered individually depending on compatibility and appropriateness. All aspects of game land management were considered in the development of this Plan and include but are not limited to; fish and wildlife communities, forest management, infrastructure development and maintenance, public uses, fish and wildlife information needs, financial assets and future needs, future plans for acquisition, regulations and enforcement, and existing and needed partnerships and collaboration.

More specifically, this plan will

- Provide a clear direction for game land management.
- Provide the public, local, state, and Federal officials with a better understanding of game land management and operations.
- Provide clear management objectives to ensure that these actions are consistent with the game lands program goals.
- Lastly, this plan will provide a basis for future budgetary operational expenses.

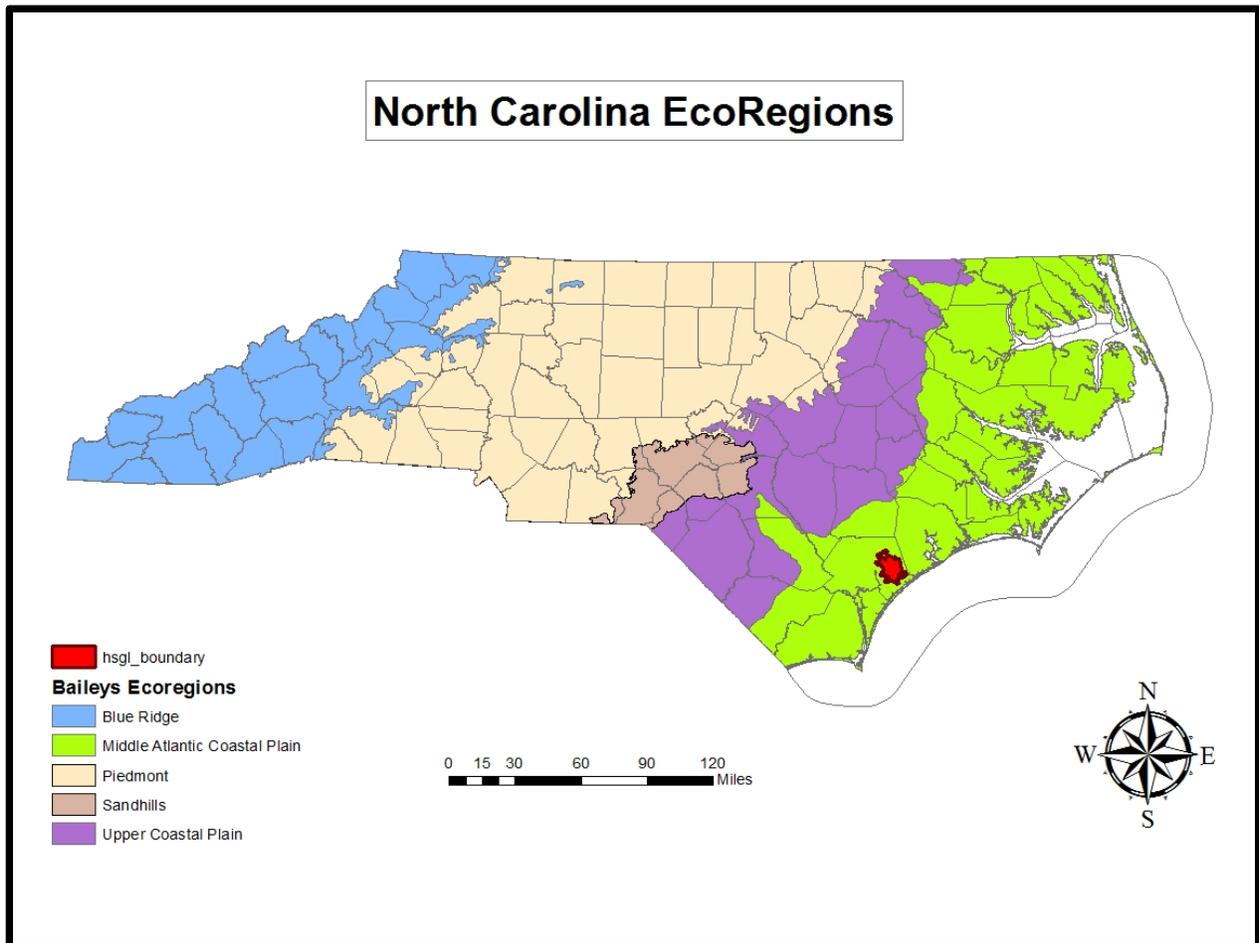
A development team, natural resource stakeholders, and the public have provided input to achieve a “Desired Future Condition” within the 10 year planning horizon. This will be a living document which may be amended as needed.

REGIONAL CONTEXT

Information on Eco-Region

Holly Shelter Game Land is located in the Mid-Atlantic Coastal Plain which occupies 26 million acres east of the fall line between the Piedmont and Atlantic Coastal Plain, south of the James River in Virginia and north of Charleston Harbor in South Carolina (*Figure 1*). About two thirds of this very rich ecoregion is in North Carolina. This is the land of longleaf pines and bald cypress trees; of bottomland hardwood forests and swamps; of pocosins and palmettos; of Carolina Bays and Carolina Sandhills; of the Outer Banks and some of the world’s best and most active coastal dunes, sounds, and estuaries; of natural fires, floods, and storms are so dominant in this region that the landscape changes very quickly. Rivers routinely change their courses and emerge from their banks (Landscape, 2013).

Figure 1: Ecoregion delineations in North Carolina (data source: NC GAP; ecoregions as defined by Bailey (1995))



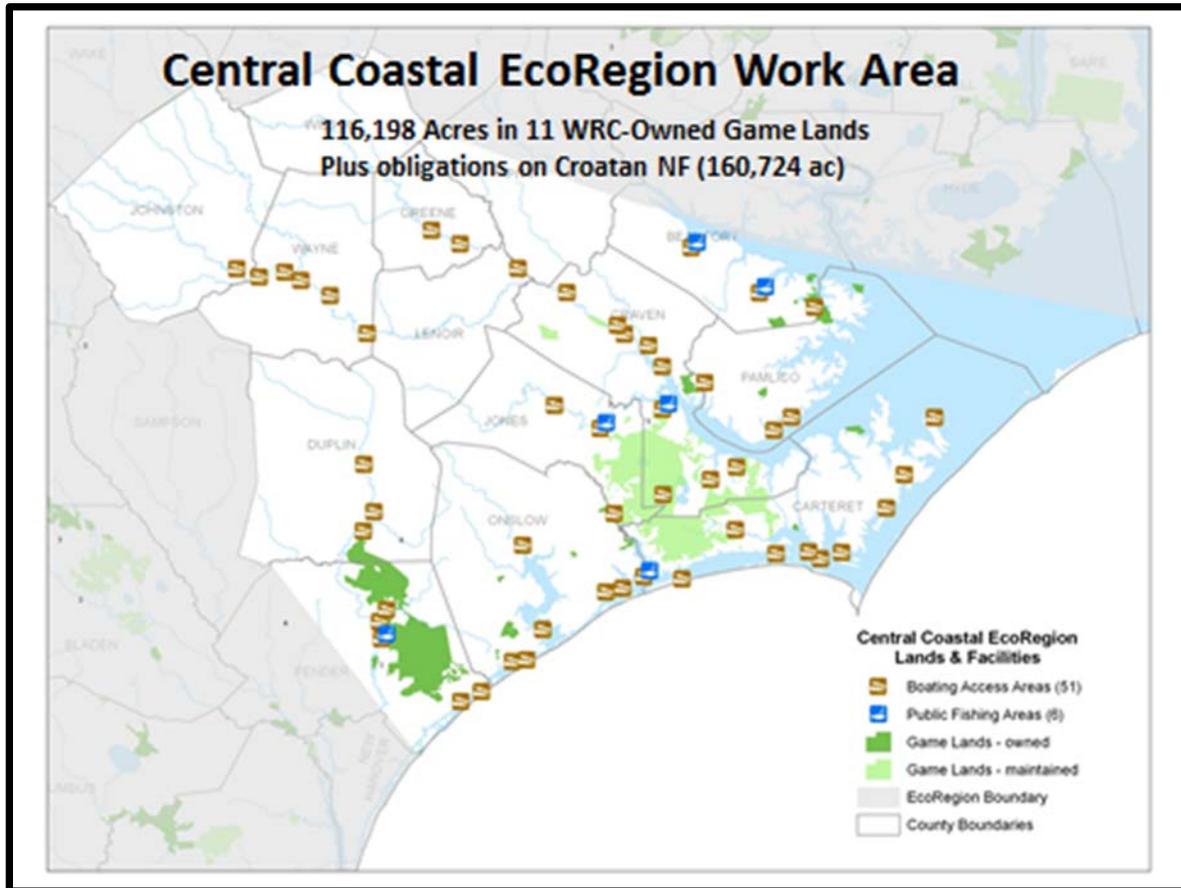
In North Carolina, a huge diversity of fish and wildlife habitats exist across the three distinctive regions of the state: the Coastal Plain, the Piedmont, and the Mountains. These regions fall within larger Eco-Regions that span state borders and link North Carolina to neighboring states. Elevations ranging from sea level to over 6,000 feet provide habitat for over 1,000 species of birds, mammals, fish, reptiles, amphibians, mollusks, and crustaceans, in addition to thousands of other invertebrate species (NCWAP, 2005).

The Coastal Plain region is characterized by flat lands extending from the coast inland an average of 125 miles. Elevations in the region increase inland at approximately one foot per mile. The region covers almost two-fifths of the area of the state (NCWAP, 2005).

Within North Carolina’s borders, Holly Shelter is Located in the Central Coastal Eco-Region. This area consists of 8,416 mi² in 14 Counties. This particular Eco-Region contains 4 major River Basins, the Pamlico, Neuse, New, and the Northeast Cape Fear. NCWRC field staff are responsible for management obligations on 116,198 ac. on 11 NCWRC owned game lands plus land management practices on the 160,724 ac. Croatan National Forest. Work responsibilities also include the maintenance of 51 Boating Access Areas, 6 Public Fishing Areas and 452

navigational aids bi-annually. Four depots are located within the Eco-Region; Holly Shelter, Chinquapin, Rhems, and New Bern (*Figure 2*).

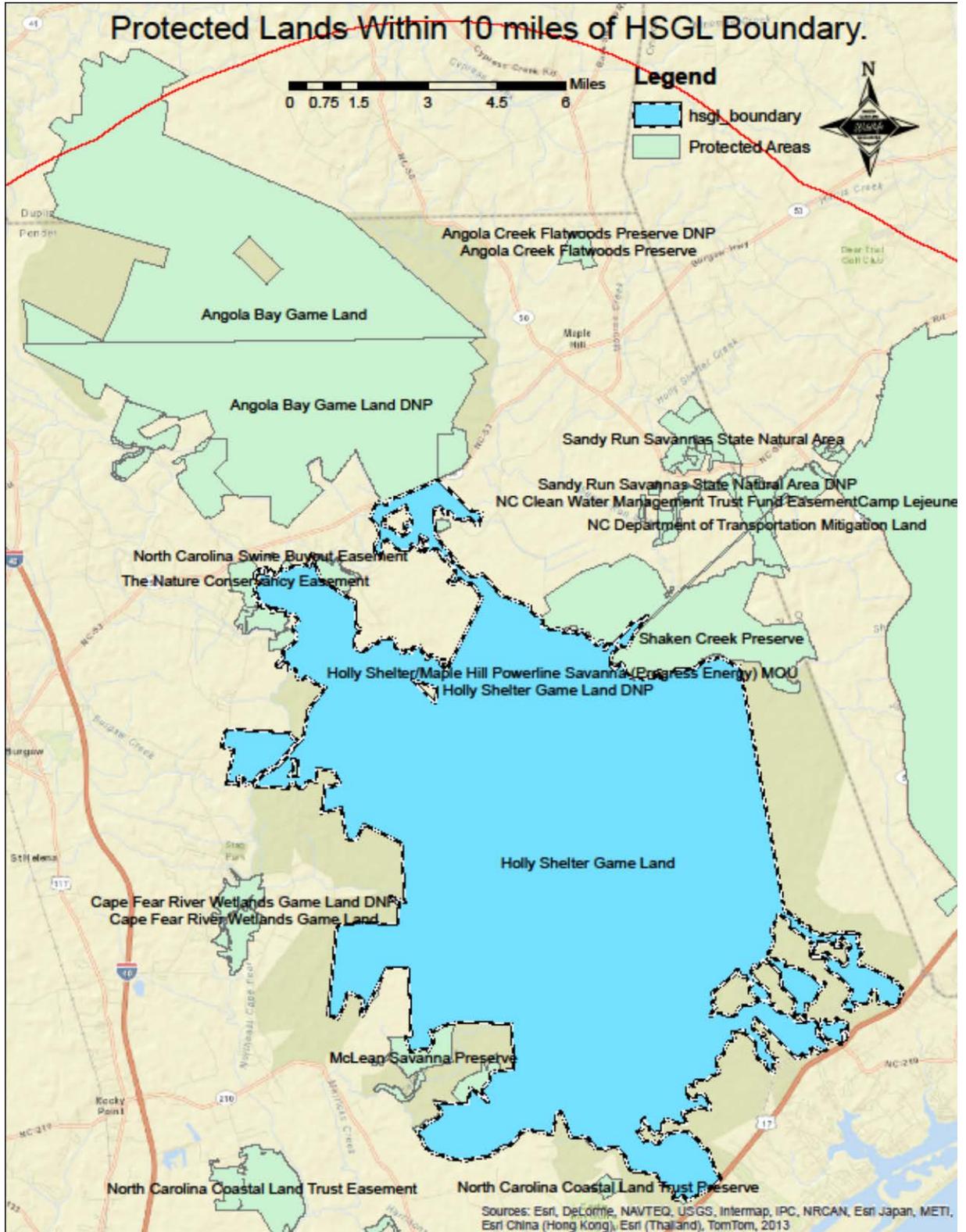
Figure 2: Central Coastal EcoRegion Work Area.



Role and Importance of Holly Shelter Game Land

HSGL's size (64,743 acres) and proximity to other protected or managed areas of natural heritage significance, i.e. Shaken Creek, The McLean Savanna, Sandy Run Savanna, and Cape Fear River Wetlands (*figure 3*), provides for the preservation of land containing rare, threatened and endangered plant and animal communities, i. e. red-cockaded woodpeckers and longleaf pine flatwoods. In the past, HSGL was managed as a Wildlife Management Area where the land was primarily used for heavily restricted hunting. More recently, the game land has become an important player in the preservation of rare, threatened or endangered plant and animal communities and species once known to be prolific in the Southeastern Coastal plain.

Figure 3: Dedicated Nature Preserves and other protected areas within 10 miles of HSGL Boundary.



Partnerships and Collaborations

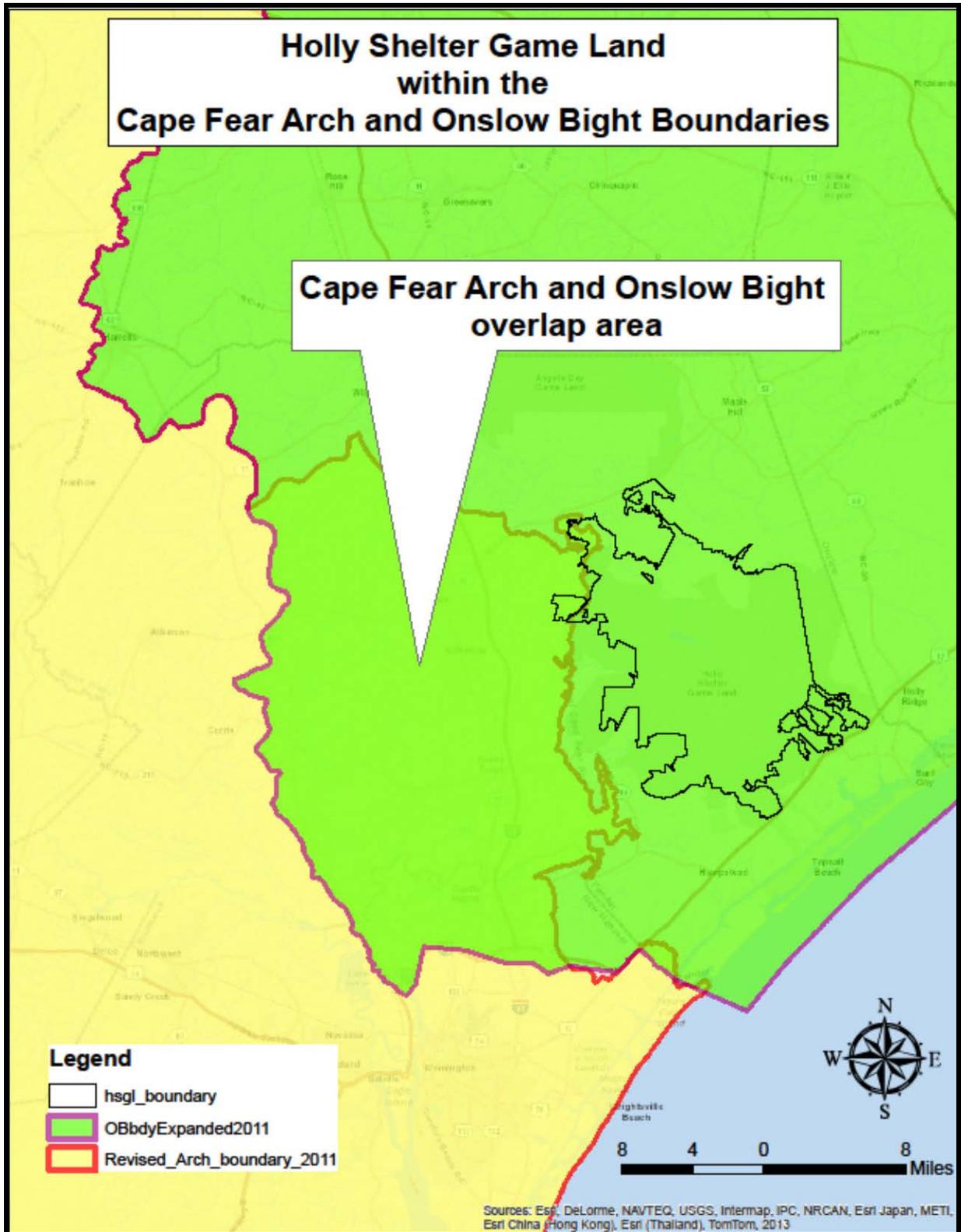
The Game Lands Program is vital to many conservation efforts and partnerships within the Central Coastal Eco-region. NCWRC enjoys a long standing alliance with the USDAFS with wildlife resources on forest service lands cooperatively managed by both agencies. The Natural Heritage and Clean Water Management Trust Funds have 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.

HSGL is fortunate to share common borders with The Nature Conservancy at Shaken Creek to the east and the McLean savanna on the Southwest. Angola Bay Game Land is on the northern boundary. Marine Corps Base Camp Lejeune is approximately 3.3 miles to the east. Remaining surrounding land use is primarily forested land with limited residential or agricultural lands sharing borders.

As a result of funding from The Natural Heritage Trust Fund and The Clean Water Management Trust funds, two tracts of Holly Shelter, Pender 4 and Bear Garden, are designated as “Dedicated Nature Preserves.” *Figure 4* shows the locations of these areas on HSGL and their designations as being primary, buffer, and restoration areas.

Holly Shelter falls within two landscape scale Conservation areas; the Cape Fear Arch and the Onslow Bight. Conservation collaboratives, administered by the Nature Conservancy, in these areas join Natural Resource professionals to aid each other in land acquisition and funding projects (*Figure 5*).

Figure 5: Holly Shelter situated within both the Cape Fear Arch and the Onslow Bight Conservation areas.



Adjacent and Use

Lands in Pender Co. are primarily, private and commercially forested timber lands which comprise 82% of the total County acreage. Other land uses are agricultural, industrial, commercial, residential, and other protected lands. Populations in Coastal Carolina continue to grow. Data from the 1990 and 2010 Census' show that populations increased 81% in Pender Co. and 69% adjacent New Hanover Co. This is in large part to the areas close proximity to local beaches and the highway 17 corridor. Onslow Co. to the North grew only 19% during the same timeframe. The Hwy. 17 corridor exhibits the majority of residential, commercial and industrial occurrences and growth. Little growth is expected within the ten year planning horizon of the plan (Ben Andrea, Pender Co. planning.)(*Figures 6&7*). Efforts should be made to monitor and provide information from the Green Growth Toolbox to planners for long range transportation planning and local land use planning that may affect habitat quality and the ability to manage habitats on the game land.

Figure 6: Pender Co, NC, Existing Land Use. Data provided by Pender Co. planning department.

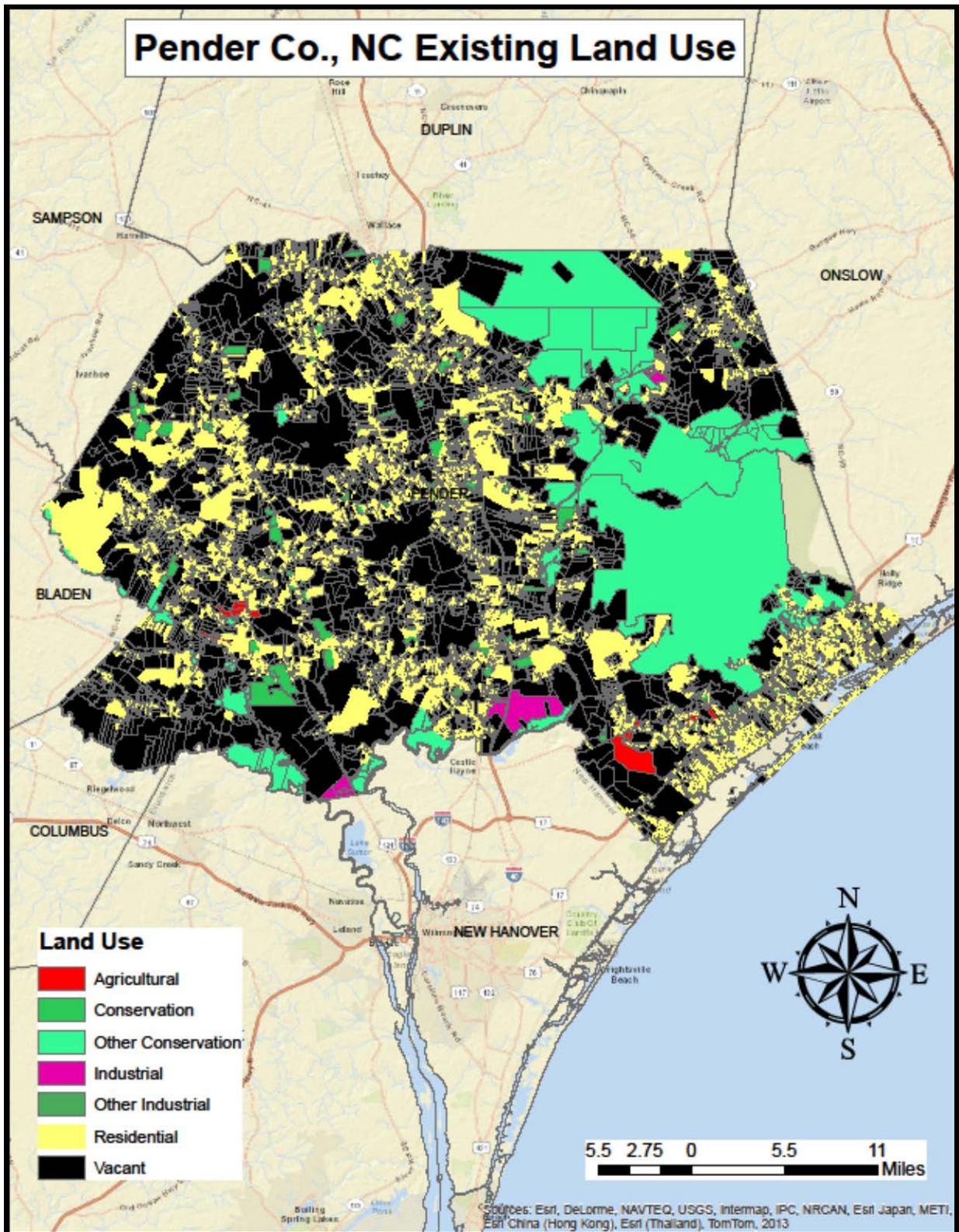
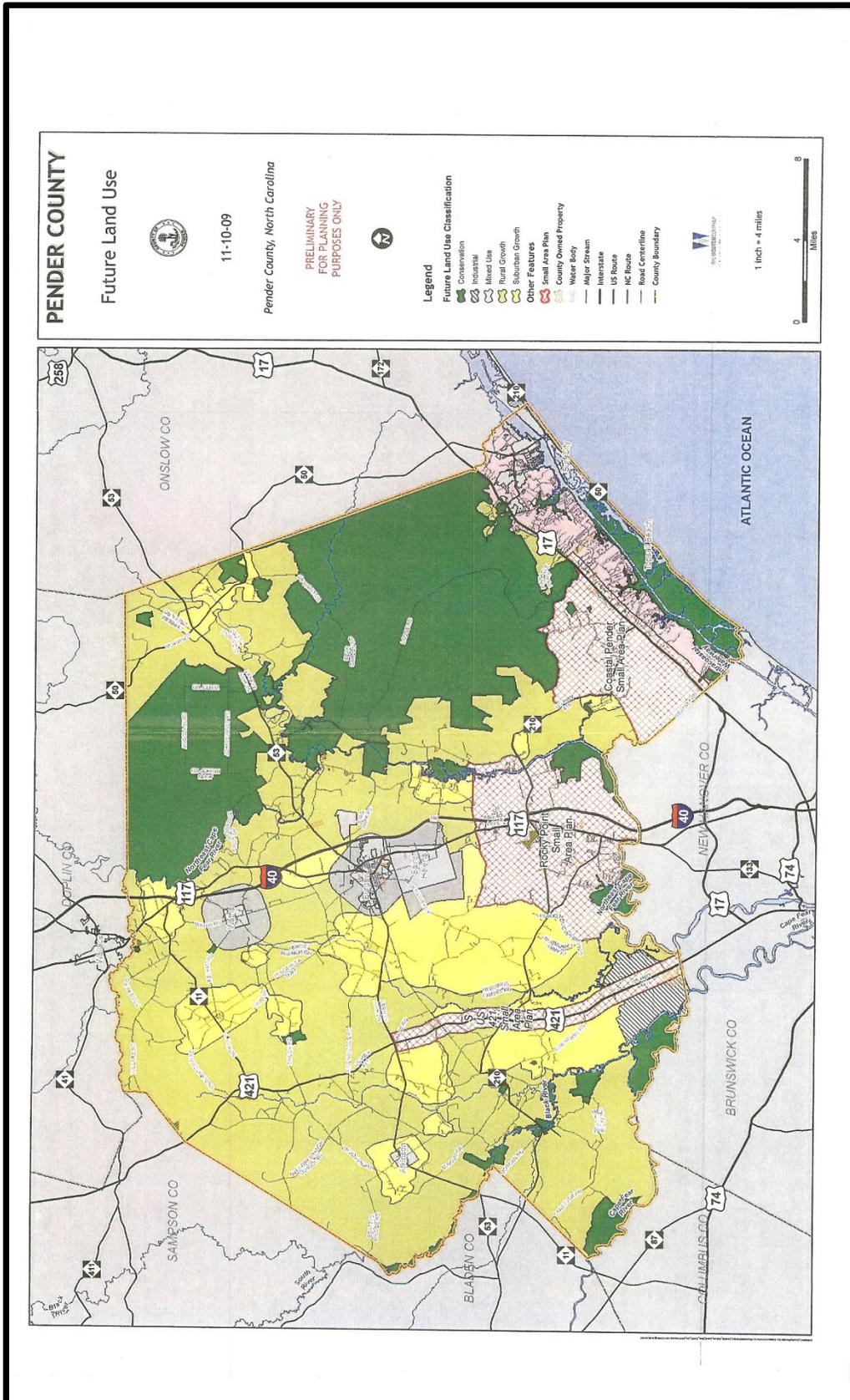


Figure7: Expected Future Land Use. Map provided by Pender Co. planning department.

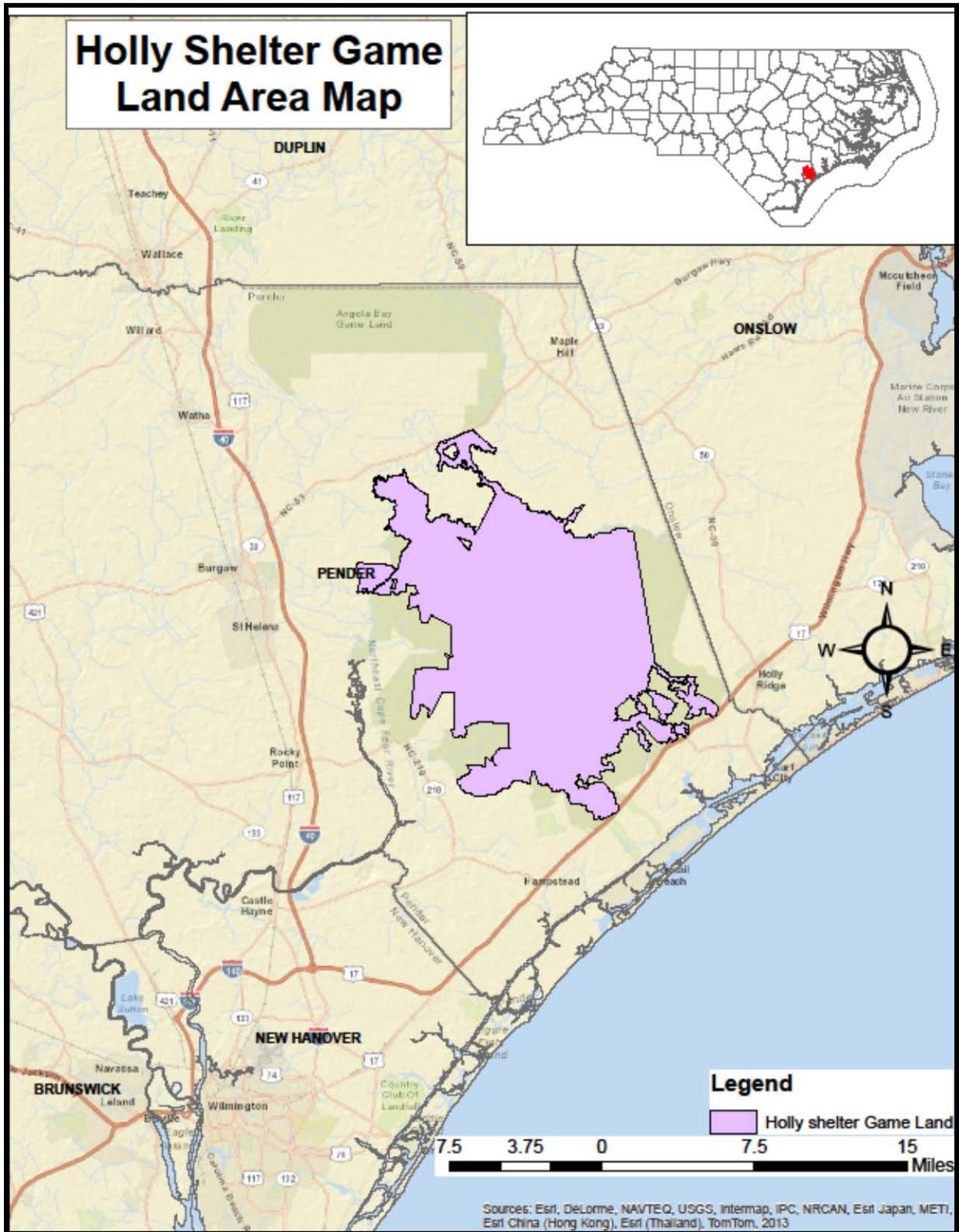


GAME LAND SPECIFIC INFORMATION

History

HSGL is located in eastern Pender County, NC (*Figure 8*). The Game Land was named after the “Holly Shelter Swamp” which comprises nearly half of the game land’s interior. The game land is bound to the south and east by US. Hwy 17. The Northeast Cape Fear River and Holly Shelter Creek comprise the western boundary, with NC Hwy 53 to the North. All tracts combined total 64,743 acres of nearly contiguous land.

Figure 8: Holly Shelter Land area map.



In 1939, 38,500 acres were donated from the NC Department of Education, and with additional private land acquisitions in the early 60's the total game lands acreage rose to 48,630. More recently, an additional 14,798 acres were added with the acquisition of the Pender 4 and Bear Garden tracts 777ac. and 14,021 ac respectively. The latter tracts were acquired using Clean Water Management Trust Fund money from the Nature Conservancy in 2004.

Wildfire

HSGL is in an area called the “Holly Shelter Extreme Forest Fire Danger Area”. Figure 9 displays the 30 year fire history for areas within on quarter mile of the HSGL boundary.

Although over 60 fires have been recorded, only the Topsail and Juniper Rd. Fires have been catastrophic. The 1986 “Topsail” consumed more than 73,000 acres and approximately 90% of HSGL between May 5th and May 18th 1986. The Juniper Rd. fire in 2011 consumed 31,140 acres between June 19 and August 31. These wildfire events have a detrimental effect on the local flora and fauna, local residents, and local economies. During the Topsail Fire, 50 RCW cavity trees were destroyed, and countless animals were lost to the wildfire. Ground fire burnt as deep as 3-4 feet deep during the Juniper Rd. fire substantially changing the hydrology and plant composition of the habitats involved. At current we are unsure as to how the habitats will regenerate. It is likely that it will eventually return to habitats similar to the ones in the past.

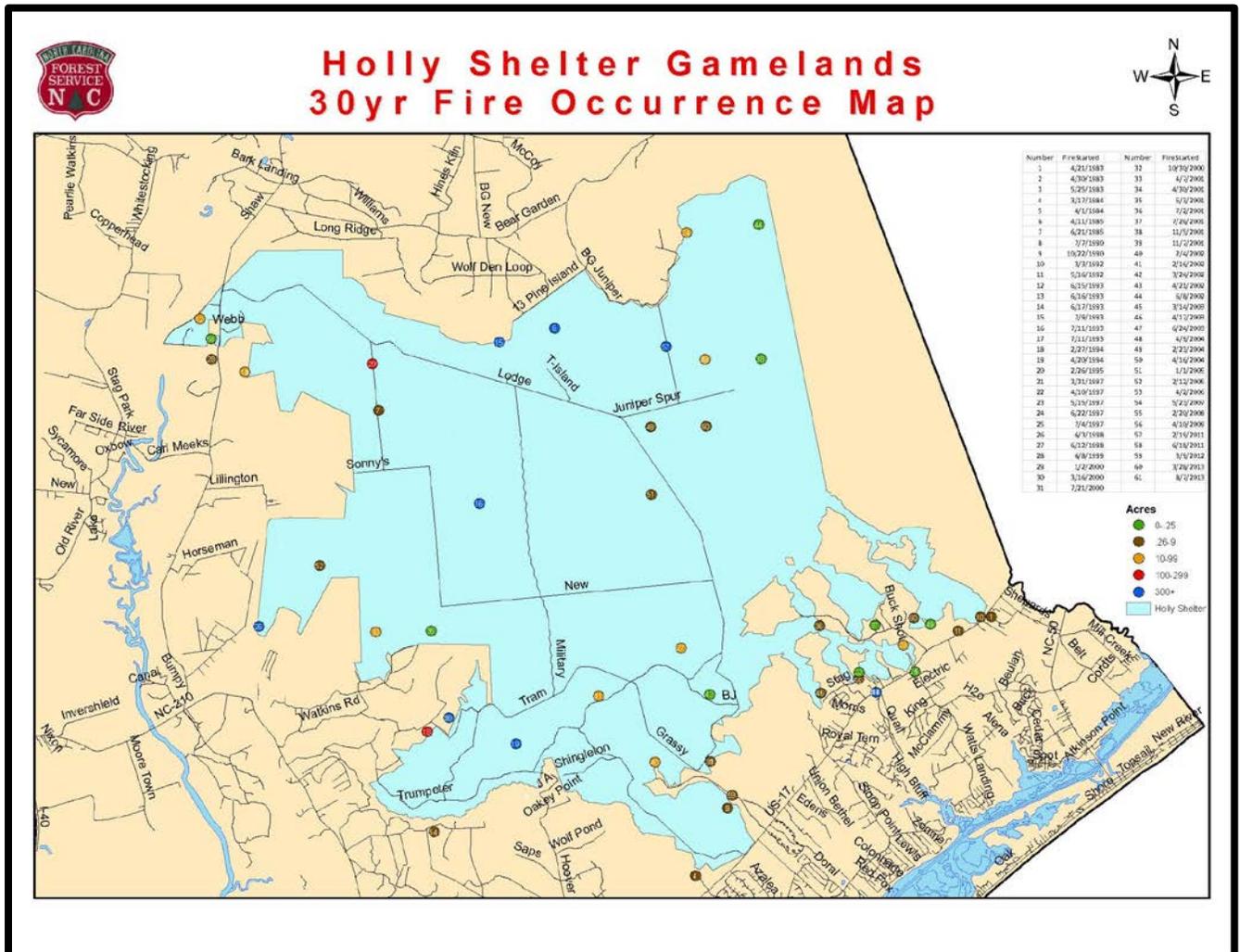


The management of the pocosin habitats is described below and addresses how the reduction of

fuel loads could help to mitigate the risk of similar wildfires in the future. It's because of incident fires such as these that the NCWRC and the North Carolina Forest Service have created a Memorandum of Understanding (*Appendix C*) to address issues regarding levels of response and cooperation between agencies during wildfire events. It should be noted, this document has expired. Comments were given during 2013 to renew the document. NCWRC and NCFS should act swiftly to incorporate comments provided and renew this document.



Figure 9. HSGL Thirty year fire history. Map provided by NC Forest Service.



Cultural Resources

North Carolina is not only known for its Natural history, but also its rich historical/cultural resources. Several archaeological sites have been identified on Holly Shelter Game Land that provide tangible evidence of the varied use of the property by the past residents of the area. These archaeological sites include prehistoric Indian habitation sites, tar kilns, river landings, and colonial plantations. Because the sites can be easily damaged, unauthorized artifact collecting activities on all state owned property including Commission owned lands are prohibited by the Archaeological Resources Protection Act (G.S 70 Article 2) (*Appendix D*).

Physical Attributes

Climate

HSGL's climate is characterized by hot humid summers with temperatures exceeding 95 degrees with a record high of 104 degrees on 27 June, 1952. Winters are moderate, with temperatures rarely going below 20 degrees with a record low of 0 degrees on 12 December, 1989. Average first frost is 11 November. Average last frost is 1 April giving approximately 213 growing days. Average rainfall is 57.6 inches/year with a record of 83.7 occurring in 1877. Snowfall is rare, on the average, less than 3 inches per year with a record of 15.30 inches in 1989 (SCONC).

In most summers North Carolina's weather is dominated by the "Bermuda High" pressure system. This gives calm, virtually cloudless conditions. Winds are predominantly Westerly year round. Average wind speed is 11 miles per hour (NRCS 1990). Due to HSGL's proximity to the Atlantic Ocean, approximately 3.5 miles from the east gate, the areas weather is commonly influenced by ocean breezes. A phenomenon called a sea breeze is the primary cause for the numerous thunderstorms that occur from April through September.

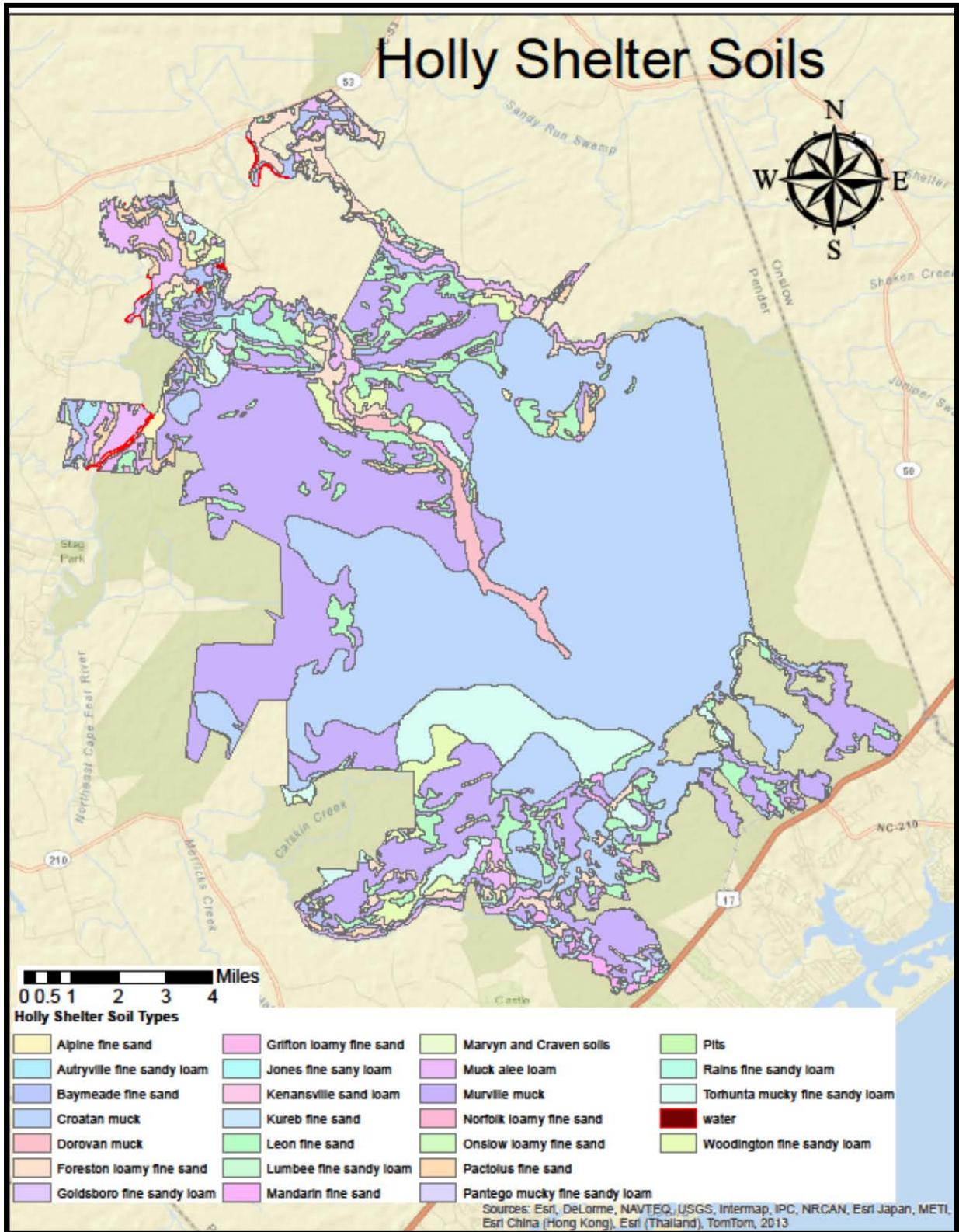
North Carolina is outside the principal tornado area of the United States, but still averages two to three per year. They occur mostly east of the Mountains during early spring (SCONC).

Tropical hurricanes come close enough to influence North Carolina weather about twice in an average year. Much less frequently, perhaps averaging once in 10 years, these storms strike a part of the State with sufficient force to do much damage to inland property. Coastal properties occasionally suffer severe damage from associated high tides (SCONC).

Soils

Elevations of Pender Co., NC range from sea level to 110 feet. The soils are nearly level and have short slopes along the main drainage ways. Twenty six soil types occur on HSGL (*Figure 10*). The most abundant soils, 70.97%, are ones of the Muck variety. Croatan muck, Dorovan muck, Murville muck are predominant varieties. Other soils include Fine Sands, 13.13%, Fine sand/loam soils, 10.42%, Mucky fine sandy loams, 5.41%. Marvyn and Craven soil, and Pitts soil also occur and account for only.02% of the total. (USDA SCS)

Figure 10: Holly Shelter soils map.



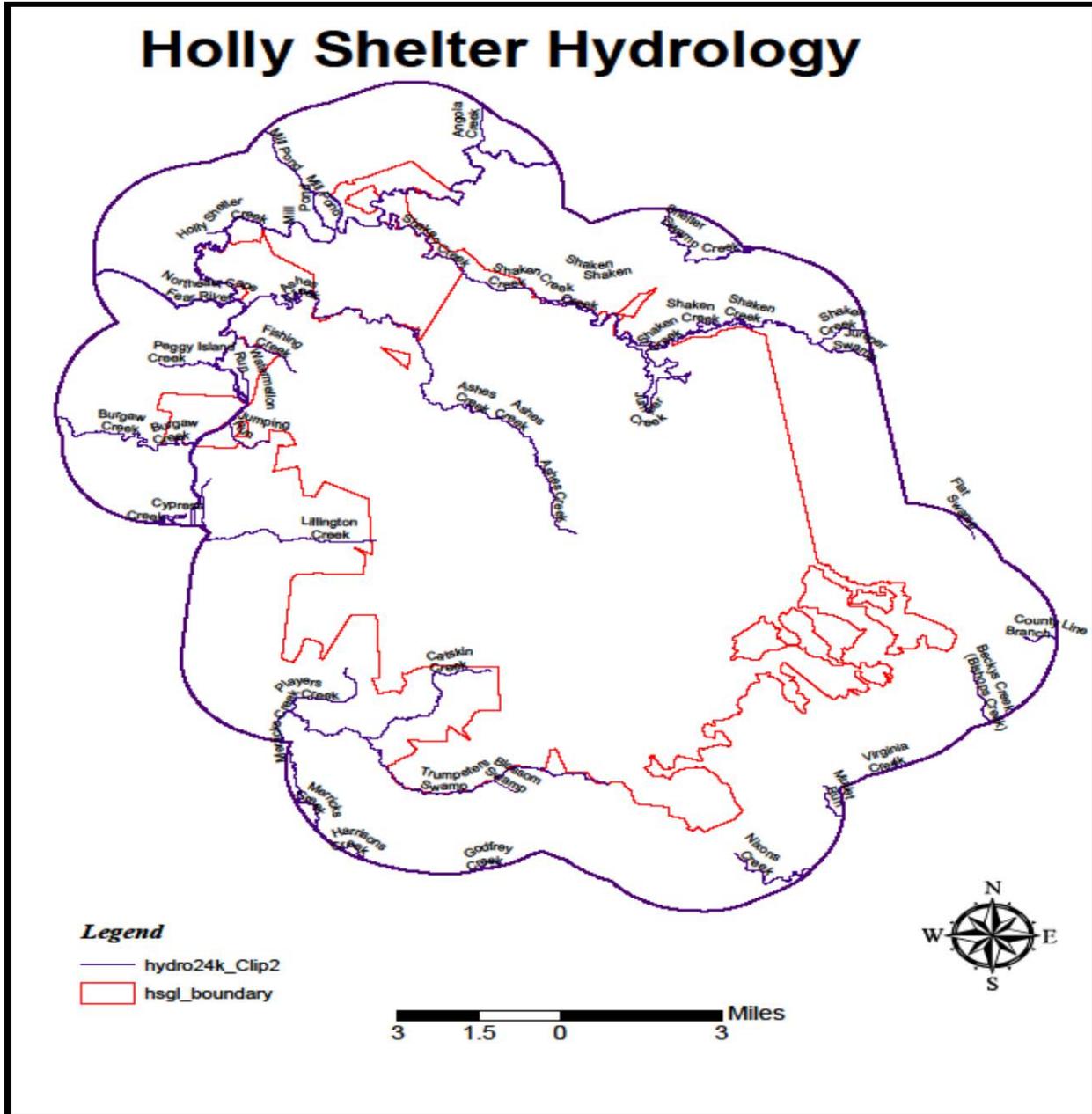
Hydrology

HSGL lies in the Cape Fear River Basin, which is the largest river basin in North Carolina, draining 9,322 square miles, with 6,049 stream miles (NCDWQ 2000a). There are 26 counties and 116 municipalities in the basin and the population is 160 people/sq. mile. Land cover in the basin includes 56% forest land, 24% agricultural lands, 9% urban areas, and 11% other, which includes rural transport, small water areas, lakes, and estuaries (NCDWQ 2000b).

Groundwater is contained in three aquifers the superficial, the Pee Dee, and the Castle Hayne. The superficial is the shallowest, and the most susceptible to contamination. The surficial aquifer is also very sensitive to variations in rainfall amounts -- they are the first to dry-up in a drought. The Castle Hayne aquifer is widely used in the eastern portions of the coastal plain. The aquifer is composed of limestone, sandy limestone, and sand. It is the most productive aquifer in North Carolina. Wells typically yield 200-500 gallons per minute, but can exceed 2000 gallons per minute. The Pee Dee aquifer is present in the central to southeastern portion of the coastal plain. This aquifer is composed of fine to medium sand, and water become saltier with depth (ncwater.org, 11/2013)

Other than the Northeast Cape Fear River there are few rivers or streams on the Game Land. Streams that originate in the Game Land flow northward or westward eventually draining into the Northeast Cape Fear River. Trumpeter Swamp drains the Southern portions of HSGL. Ashes and Shaken Creeks drain the northern most sections and Catskin and Lillington Creeks drain the Western Sections of the Game Land (Figure 11). Manmade ditches created during road construction have altered the hydrology and likely move more surface and groundwater runoff than the associated creeks.

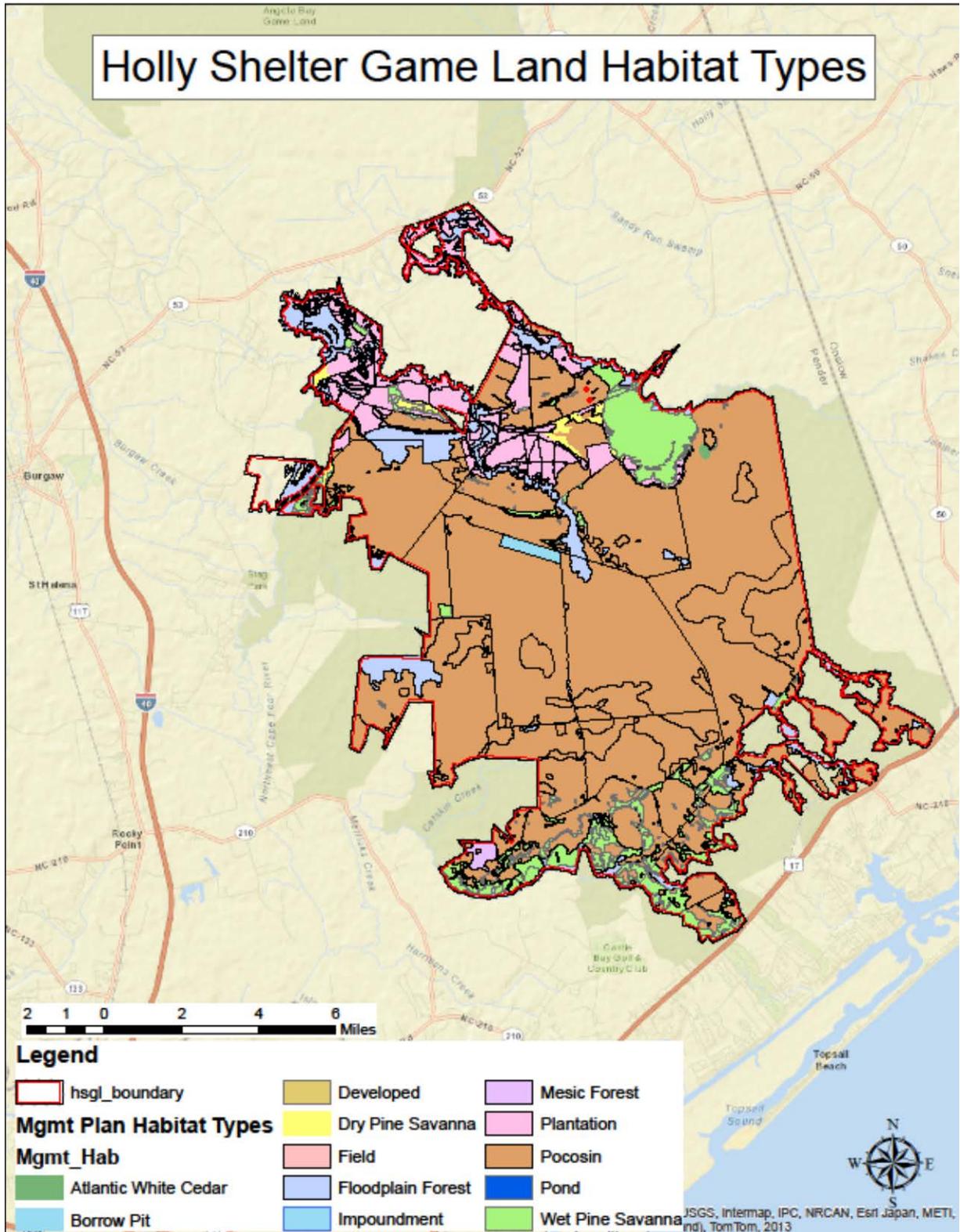
Figure 11: Creeks and Rivers within 3 miles of Holly Shelter.



Habitats

Predominant habitat types on HSGL include dry coniferous forest, dry long leaf, Pine/Scrub Oak Sandhill, early successional, flood plain forest, mesic mixed hardwood, high pocosin, and wet pine savanna. Approximately 206 acres consist of an annually flooded waterfowl impoundment. Approximately 5,732 acres, primarily in the Bear Garden and Pender 4 Tracts, are currently in loblolly plantation (*Figure 12*).

Figure 12. Habitat map. Data compiled from ground truthed polygons.



Acquisition History

The first land acquisition for the HSGL was in 1939 (*Table 1*). It consisted of 38,500 acres which was donated by the North Carolina Department of Education in 1939. Private tracts were acquired through the early 60's for a total of 48,630 acres. More recently, another 14,798 acres were added with the acquisition of the Pender 4 and Bear Garden tracts 777ac. and 14,021 ac respectively. (*Appendix E*)

Early land acquisition was funded primarily through Pittman –Robertson Act under Projects W-4-L, W-8L, W-11, L, and W-67. The latter tracts were acquired using North Carolina Clean Water Management Trust Fund money using the North Carolina The Nature Conservancy as an intermediary in 2004. As stated in various documents regarding these land transactions, the property was acquired for the “development, supervision and administration as a Game Refuge or Game Preserve and as a Public Hunting Ground. Numerous easements and Right-of-ways exist on HSGL. These documents may be found via the North Carolina State Property Office.

Table 1. Holly Shelter Game Land acquisition history.

Grantor/Tract Name	Acq. Date	Acreage (+/-)	Purchase Price	(source of funds)
Board of Education	8-1-'39	38,500	Reallocation	
N. E. Hunting Club	11-3-'39	2,332	\$100.00	
E.F. Middleton	11-7-'39	1,786.3	\$100.00	
Featherstone	6-7-'40	25.05	\$1,500.00	
Finley McMillan	1-10-'41	8,327.18	\$7,500.00	USFWS
Shingleton	3-9-'60	92	\$5,000.00	
Roberts	1-12-'61	140	\$6,000	
Dixon	9-13-62	7	land exchange	
Dixon	9-13-'62	311		
King	6-11-'65	15	\$975.00	
Jones	6-14-'65	300	\$9,750.00	
Smith	7-9-'65	56.2	\$1,826.50	
TNC	11-22-'00	240	gift	
Sustainable Forests	2-17-'03	227	\$216,810.00	WRC and NHTF
TNC	11-4-'04	13,811.04	\$2,300,000.00	CWMTF

TNC	12-20-'04	1,607	\$419,342.00	NHTF
NC CLT	6-2-'06	99.76	gift	
Godwin	6-23-'11	62	\$96,000.00	

Purpose of Game Land

The purpose of HSGL is to augment the Game Land Program’s Mission Statement and satisfy the Program’s goals and objectives. In doing so, HSGL is managed to provide opportunities to both traditional and non-traditional users. The provisions for non-traditional outdoor recreational opportunities will be delivered to the extent that these uses are compatible with the conservation and management of the resources located there and do not displace primary users. Furthermore, Land management shall be implemented to provide, protect, and enhance habitat for endangered, threatened, and rare species. HSGL will also provide a sustainable yield of forest products as allowed by topography, the RCW Recovery Plan, and other factors. All forestry conducted on the game land is directed by wildlife management objectives.

Historical Management and Use

HSGL has a long history of management and diverse group of users. Traditional land management included extensive use of prescribed fire and open land management. Prescribed fire has been used for many years to reduce the risk of wildfire and to enhance wildlife habitat on the Game Land. Designated burn blocks have been established and use natural and manmade firebreaks (i. e. pocosins/roads/firelines). They are primarily occur on wet and dry Longleaf ridges and are allowed to “back” into pocosins. In general, prescribed fires are conducted on a 3-year rotation.

Open land management, or the practice of maintaining wildlife-openings, has been practiced on Holly Shelter since the mid-seventies. These open lands provide supplemental food to both game and nongame animals, provide overhead cover, and offer hunting and wildlife viewing opportunities to the public. VA-70 and bi-color lespedeza were planted but never did well due to the low soil productivity on Holly Shelter. Corn was traditionally contract planted on Holly Shelter during the early years of the game lands open land management. Due to heavy deer depredation on corn ears, milo (grain sorghum) and millet eventually replaced the corn to reduce cost, and improve the vertical cover provided, and amount of seed produced.

Traditional use was primarily hunters, anglers, and trappers. Initially, HSGL was a highly regulated Wildlife Management Area where hunters were checked in and out. Prior to 1978 deer hunting was regulated by local law and occurred only 12 days per year (3days/week) and only bucks could be harvested. All other hunting occurred six days per week and followed NCWRC regulations. In the early to mid-eighties, local law was repealed and all hunting became 3day/week.

Infrastructure maintenance included roads and trails, hunter crossings, and the construction of the Lodge Rd. waterfowl impoundment. Early hunter crossings were constructed by simply using two telephone poles placed next to one another which provided access to the hunter trails which were lanes drum-chopped into the pocosin. These trails were primarily used by dog bear hunters to retrieve dogs. They also provided opportunity to some deer hunters. The Lodge Rd. impoundment project was started in 1975. This project began using a crawler pulling drum choppers to clear the pocosin. A compass was used to navigate and counting the revolutions of a painted track pad calculated distance traveled. A dragline was utilized to create the three miles of dike structure and a portable pump unit supplied water from Ashes Creek. (pers. Comm. Vic French)

Game Land Goals and Measures of Success

Goals

- Provide for a diversity of habitat types and forest age classes through 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.
- Conserve popular game species at huntable levels through science based land management and sound regulations.
- Provide quality habitat across the game land for endangered, threatened, and rare species to promote sustainable and perpetual populations.
- 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 will be identified if

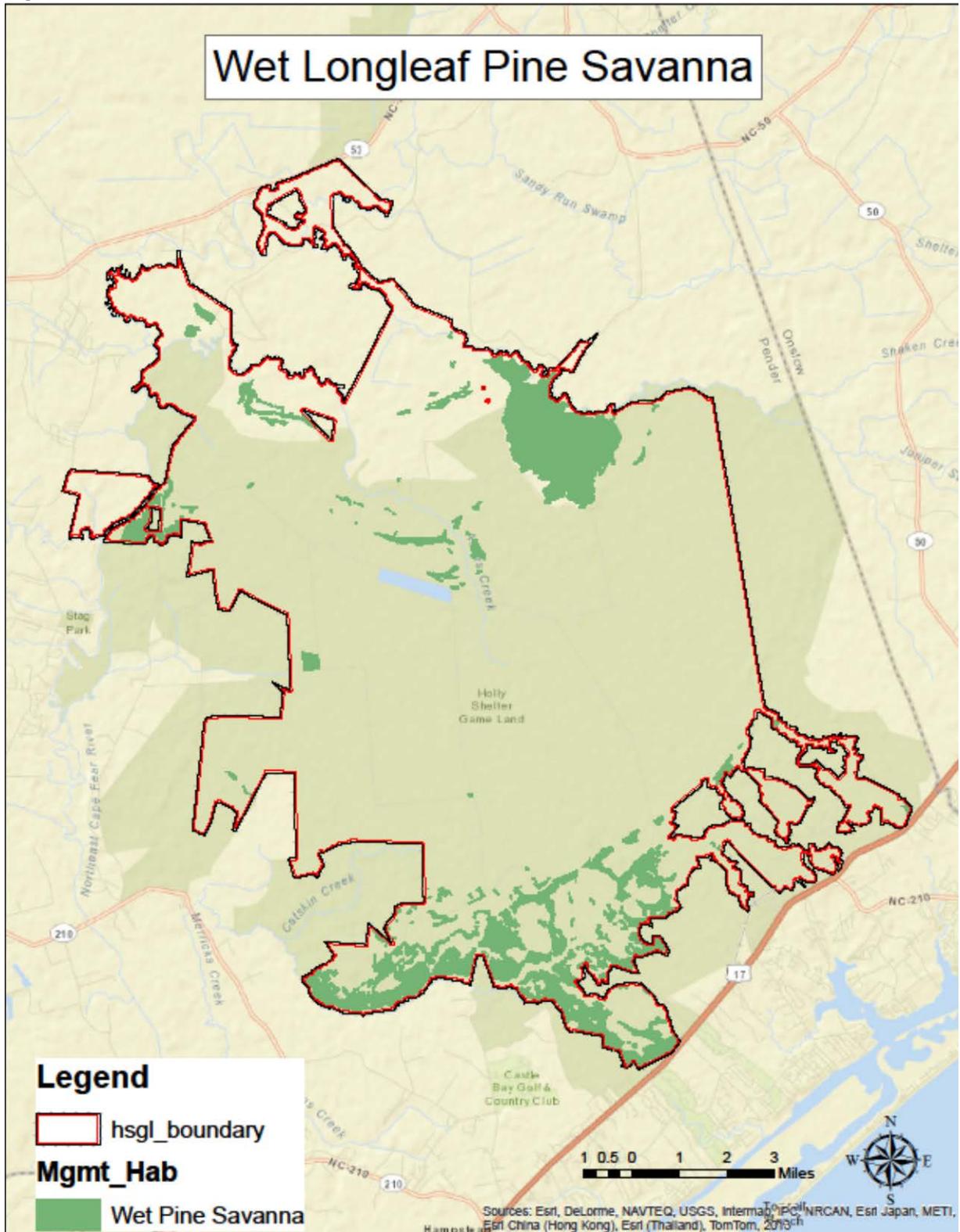
- Inventories/surveys indicate that a wide variety of species are present at sustained levels and are properly managed for on the game land.
- Surveys and inventories of target game species indicate that population levels of these species are being managed at sustained levels.
- Inventories/surveys indicate that populations/habitats of endangered, threatened, and rare species found on the game land are being maintained or restored.
- Inventories/surveys indicate that previously unknown populations or previously unknown endangered, threatened, and rare species are found on the game land.

HABITAT COMMUNITIES

Wet Longleaf Pine Savanna

This habitat type includes Pine Savanna and Wet Pine Flatwoods communities (8.41% or 5,247 acres) (*Figure 13*), both of which are mineral wetlands that under natural conditions are subject to frequent burning (Schafale and Weakley 1990).). With fire, they are characterized by an open canopy dominated by longleaf pine or pond pine, an open midstory, and an understory comprised of some mixture of wiregrass, cane, herbs, and pocosin shrubs depending on soil moisture and fire frequency. Some of the herbaceous plant diversity in these systems, particularly in Pine Savannas, is the highest in temperate North America if burned on a consistent and frequent basis. When fire is suppressed, a dense shrub understory develops and herb diversity declines drastically. These pine communities are similar to dry longleaf pine communities in that they often grade into each other and can occur as a mosaic on the landscape. They may also grade into pond pine woodlands and pocosins.

Figure 13: Locations of Wet Pine Savannas on HSGL



Location and condition of habitat

The condition of wet pine savanna communities in the Coastal Plain has been greatly reduced due to fire suppression. In the absence of fire, herb diversity and density greatly decline as shrubs present in the understory or surrounding habitat quickly invade and attain dominance. However, the HSGL is described by Shafale (1994) as one of the most extensive and significant in the state and ranked both size and condition “A.” Although it is a second growth forest, significant areas have old canopies and flat-top trees are abundant. To our knowledge, this community has never been fire suppressed and growing season fires are used when feasible. Currently, the mean fire return interval of burn blocks containing wet pine savanna is 3.5 years. Therefore, the understory in this community remains vibrant, diverse, and there is little hardwood midstory. These conditions are ideal for red-cockaded Woodpeckers (RCW), and there continues to be a healthy, growing population on the areas dominated by this cover type.



Populations of Cooley’s Meadow Rue (*Thalictrum cooleyi* Ahles) and Rough-leaved Loosestrife (*Lysimachia asperulaefolia*) are also documented in this community with many other rare species present [e.g., pitcher plants (*Sarracenia* sp.), and flycatchers (*Dionaea muscipula*)] and likely undiscovered (Shafale 1994). Table 2 shows priority species associated with the wet longleaf pine habitat.

Table 2: Priority species associated with wet pine savanna habitats.

Type	Common Name	Scientific Name	NC Status (Federal Status)	Natural Heritage Program State and Global Rank
Birds	Bachman’s sparrow	<i>Peucaea aestivalis</i>	SC	S ₃ B, S ₂ N, G ₃
	Henslow’s sparrow	<i>Ammodramus henslowii</i>	SR	S ₂ B, S ₁ N, G ₄
	Red-cockaded Woodpecker	<i>Picoides borealis</i>	E (E)	S ₂ , G ₃
Game Animals	White-tailed deer	<i>Odocoileus virginianus</i>		
	Wild turkey	<i>Meleagris gallopavo</i>		
	Eastern fox squirrel	<i>Sciurus niger</i>	SR	S ₃ G ₅
	Northern bobwhite quail	<i>Colinus virginianus</i>		
	Cottontail rabbit	<i>Sylvanigus floridana</i>		

These habitats are particularly important for reptiles and amphibians where ponds are embedded in savannas or flatwoods; however, little is known about herpetofauna or upland snakes in these areas. RCWs also use these habitats since they typically have a sparse overstory and open midstory that is preferred by the woodpeckers.

Unfortunately, the outstanding burning program has left many permanent fire lines along the pocosin ecotones, which are typically where the highest floral diversity occurs. There is also some rutting in areas from previous logging operations during poor conditions. One slash pine planting remains on the Grassy Road, which is obviously an unnatural condition.

Problems affecting species and habitats

The construction of fire lines in the pocosin ecotone degrades these microhabitats and may decrease floral diversity. Additionally, many permanent fire lines have been plowed numerous times with no rehabilitation (i.e., pulling soil back into the trench with equipment), which has led to erosion problems. In turn, these lines essentially become drainage ditches, which threaten the hydrology of these ecotones. The rutting caused by logging equipment also alters the micro-topography of these ridge / drain complexes.

Conservation actions necessary to conserve the species and habitat and priorities for implementation

The highest priority in this habitat type is the maintenance of a frequent fire return interval. Growing season fires should be encouraged, although seasonality is not as important as frequency (Robbins and Myers 1992). Efforts should be made to better understand the temporal effects of prescribed burning on the plant and animal communities in these wet savannas on HSGL. Additionally, because of ever increasing obstacles to prescribed fire (e.g., smoke sensitive areas, public misconceptions), alternatives to burning (e.g., mechanical and chemical treatments) must be explored. These alternatives may also be useful in the initial restoration of long fire-suppressed savannas.

The current placement of fire lines should be examined on a case by case basis for each burning block. Establishing any new fire lines in pocosin ecotones should be weighed against the ability to safely, effectively and frequently apply fire to the landscape. If there are lines that can be modified to restore these transition zones, this should be a high priority.

Additionally, the rehabilitation of fire lines should occur as soon as possible after the burn is completed. The highest priority for this restoration should be those permanent lines that are currently affecting hydrology or water quality. Efforts to explore hydrologic restoration of extensively drained sites would prove beneficial to efforts on HSGL as well as other NCWRC holdings with wet savanna habitat.

Logging operations should be avoided when rutting conditions are probable. Snags should be retained during timber harvests to increase the numbers available for cavity using wildlife species. Efforts need to be made to maintain sufficient levels of woody debris in stands for reptiles, amphibians and small mammals. In disturbed sites, consideration should be

given to create borrow sites or ponds for breeding use by amphibians, which are scarce in most flatwoods and savannas devoid of pools or open water.

Because of the great number of rare plants and animals in these habitats, protection of remaining sites is of utmost importance and urgency. Land acquisition and easements should be promoted through cooperation with land trusts and The Nature Conservancy. Regional landscape-level conservation initiatives such as those in the Sandhills and Onslow Bight regions for dry longleaf pine also apply to wet pine savanna communities. Identified funding sources for acquisition include the Clean Water Management Trust Fund, Coastal Wetlands Grants, Natural Heritage Trust Fund, Forest Legacy, and Recovery Land Acquisition Grants.

The monitoring of fire selected species should be expanded on HSGL. Species such as the *Papaipema eryngii*, *Hemipachnobia subporphyrea*, *Catacala gisatra*, the Venus flytrap should be added to ongoing monitoring of related species.

Desired future condition

Our desired future condition for this cover type is to maintain an open, savanna-like understory with high plant species diversity and a vertical structure conducive to RCW forage and nesting habitat.

Because the fire return interval is highly correlated with plant species diversity and an open understory we will use it as our metric for success in this cover type. Our goal over the 10-year planning horizon is to decrease the fire return interval from 3.5 years to 3.0 years in burn blocks containing wet pine savannas.

Management actions we will use to reach this goal may include increasing the size of burning units, increasing the use of aerial ignition, and the use of contract burn crews. Other options will be entertained as they arise.

Additionally, we will attempt to rehabilitate 100% of fire breaks created using a traditional fire plow within 3 months of creation. Further, we will attempt to use an off-set disc for control lines when conditions allow, which will reduce erosion issues. Finally, every attempt will be made not to establish new fire lines in the pocosin ecotone.

Future forest management

Timber in this habitat type will be harvested using single and group selection cuttings to maintain uneven aged stands. Harvest decisions will be primarily influenced by stocking. Care will be taken to maintain suitable foraging and nesting conditions for RCW and all planned harvests will follow the USFWS RCW Recovery Guidelines and will be approved by USFW.

Specific harvest prescriptions will be detailed in the annual forest management plans developed by the central coastal forester, support and oversight staff.

Where available, existing openings from previous harvest operations will be used for loading decks. Slash will be distributed back into the stand to maintain coarse woody debris. Care will be taken to shut operations down when conditions become conducive to rutting and Best Management Practices' will be strictly adhered to.

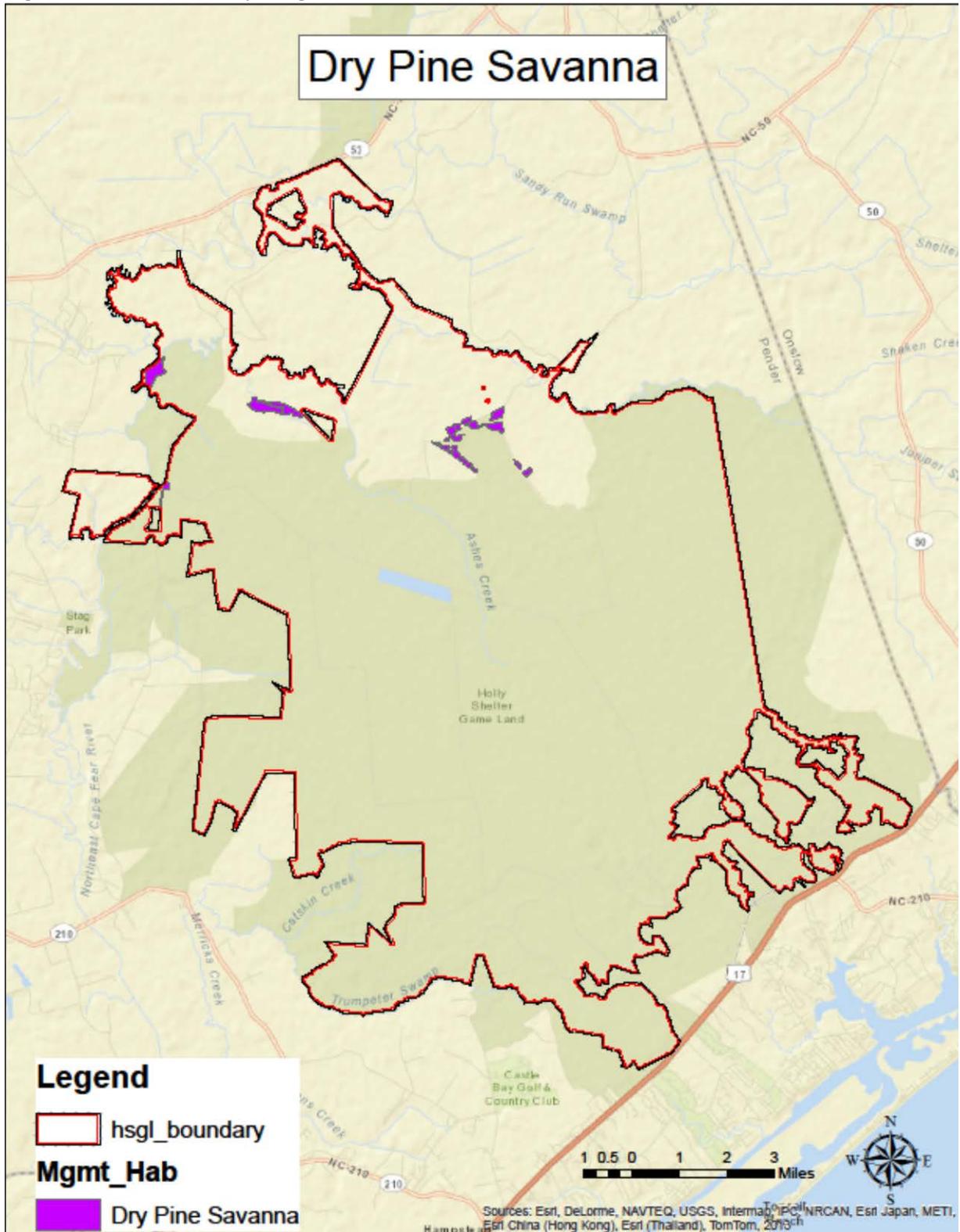
Dry Longleaf Pine Savannah

Approximately 278 acres of dry pine savannas occur on HSGL (*Figure 14*). Different subtypes often grade into each other or occur as a mosaic on the landscape. The Coastal Fringe Sandhill occurs on the higher drier sites on the western section of HSGL (adjacent the depot).

Coastal Fringe Sandhill, dry longleaf, communities typically occur within a few miles of the coast and typically experienced frequent low intensity fires except in areas with little herb cover to carry a fire (Schafale and Weakley 1990). This community has an open to sparse canopy of longleaf pine, scattered scrub oaks, abundant lichens and bare sand, and like sandhill communities. Naturally without fire, oaks and shrubs increase in dominance, leading to litter buildup and shading that reduces herb diversity. With long-term fire suppression the litter buildup occurs and changes in the microenvironment can result that allow invasion by more mesic species.

Frequent fire maintains a canopy dominated by longleaf pine, an open midstory, and an understory dominated by wiregrass or other grass/herb ground cover. When fire is absent or infrequent, scrub oaks, other hardwoods, and shrubs become common in the midstory and shade out native grasses and forbs. The historical expanse of longleaf pine habitats likely supported stable populations of many early successional species with the overstory of a mature or old growth pine forest. .

Figure 14: Locations of Dry Longleaf Pine Habitat on HSGL.



Location and condition of habitat

The only remaining area of mature dry longleaf savanna is an 18 acre stand located on the Shaw Highway directly across from the Holly Shelter depot. It lies adjacent to the old property line and was spared conversion to slash pine by International Paper Company. Therefore, some large, old longleaf remain and the understory still has a good wiregrass component. Although current records indicate this block has been burned three times since 2007, the presence of oak in the midstory and canopy indicate some history of fire suppression, possibly due to the small size and location of the stand.

A large portion of this cover type is newly established, with approximately 260 acres of longleaf planted on appropriate sites since 2006. The herbaceous composition of these new plantings varies from wiregrass dominated to *Andropogon* and fern species on more disturbed sites. Table 3 shows species associated with dry longleaf savanna habitats.

Table3: Priority species associated with dry longleaf pine habitats.

Type	Common Name	Scientific Name	State Status (Federal Status)	Natural Heritage Program State and Global Rank
Birds	Bachman’s sparrow	<i>Peucaea aestivalis</i>	SC	S ₃ B, S ₂ N, G ₃
	Red-cockaded Woodpecker	<i>Picoides borealis</i>	E (E)	S ₂ , G ₃
	Eastern fox squirrel	<i>Sciurus niger</i>	SR	S ₃ G ₅
Game animals	Eastern fox squirrel			
	Whitetailed deer	<i>Odocoileus virginianus</i>		
	Wild turkey	<i>Meleagris gallopavo</i>		
	Northern bobwhite quail	<i>Colinus virginianus</i>		

Problems affecting species and habitats

The lack (i.e., <20 acres) of mature Dry Pine Savanna is the biggest challenge affecting this cover type. There are potentially 1,000’s of acres in the Plantation cover type appropriate for conversion into this cover type. However, maintaining a forest with older age classes across the landscape during the conversion process will pose multiple problems.

The hardwood midstory in the mature stand is a minor problem because of the small acreage and the recent prescribed burning regime.

The lack of permanent fire breaks around stands in the Plantation cover type that will eventually be restored to longleaf is a potential problem for this cover type. Another issue that future dry savanna stands will inherit is, the remnants of raised beds commonly used in plantations. These beds obviously alter the hydrology of the stand but their removal would take significant mechanical site preparation and cause serious soil disturbance. Consequentially, future understory diversity may be affected.

Finally, loblolly pine is a prolific annual seeder and seedlings initiate height growth immediately. Loblolly regeneration will be a significant competitor in young longleaf stands and will have to be aggressively dealt with.

Conservation actions necessary to conserve the species and habitat, and priorities for implementation

The highest conservation priority in this cover type is to increase the acreage. Essentially, this will involve removing acres of loblolly and slash pine plantation and planting longleaf pine on sites with appropriate soil types. During establishment phase of the conversion process, emphasis should be placed on retaining species diversity of the herbaceous groundcover and suppression of competing loblolly pine regeneration. Subsequently, maintaining or increasing the ability to apply frequent prescribed fire will also be a top priority.

Maintaining a diverse vertical structure with large diameter trees across the landscape should also be a priority during the conversion process. This will need to be balanced with the competition mature loblolly and slash trees will present in longleaf plantings in the form of shading and regeneration.

Preservation of additional elements of old forests like coarse woody debris and large diameter snags should also be a priority while establishing new acres in this cover type.

The issue of forestry beds remaining in former plantation stands will need to be addressed before longleaf is regenerated on a site. The size of the stand, condition of the understory community, and condition of the remnant beds (i.e., how weathered are they already?) should determine the priority for removal.

Desired future condition

The desired future condition for this cover type is an open savanna with an uneven-aged longleaf canopy, an open midstory, and a diverse herbaceous groundcover. Frequent fire will suppress hardwoods; however, a minor oak component in the midstory is a natural condition and beneficial to wildlife.

As previously stated, increasing this cover type on the landscape is a high conservation priority. Therefore, our goal for the 10-year planning horizon will be to add 300 acres of Dry Longleaf Savanna to HSGL through conversion of loblolly and slash plantation. We will consider an acre converted once longleaf has been planted.

Frequent prescribed fire is the primary method used to promote and maintain desirable species/community associations. Currently this habitat type is in a 3 year burn rotation. Our goal for the 10-year planning horizon is to maintain this 3 year fire return interval.

Future forest management

Silvicultural techniques for conversion will include selection harvest, patch clearcutting, and clearcutting. Stand age, stocking, site index, soil type, and spatial orientation will determine when and how loblolly and slash pine plantations are converted to longleaf pine. Specific timber harvest prescriptions will be made in the annual forest management plans developed each year by the central coastal forester, support and oversight staff.

Once the final harvest of loblolly or slash pine has been made, containerized longleaf plugs will be planted with a spacing that allows for multiple future wildlife management options (i.e., >450 TPA). The only mechanical site preparation that will be used on longleaf conversion sites is the removal of previous beds when deemed appropriate and feasible.

Herbaceous plantings will also follow timber harvests in areas lacking native understory or a substantial native seed-bank.

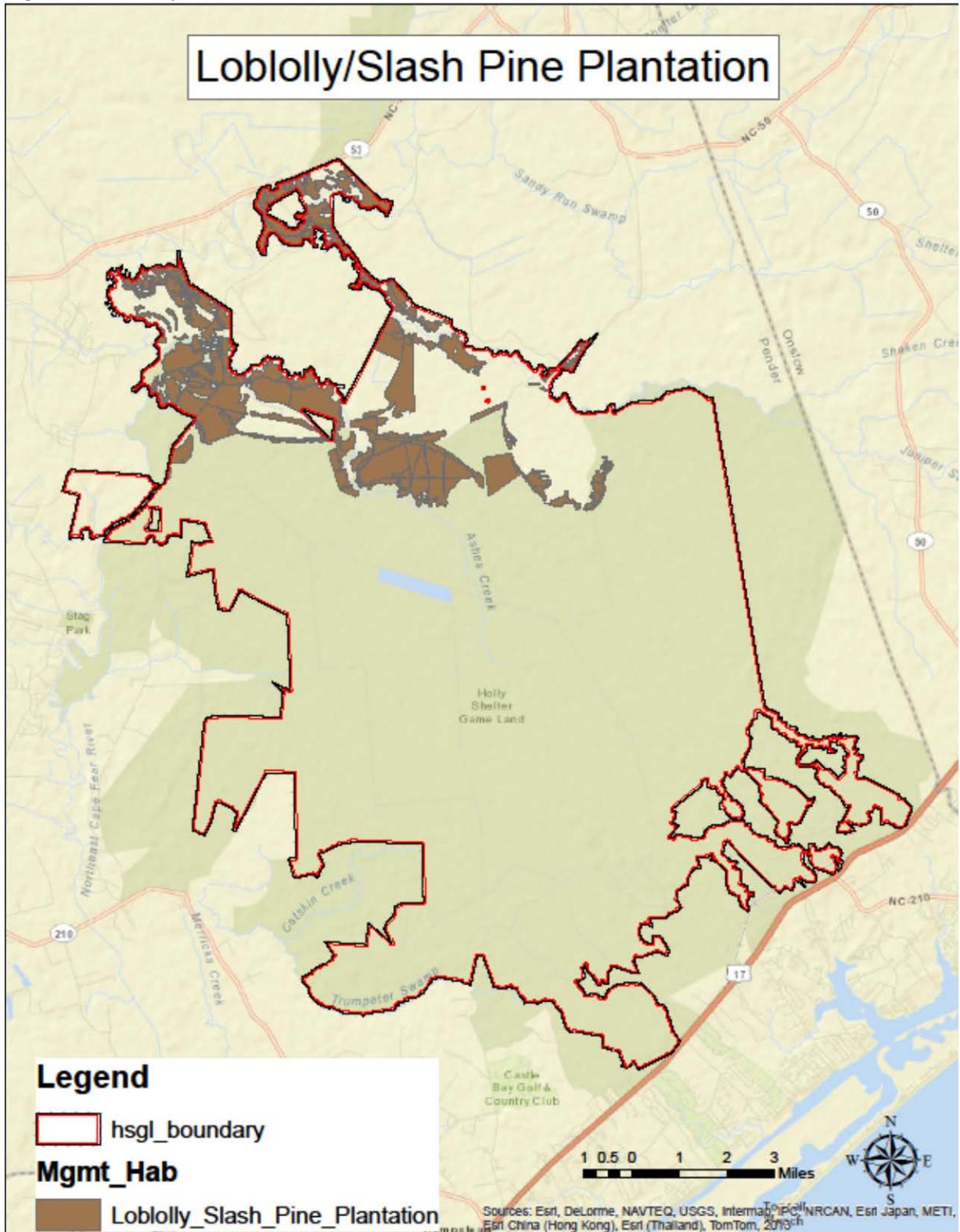
All new longleaf stands will be managed towards a perpetual, uneven-aged forest. Row thinning may be used for initial entries and selection harvests will be used once mature age classes have been reached. Initial placement of primary skidding trails and loading decks will be made with long term harvest operations in mind and will allow for future entries. All operations will follow forestry best management practices for soil and water resources.

As the age and structure of new stands become suitable for RCW colonization, they will be surveyed in the same manner as existing RCW habitat. Harvest operations will adhere to the RCW matrix.

Loblolly/Slash Pine Plantation

This cover type consists primarily of loblolly and slash pine plantations and comprises 9.64 % (6009 acres) of HSGL (*Figure 15*). A small portion of this habitat includes sites that, due to lack of fire, lost their original longleaf component and naturally regenerated to other pine species. The understory and midstory in these areas ranges from dense growing pocosin shrubs (e.g., wax myrtle) and hardwood tree species (e.g., oaks, hickories, sweetgum or red maple) to bare ground or pine straw. Midstory and understory species composition and structural diversity in plantations are influenced by type, hydrology, fire regime and the amount of sunlight reaching the forest floor. This, in turn, determines the wildlife species present at various stages in the history of the stands. Table 4 shows priority species associated with loblolly/slash pine plantations.

Figure 15: Loblolly/Slash Pine Plantation Locations on HSGL.



Location and current condition of habitat

Most of this habitat is found on the Bear Garden and Pender 4 tracts, which are recent acquisitions from International Paper Company (IP). While owned by IP, these stands were managed for maximum fiber production, which was the justification for conversion from longleaf pine to loblolly and slash. Therefore, many stands in this habitat consist of off-site vegetative communities, have been bedded, and are heavily stocked. Further, they have been guarded from fire for a significant time. Subsequently, a large percentage of these stands are not incorporated into active burn compartments and have no permanent fire breaks in place.

Table 4: Priority species associated with Loblolly/slash pine plantations.

Type	Common Name	Scientific Name	NC Status (Federal Status)	Natural Heritage Program State and Global Rank
Nongame	Bachman’s sparrow	<i>Peucaea aestivalis</i>	SC	S ₃ B, S ₂ N, G ₃
	Red-cockaded woodpecker	<i>Picoides borealis</i>	E (E)	S ₂ , G ₃
Game	Eastern fox squirrel	<i>Skiros niger</i>	SR	S ₃ G ₅
	White tailed deer	<i>Odocoileus virginianus</i>		
	Wild turkey	<i>Meleagris gallopavo</i>		
	Northern bob-white quail	<i>Colinus virginianus</i>		

However, from stand initiation to final harvest, plantation forestry provides habitat for early successional species, pine specialists and even forest species for short periods of time. Additionally, there are stands in different stages of rotation, creating what could be considered an “uneven-aged forest.”

Problems affecting species and habitats

Aside from the obvious conversion to off-site pine species, fire suppression is the single most important factor deteriorating these woodlands. It has greatly increased the hardwood component of these stands and decreased the occurrence of rare and endangered plant species. While these plantations are well suited for some fauna (prairie warbler, worm-eating warbler), they are unsuitable to others (e.g., eastern fox squirrel, red-cockaded woodpecker) due to the lack of an open canopy layer, high stocking rate, and short rotation age. These highly managed pine plantations also lack age diversity within stands, and few old growth stands are available. High grading of stands, lack of gap management and overstocked stands are leading to a lack of structural diversity for many species. Roads cause particularly high mortality to reptiles and amphibians.

Conservation actions necessary to conserve the species and habitat, and priorities for implementation

Unlike nearly all other forest types mentioned in this, the loblolly/slash pine forest is mostly non-natural (either through fire suppression of longleaf pine stands or conversion of other types to pine plantations). Thus, there is a need to restore acreage in this type to prior altered, most notably longleaf pine savannah where soils are appropriate, decreasing the overall acres in loblolly/slash plantation. The restoration of dry longleaf communities should be the primary goal in this cover type.

To do so, loblolly and slash pine overstories should be removed and regenerated to longleaf pine using the most appropriate silvicultural technique to the site. Once longleaf is established it should be managed in uneven-aged stands using selection cuts in the same manner as current longleaf stands.



Additional older aged pine acreage is needed. Therefore, on soils not conducive to longleaf restoration, pine stands should be managed on long rotation (e.g., 60 – 100+ yrs.) or in uneven-aged stands. Additionally, forest management should mimic the characteristics of older stands (e.g., provide canopy gaps, leave dead and downed material, leave cavity trees) where appropriate. Basal areas should be maintained at levels that allow for an herbaceous understory. When available, mature hardwood trees should be retained and released during harvest operations. Specific management will need to be implemented/continued to manage for red-cockaded woodpecker populations.

Equally high in priority in this cover type is the restoration of a more natural fire regime, regardless of the overstory pine species. This will involve resolving smoke management issues, negative public sentiment and liability concerns associated with prescribed burning. Restoration of natural fire frequency, intensity, and seasonality is critical for pine-related reptiles, amphibians, and their prey (Bailey et al. 2004).

Cooperative efforts related to management activities need to continue and expand with large scale industrial forest landowners to continue to try and improve habitat conditions at the landscape and stand level for a variety of wildlife species (Measells et al. 2002). In addition continued cooperative efforts with RCW working groups (for translocation, or to manage the Sandhills and coastal populations of red-cockaded woodpeckers) is needed.

Desired future condition

The desired future condition for this habitat type is restored to site-suitable vegetation communities with primary emphasis on the longleaf pine wiregrass ecosystem, and a 3-year fire return interval.

Our first goal within the 10 year planning horizon is to restore 10% of the current acreage (approximately 600 acres) to longleaf pine. We will consider an acre “restored” once longleaf has been planted and a survival count displays sufficient tree survival. See Forest Management below for planned restoration strategies. Once longleaf is established it will be managed as dry pine savannah.

Our second goal is to incorporate 90% of the stands into burn compartments. This will be accomplished with existing natural and engineered fire breaks and with the creation of new permanent breaks. The institution of prescribe fire will begin to restore the understory component and reduce fuel loading and wildfire risk. Both of which will facilitate conversion to longleaf savannah.

The final goal for this cover type will be an average fire return interval for burn blocks containing these plantations of 3.0 years or less. Ultimately, the monitoring of restored sites will determine success. Species such as Georgia satyr serve as excellent indicators and are site specific and easily identified.

Future forest management

Where soil types are appropriate, plantations of loblolly and slash pine will be converted to longleaf pine/wire grass communities. Stand age, stocking, site index, soil type, and spatial orientation will determine when and how appropriate stands are converted to longleaf pine. Silvicultural techniques for conversion will include row thinning, selection harvest, and clear-cutting. Specific timber harvest prescriptions will be made in the annual forest management plans developed each year by the central coastal forester, support and oversight staff.

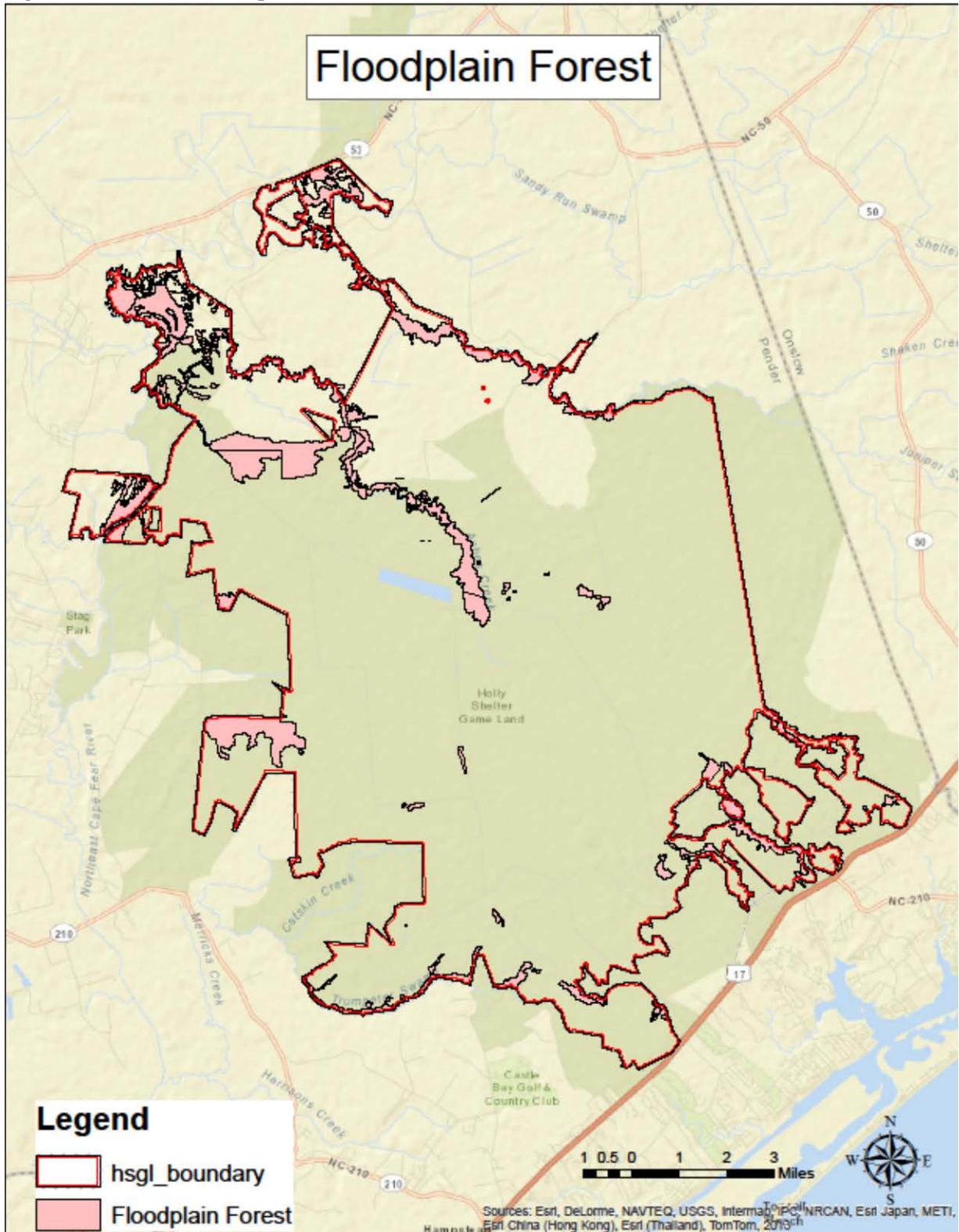
During harvest operations, attempts will be made to establish permanent locations for loading decks and primary skid trails that will facilitate the continuous entries required for selection harvests and uneven-aged management. All harvest operations will follow North Carolina best management practices for water quality.

Once the final harvest of loblolly or slash pine has been made, containerized longleaf plugs will be planted with a spacing that allows for multiple future wildlife management options (i.e., >500 TPA). Mechanical site preparation practices (e.g., v-sheering, bedding) will be avoided for longleaf restoration sites to minimize disturbance of native ground cover. Native understory plantings will also follow timber harvests in areas lacking native understory or a substantial native seed-bank.

Floodplain Forest

On Holly Shelter, the flood plain forest community Floodplain forests account for 19.3% (4,944 acres) of the total acreage on HSGL (*Figure 16*). Coastal Plain floodplain forest habitat includes levee forest, cypress-gum swamps, bottomland hardwoods, and alluvial floodplains with small poorly defined fluvial features (such as Small Stream Swamps), as well as semi-permanent impoundments (beaver ponds and mill ponds).

Figure 16: Location of Floodplain forest habitats on HSGL.



Floodplain forest may be associated with blackwater rivers (originating in the Coastal Plain) The floodplain forest systems of the Coastal Plain in the southeast are now only small fragments and sections of the original millions of acres present before European settlement and have been lost

or altered by development, drainage, agriculture and logging (Weller and Stegman 1977). Several of the species of wildlife that once called large floodplain systems home are gone or greatly reduced in numbers.

Bottomland Hardwoods in blackwater systems occur on high parts of the floodplain away from the channel and are dominated by laurel oak, water oak, willow oak, overcup oak, red maple, sweetgum, loblolly pine, and occasionally Atlantic white cedar (Schafale and Weakley 1990). Shrub layers can be very dense and switch cane can be common. Vines can be dense, and the herb layer is usually sparse. Flooding occurs in these sites occasionally but they are seldom disturbed by flowing water like levees. Blackwater rivers carry little inorganic sediment so flooding does not provide a substantial nutrient input as it does in brownwater systems (Schafale and Weakley 1990). These areas may carry fires (due to dense lower layers of vegetation) when dry and the occurrence of fire would affect the plant community composition and structure.

Blackwater Cypress-Gum Swamps contain just a few tree species, tolerant of nearly permanent flooding: bald cypress, pond cypress, and swamp black gum. These communities get little input of nutrients due to the poor inorganic sediment load carried by blackwater rivers and the infertile acidic soils and wetness produce slow growth in the trees (Schafale and Weakley 1990). The difference between cypress and gum dominance is probably related to logging history, but environmental factors such as flooding frequency and depth, water chemistry, soil type and latitude also contribute (Schafale and Weakley 1990). Since cypress-gum swamps flood for long periods of time their vegetative diversity is usually low but they may serve as important habitat for some aquatic animals and plants. Hollow cypress and swamp black gum are particularly important for bats, chimney swifts and other cavity dwelling species. In addition, several colonial waterbird species rely on swamp forests for nesting habitat. Table 5 shows the priority species associated with floodplain forests on HSGL.

Location and condition of habitat

Floodplain forest communities in various conditions and sizes can be found along the Northeast Cape Fear. This habitat type also follows the larger streams flowing from pocosins towards the Northeast Cape Fear River; Ashe's and Shelter Creeks are good examples. Forest condition is generally fair to good; however, pine plantations were established in the ecotones on the Bear Garden tract, which encroaches on the natural floodplain community.

Factors that impact these systems include flooding regime patterns that have been changed by development, habitat fragmentation, changes in water chemistry and organic matter loads, increased nitrogen from agricultural and development-related runoff, exotic species. All of these factors, individually or interactively produce abrupt or gradual changes in floodplain plant and wildlife communities. In particular, the sediment load, many blackwater systems now have high sediment loads (Schafale and Weakley 1990).

Problems affecting species and habitats

The infringement of plantations into suitable sites for floodplain forest is certainly a problem affecting this habitat on HSGL. Minimal buffers were left when the plantations were established and there is an abrupt transition between the two cover types in many places where they are juxtaposed. Additionally, many of these stands have been "high-graded" (i.e., taking only the

biggest and best trees), leaving the remnant stands lacking vegetative diversity and old forest structure (e.g., large diameter trees, canopy gaps, vine tangles, hollow trees, dead and downed woody material). This lack of standing dead or older trees can impact availability of quality bat and chimney swift roosting and breeding sites and nesting productivity for species such as wood duck and hooded merganser. Lack of downed woody debris negatively impacts a variety of amphibians and reptiles.



All floodplain forests, by definition, are inundated with water at different seasonal and temporal scales. Water carried in from other places is a constant vector for exotic and invasive species. Therefore, this cover type is at a higher risk for degradation from non-native species than other cover types on HSGL.

Table 5: Priority species associated with Floodplain Forests.

Type	Common Name	Scientific Name	NC Status (Federal Status)	Natural Heritage Program State and Global Rank
Nongame	Anhinga	<i>Anhinga anhinga</i>	SR	S ₂ B , SZN, G ₅
	Bald Eagle	<i>Haliaeetus leucocephalus</i>	T (T)	S ₃ B, S ₃ N, G ₄
	Mississippi Kite	<i>Ictinia mississippiensis</i>	SR	S ₂ B, G ₅
	Star-nosed Mole	<i>Condylura cristata</i>	SC	S ₂ , G ₅ T ₂ Q
	Rafinesque' s Big-eared Bat	<i>Corynorhinus rafinesquii</i>	T	S ₂ , G ₄ T ₂
	Northern Yellow Bat	<i>Lasiurus intermedius</i>	SR	SU, G ₄ G ₅
	Southeastern Bat	<i>Myotis austroriparius</i>	SC	S ₂ ?, G ₃ G ₄
	Eastern Woodrat	<i>Neotoma floridana</i>	T (CP pop)	CP: S ₁ , G ₅ T ₅

Conservation actions necessary to conserve the species and habitat and priorities for implementation

Retention of existing stands and expansion of floodplain forest where possible are the top priorities for this cover type. Because of the relatively small area in this cover type and the excellent wildlife habitat it provides, any existing floodplain forest should be excluded from timber harvest during this planning period. Additionally, every opportunity to expand existing stands into ground covered by loblolly pine plantations should be taken. Wherever possible, maintenance or restoration of floodplain forest connectivity should be pursued; floodplain forest are important distribution and dispersal corridors for many species (Bailey et al. 2004). The South Atlantic Coastal Plain Partners in Flight Bird Conservation Plan calls for eight patches of forested wetlands of at least 10,000 acres in size throughout the South Atlantic Coastal Plain (Hunter et al. 2000). HSGL could contribute to this goal.

Land acquisition and easements should be pursued through cooperation with conservation partners with an effort to increase the width of riparian buffers and create larger patches of connected habitat. Priority should be given to brownwater bottomlands, as these are the most species-rich and are more susceptible to clearcutting and other timber harvest than are cypress-gum swamps (i.e., wetter sites). Identified funding sources for fee simple or easement purchases are the North Carolina Clean Water Management Trust Fund, the North Carolina Natural Heritage Trust Fund, the Coastal Wetlands Grant program and the North American Wetland Conservation Act program. An attempt should be made to protect waterbird nesting colonies. Efforts need to be made to retain old growth floodplain forest (e.g., for chimney swifts, bats, and herpetofauna). Partnerships to begin cane restoration projects and research should be initiated with the Natural Resources Conservation Service. Floodplain buffers of 300–600 feet should be realized in as many areas as possible. This would benefit floodplain forest species such as northern parula, yellow-throated warbler, prothonotary warbler, wood thrush, Swainson’s warbler, worm-eating warbler, and acadian flycatcher, as well as amphibians, canebrake rattlesnakes and forest bats. The Forest Landbird Legacy Program (a cooperative effort between NCWRC, the USFWS, and the Natural Resources Conservation Service) should be further expanded to influence habitat for birds and other wildlife in mature floodplain forest through canopy gap management and other options. The cooperative efforts with colonial waterbird (wading bird) working groups should continue and future management recommendations from the North American Waterbird Management Plan should be followed (Kushlan et al. 2002).

Desired future condition

Where possible, the acreage in floodplain forest will be expanded by planting appropriate species when off-site loblolly plantations are harvested, which could potentially increase the connectivity of this cover type on Holly Shelter. However, land acquisition is the best possible measure and action for the preservation of this habitat.

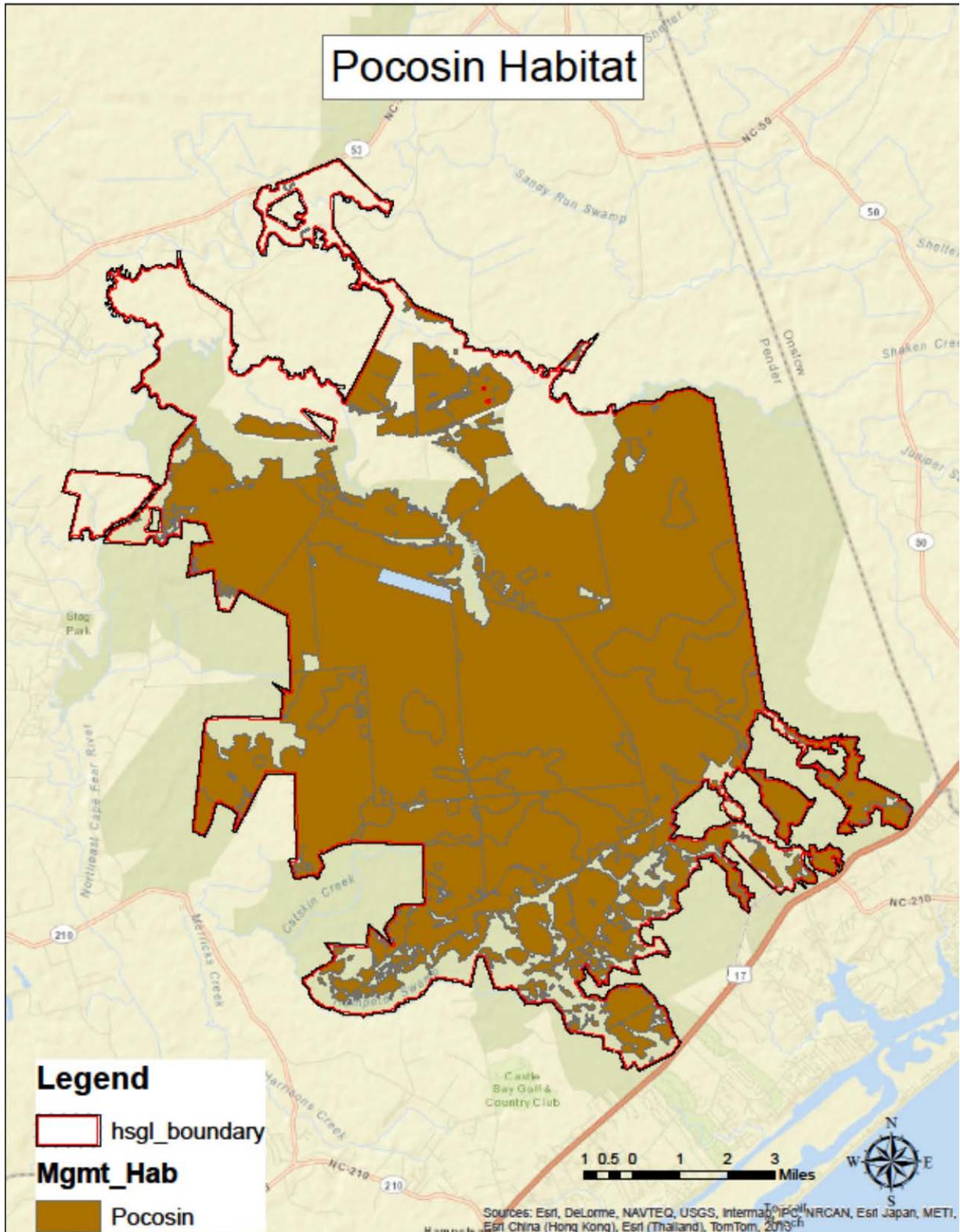
Future forest Management

No timber harvest is planned for mature floodplain forest. When possible, seedlings of appropriate species will be planted to increase the acres of floodplain forest as plantations are harvested.

Pocosin

45,215 acres or 61% of HSGL is of a pocosin (high) habitat type (*Figure 17*). Peatland communities of the Coastal Plain include low pocosin, high pocosin, pond pine woodlands, peatland Atlantic white cedar forest, bay forest, streamhead pocosin, and streamhead Atlantic white cedar forest. These communities occur on peatlands of poorly drained interstream flats, and peat-filled Carolina bay depressions and swales of the eastern coastal plain (Schafale and Weakley 1990). The streamhead communities occur primarily in the Sandhills along small headwater streams, either on flat bottoms or extending up adjacent seepage slopes.

Figure 17. Pocosin Habitat locations on HSGL.



Extremely acidic in nature due to organic soils, in general these habitats are nutrient poor and usually continuously saturated with water. Fires were historically associated with droughts, and

fire frequency and intensity strongly influence vegetative structure dominance, composition, stature and diversity. All but the streamhead communities occur along a gradient of moisture, nutrients, and peat depth and typically occupy different locations with the domed peatlands of interstream flats and Carolina Bays and swales. The wettest sites (or the center of bays) may contain only low shrubs and stunted pond pine, with beds of sphagnum, pitcher plants, and cranberry. Higher, drier sites are characterized by an extremely dense shrub layer.



Both High and Low Pocosins are extremely nutrient poor, with little normal nutrient input other than rainfall. Under natural conditions, fire was an important component shaping the structural diversity of these communities. Low Pocosins are centrally located on peatlands on the deepest peat. They are the least productive and most stunted of all the pocosin habitats. True Low Pocosins are much rarer than High Pocosins or Pond Pine Woodlands and differ from the others by having a persistent low stature (<1.5m tall) of shrubby vegetation and sparse, stunted trees. High Pocosins are intermediate between Low Pocosins and Pond Pine Woodlands in terms of location, depth of peat, shrub height and density, and stature of trees. The shrub layer is typically 1.5-3 meters in height and trees still tend to be scattered and small in stature.

Pond Pine Woodlands occur on parts of domed peatlands on poorly drained interstream flats, peat-filled Carolina bays, and shallow swales and are found throughout the Coastal Plain (Schafale and Weakley 1990). Some stands occupy many thousands of acres, such as in Croatan National Forest, HSGL, and Green Swamp. These communities are wet and nutrient poor, though less so than Low and High Pocosins, and fire played a role in shaping them historically. In areas where frequent fires have occurred over long periods of time, the understory is dominated by switch cane (*Arundinaria*) and in general the less frequent the fire regime the

greater the dominance by pond pine (Schafale and Weakley 1990). Red-cockaded woodpeckers exist in some of these pond pine-dominated sites. Another community that occurs within large peatland landscapes is the peatland Atlantic white cedar forest. Atlantic white cedar-dominated forests are found throughout the Coastal Plain but are most common in the outer Coastal Plain and usually exists as a mosaic with Pond Pine Woodlands, bay forests, nonriverine swamp forests and other communities (Schafale and Weakley 1990). Their occurrence is determined by fire history. They become established after a catastrophic fire removes all competing vegetation and, therefore, usually occur as even-aged stands. Atlantic white cedar dominates in some remaining pocosins where fire is infrequent, but its overall abundance and distribution has been greatly reduced by lack of fire, logging and drainage (Schafale and Weakley 1990). Bay forests occur throughout the outer and middle Coastal Plain and also typically exist as a mosaic with pond pine woodlands, Atlantic white cedar forests, and nonriverine swamp forests (Schafale and Weakley 1990). Bay forests occur on shallow organic soils and the canopy is dominated by loblolly bay, sweet bay, and red bay. Bay forests are believed to be a late-successional community that replaces pond pine woodlands and Atlantic white cedar after a long absence of fire. Bay forests may be solely a product of fire suppression, or there may be sites which naturally supported them (Schafale and Weakley 1990). Streamhead pocosin communities resemble peatland pocosins but they are found in very different physical settings: ravines in permanently saturated Sandhill seeps. These habitats are subject to influence from fire on adjacent uplands and are characterized by an open canopy of pond pine, with potential for red maple, sourwood, swamp black gum, and tulip poplar. A dense shrub layer is usually present and herbs are sparse. There is a higher shrub and tree diversity in these communities due to nutrients released by burning in adjacent uplands and more frequent disturbance from fires that burn into the edges (Schafale and Weakley 1990).

Pocosins are particularly important for wintering birds because of the high amount of soft mast available. Greenbrier (*Smilax* spp.), red bay, sweet bay, and many ericaceous shrubs produce large quantities of berries that are persistent through much of the winter. Pocosin habitats are important for a variety of shrub-scrub birds though we are lacking status and distribution data, as well as detailed information, about the bird communities that utilize them (Karriker 1993). We also lack detailed information about populations of small mammals, bats, reptiles and amphibians in pocosin habitats, in part because of the very dense (often impenetrable) nature of most pocosin habitats (Mitchell 1994). Table 6 shows priority species associated with pocosin habitats.

Location and condition of habitat

Pocosin is the largest cover type present on the HSGL, by far. It is present in large unfragmented blocks and is also interspersed amongst sand ridges. A large portion of the pocosin was burned in the Juniper Road Fire in 2011. Much of this pocosin had not burned since the wildfire in 1986 and fuel loads were very high. While the intensity of the fire varied, large sections sustained

prolonged groundfire, which removed several feet of organic soil and has completely changed the plant community.

Table 6: Priority species associated with coastal plain pocosin habitat:

Type	Species	Scientific name	NC Status (Federal Status)	Natural Heritage Program and Global Rank
Nongame	Red-cockaded Woodpecker	<i>Picoides borealis</i>	E (E)	S ₂ , G ₃
	Star-nosed mole	<i>Condylura cristata</i>	SC	S ₂ , G ₅ T ₂ Q
	Prarie Warbler	<i>Dendroica discolor</i>		
Game	Black Bear	<i>Ursus americanus</i>		
	White-tailed deer	<i>Odocoileus virginianus</i>		

Problems affecting species and habitats

The ability to burn large blocks of pocosin is an ever increasing challenge. Many pocosin type plants have a waxy leaf that can be difficult to ignite, which means when the pocosin will burn, usually, conditions are approaching hazardous. Additionally, the large blocks and heavy fuels create smoke management issues, further limiting the number of acceptable burn days.

Most of the large blocks of pocosin habitat are fragmented by roads and have also been ditched to some extent, both of which alter the natural hydrology.

In general, little detailed information exists for many species of wildlife that use pocosin habitats because of the impenetrable nature of these habitats. Few surveys have been done on a long-term basis, which makes land management decisions difficult. Pocosin habitats are important for a variety of shrub-scrub birds yet we are lacking status and distribution data, as well as detailed information, about the bird communities that utilize them (Karriker 1993). We also lack detailed information about populations of small mammals, bats, reptiles and amphibians in pocosin habitats (Mitchell 1994)

Conservation actions necessary to conserve the species and habitat and priorities for implementation

The increased use of prescribed fire in pocosin, where possible, is a top priority conservation action that can increase heterogeneity relative to vegetative dominance, stature and diversity. Fire will increase vegetation structural diversity and should help promote establishment of an

herbaceous ground cover such as switchgrass/broomstraw in pond pine dominated woodlands over time. Fire cycles may be important at certain stages in the life cycle of Atlantic white cedar stands; this needs to be explored.

Burning can often be accomplished on uplands without the use of fire-lines in transition zones between upland sites and pocosin habitats (especially in winter). This promotes a healthy transition zone between the two habitats that is critical for many plant species and allows for nutrient flow to some pocosin habitats

We need a better understanding of how the military road affects the hydrology of the Holly Shelter Swamp. Additionally, we need to investigate the hydrology of the ditch system and determine our ability to manipulate water levels.

Desired future condition

We would like to increase the prescribed fire applied to the pocosin cover type over this planning horizon. In order to do this we will attempt to create 4 new large (>200 ac) burn units, possibly using grinding machinery or drum chopping. Additionally, we will involve the North Carolina Forest Service in the planning of these burns in hopes that they can be implemented in the same manner as an incident fire.

Further, we will develop a wildfire response plan for Holly Shelter in order to minimize ecological damages incurred during wildfire suppression tactics and maximize the acres safely allowed to burn out.

In order to better manage the hydrology in the Holly Shelter Swamp, we will inventory the ditch system that surrounds it; taking widths and depth in order to determine volumes. By mapping and measuring the ditch system, we will have a better picture of what it may take to restore a more natural hydrology to the system. We may also be able to use the water for prescribed burning and wildfire suppression.

Future forest management

At this point, we do not intend to harvest any timber from the pocosin cover type. Forested portions will be allowed to progress through natural stages of succession.

Impoundments

On Holly ShelterHSGL this particular habitat type is in the form of an annually flooded impoundment which covers approximately 206 acres. This habitat type is similar to the lakes and reservoirs habitat described in the NC Wildlife Action Plan. There is also one greentree

impoundment that more closely mimic a beaver dam which is discussed in the flood plain forest habitat section. This impoundment is located on Lodge Road and was created in 1975 by “cutting it out of the pocosin” (LeGrand and Sorrie, 1997). It consists of 3 miles of dike and is important refuge for a diverse assemblage of fauna and provides opportunities for hunters and anglers.

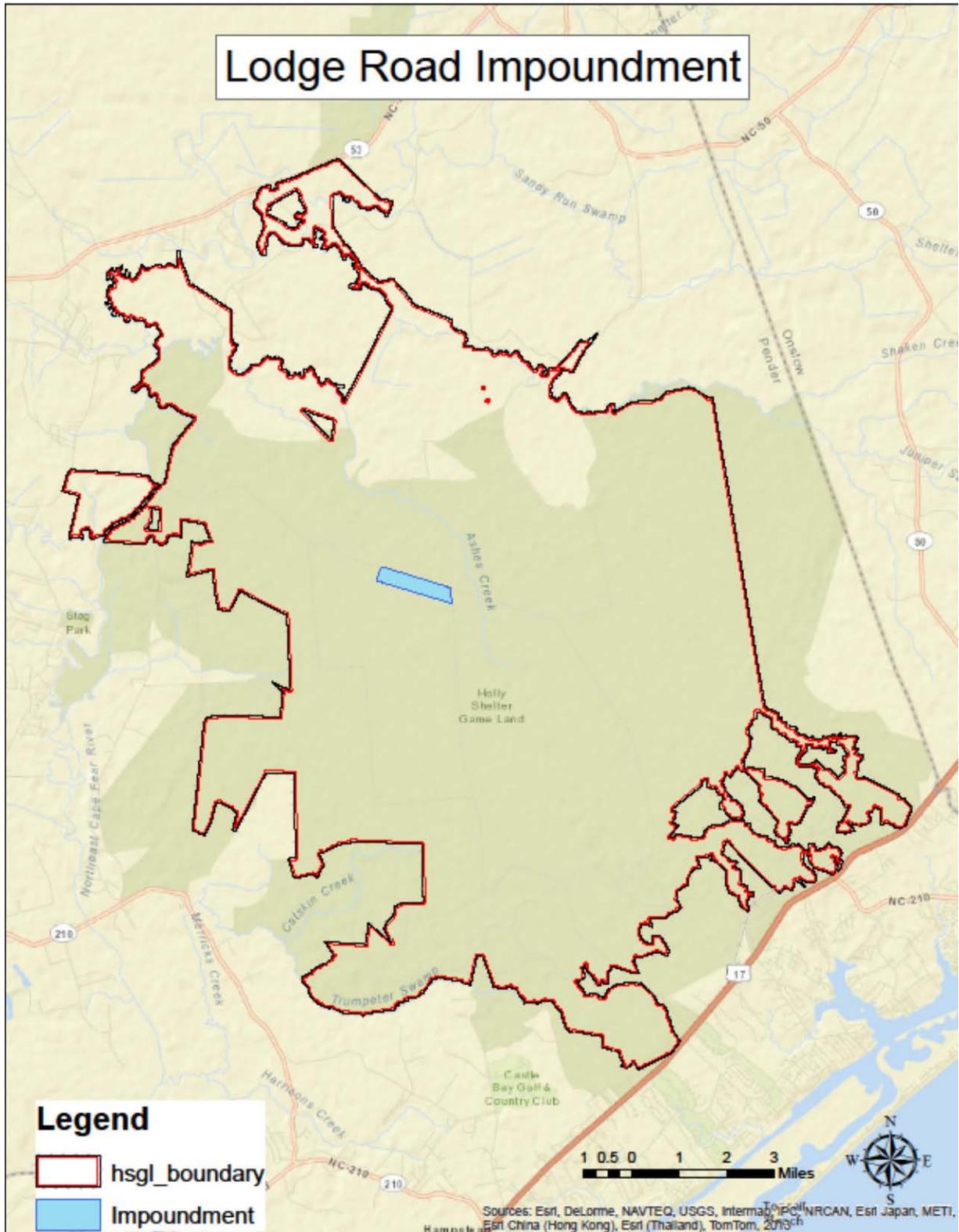
In particular, the Lodge Rd. impoundment and immediately adjacent cover are habitat for wading birds and shorebirds for foraging, and also an important site for breeding for species such as green heron. Common yellowthroat and red-winged blackbird are typical nesters in vegetation along shorelines, and swallows and swifts often forage over the impoundment. Waterfowl roost, loaf and feed during migration and winter. Double-crested cormorants are becoming common year-round residents. Anhinga (*Anhinga anhinga*) could potentially utilize this habitat for nesting during summer.

Location and Current Condition

Lodge Road impoundment is located along Lodge Road Rd. in HSGL at N34 31' 56.85" W77W 77 31' 56.85", approximately 4.5 miles from the Shaw Highway (*Figure 18*). Elevation ranges from 31-34 feet above sea level. The area is impounded by three miles of dike. Soil type is Murville Muck with pH levels ranging from 4.0 to 5.5. Approximately 15 acres are managed as a food source for waterfowl. Eight to ten acres are planted annually in Japanese Millet and five to seven acres are managed for smartweed. The impoundment is burned on a three to five year rotation to reduce woody completion and keep the impoundment open. Predominant species in the Lodge Road impoundment include *Cyrilla Sp.*, Pond and bald cypress, Atlantic white cedar, and redbay. A recent grant from Ducks Unlimited allowed for improvement to the pumping station. Improvements included installation of a 24" pump, portable power unit, concrete pad, shelter, fencing and retaining walls.



Figure 18. Lodge Road impoundment location on HSGL.



Problems affecting species and habitat

Fortunately acres of this habitat type are central in a 64,700 acre preserve. Problems affecting the impoundments and associated species are largely related to environmental factors and natural disasters. These factors predominantly affect our ability to regulate the water levels to appropriate levels. Wildfires, hurricane, and other large-scale rain/wind events, and drought have recently negatively affected our ability to provide desirable cover for many species. Human affects are minimal, and include issues of water quality and hydrology. Whether human or animal, the introduction of exotic, aggressive, or invasive, species is of special concern also.

Wildfires in areas with high organic material content often burn into and underground leaving no visible clues as to what has burnt. These burnt out areas of the organic dikes are sometimes not seen until the impoundment is near full pool and are only evident after a period of time when the water levels drop below desirable levels. The 2011 Juniper Road fire burned completely across the impoundment and caused substantial damage to the dike. Approximately one mile of dike was in need of repair. The fire also removed woody vegetation which is being replaced by more desirable grasses and forbs.

Hurricanes and other weather induced events also cause problems with the dike systems and also affect the water control structures on the Lodge Road impoundment.

Desired future condition

The desired future condition of this habitat is to maintain a mosaic of water levels throughout the impoundment. Management of an open pocosin wetland with water levels ranging from deep holes to mudflats will provide desirable food resources for diverse assemblage of waterfowl, shorebirds, and wading birds.

In order to achieve this condition, the impoundment should be maintained with a fire return interval of 5 years or less. Ash et. al. (1983) found burning impoundments in pocosin habitats on a five year rotation improved food productivity, availability, utilization while also reducing invasive “pest” species.

Small Wetland Communities

Small wetland habitats comprise 6.71 acres of HSGL’s total acreage. These communities include ephemeral pools and small depression pocosins. They are often mimicked by borrow pit and scrape sites along small dirt roads. These depressions may hold water for a significant portion of the year and most are important habitat for many rare or poorly understood reptiles and amphibians.

Ephemeral pools are small sites that flood seasonally and occur throughout the Coastal Plain and Sandhills (Schafale and Weakley 1990). For the most part, ephemeral pools on HSGL were created during road repair and are called “borrow” or “scrape” pits. These sites are most prominent near the eastern side of the game land. They are dominated by a dense to sparse herb layer and when dry are subject to fires spreading from adjacent uplands. These ephemeral pools are almost always key amphibian breeding sites because they contain no fish.

Small Depression Pocosin sites are small depressions found throughout the Coastal Plain and seldom distinguished on soil maps. Historically, portions of these depressions likely burned from fires spreading from adjacent uplands (Schafale and Weakley 1990). These are also important amphibian breeding sites since they rarely contain fish.

Location and condition of habitat:

These ponds and sinks occur primarily on the East side of the game land. With exceptions being some sinks near the T-Island fields. Borrow pits occur throughout the game land and are adjacent to many roads. These ponds and sinks are thought to be in good to excellent condition. This is primarily due to the frequency of the fire frequency on HSGL. LeGrand and Sorrie, (1995), observed that the common species of *Cyrilla* and *vacinnium* and other woody vegetation were “knocked back” from the depressions edges due to the frequent fire in the ecosystem.



Problems affecting habitat and species:

Development has continued negative effects on the quality of Holly Shelter's small wetland communities. The increasing number of smoke sensitive areas makes it difficult to continue prescribed burning operations which keeps the shorelines of these areas virtually shrub free.

Factors affecting hydrology also diminish the quality of these habitats.

Desired future Condition

Maintain fire return interval of 3 years on burn blocks containing small wetland communities.

Develop 1 new test borrow pit.

Open Land/Early Successional

Open lands on HSGL are areas that have been cleared and are maintained either annually or bi-annually. This habitat type occurs on approximately 100 acres of the game land. These areas are primarily in the form of wildlife openings. There are however, acres in the form of power line right-of-ways. Open lands provide supplemental food resources and cover to both game and nongame animals. This habitat type also provides hunting opportunities for a variety of games species.

Location and current condition of habitat

Open lands occur throughout the HSGL. Commonly referred to as wildlife opening, these consist of areas usually less than 5 acres in size. These openings are primarily the result of logging operations. Skid trails and decking areas were cleared, stumped and raked to provide the open ground. Openings are maintained yearly to reduce the competition of woody stems and undesirable grasses (fescue). Plantings of annual and perennial forage e.g. small grains, clovers and native warm season grasses (NWSG), are conducted on a rotational basis (Planting spreadsheet) to reduce invasive species and to minimize the potential of herbicide resistant plants on HSGL. Table 7 shows priority species associated with open land/early successional habitats.

Table 7: Priority species associated with open land/early successional habitats.

Type	Species	Scientific Name	State Status (Federal Status)	Natural Heritage Program and Global Rank
Non-game	Prarie Warbler	<i>Dendroica discolor</i>		
Game	Eastern Cottontail	<i>Sylvilagus floridanus</i>		
	Northern bob-white quail	<i>Colinus virginianus</i>		



Problems affecting species and habitat

Encroachment of weedy stems and the introduction of invasive aggressive plants and animals, adversely affect the quality of Holly Shelter’s open lands. As areas that mimic early successional cover types, the encroachment is eminent with the reduction of disturbance. As the process of old field succession continues, tree canopies begin to close, shade the soil, and begin to reduce the amount of grasses and forbes available for forage and or cover. This natural process is slowed by using either mechanical or chemical disturbance. Conventional discing, spraying, and fire, are conventional techniques used to promote desired vegetation. In the absence of these practices, trees quickly become too large to be easily controlled. This is the case for approximately 10% of this habitat type.

The introduction of invasive aggressive plants and animals is evident in nearly all of the open land areas on Holly Shelter. Plants such as lespedeza (Kobe, bi-color, and VA-70), Autumn (Russian) olive were planted in the eighties into the nineties in hopes of providing additional food resources and cover into the landscape. Both aspects were provided, however the propensity for these species to quickly establish themselves, led to their dominance and persistence in the areas in and around where they were planted.

Desired future condition

Desired future condition for all acres this habitat type is to be maintained in the earliest of seral stage as possible. Our goal is to reclaim 10% of the original acreages lost to woody vegetation per year during the 10 year planning horizon. Benefits of this land reclamation will include expanded hunting opportunities and more acres available for species attracted to on early successional or open lands habitats. As openings are reclaimed, they should be mapped and a GIS layer generated to better follow opening management in the future.

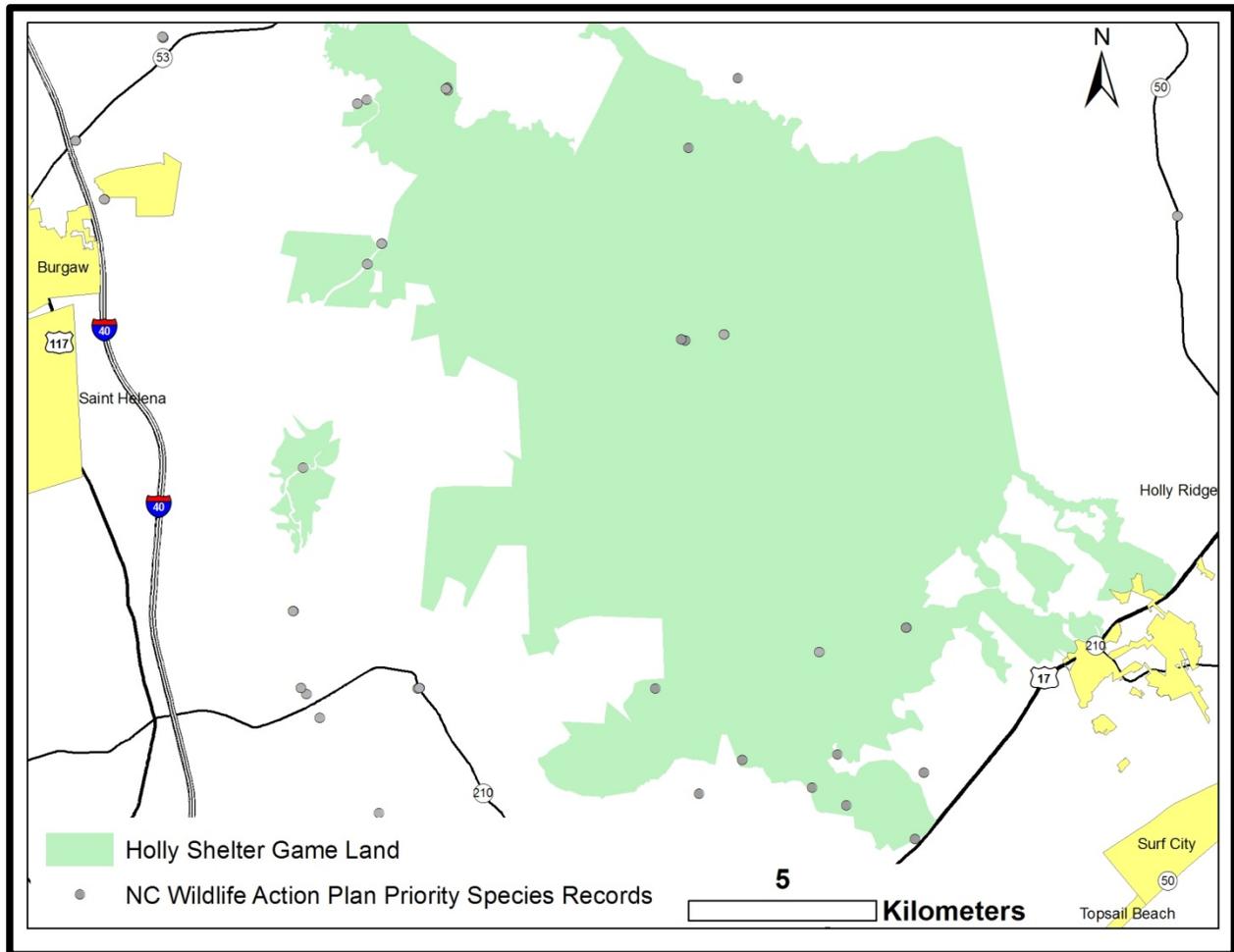
Aquatic Habitats

The Holly Shelter Game Land is located within the Cape Fear River drainage and supports a variety of aquatic habitats including rivers, streams, ditches, ponds, and borrow pits. These blackwater systems support species that can tolerate harsh water conditions such as high acidity and low dissolved oxygen. There are four Wildlife Action Plan NCWAP priority fish and 1 priority crayfish that occur on HSGL. The fish include the Banded Pygmy Sunfish, Everglades Pygmy Sunfish, Banded Sunfish, and the Lined Topminnow. The Croatan Crayfish is also found on the game land. These fish are typically found in areas with aquatic vegetation. Figure 19 shows locations of NCWAP aquatic priority species.

The desired future condition for the blackwater systems on the HSGL are to maintain and/or improve biological diversity in the streams and ditches and to ensure that sedimentation into these areas is minimized. Periodic surveys are needed to assess the distribution and status of fish and crayfish, and colonial nesting birds that have historically used these areas. These surveys will also help to determine the distribution of any non-native aquatic species in the game lands and how they are impacting native species.

The management strategy for these areas is to maintain forested riparian corridors and to minimize sedimentation and erosion from roads and firebreaks. To protect water quality, the recommended buffer on perennial streams is 200ft and 100ft on intermittent streams. Specific techniques for reducing impacts to water quality are published in the NC Department of Transportation’s “Best Management Practices for Construction and Maintenance Activities”.

Figure 19: NCWAP aquatic priority species locations on HSGL.



Information needs

Current state of knowledge

Our current state of knowledge about wildlife occurrences on HSGL is somewhat limited. Our best knowledge is of rare, threatened or endangered flora and fauna. Distributions and occurrences of such species as the RCW, and rough-leaved loosestrife, *Lysimachia asperulifolia* are well documented due to extensive monitoring protocols mandated by the USFWS to monitor their recovery. Distributions and occurrences of cryptic species such as reptiles, amphibians, and small mammals (including bats) are under-surveyed and their relative distribution and abundances are unknown and misunderstood. It would seem appropriate to work closely with the Natural Heritage Program to develop a biological inventory similar to the one conducted in the 1990s.

The same could be said for the relative abundance of game animals. Currently there are no surveys in place to track changes in population trends of even the most sought after big game animals (deer, bear, and turkey). At present we must make assumptions based on limited hunter harvest data. Management practices and regulations should not be based on assumptions, but on best available science.

The following is our current knowledge of our priority species, as found in the NCWAP, those species which have a state or Federal ranking on HSGL, inventory and management needs, and research recommendations for the future. The appropriateness of tracking population trends for some wildlife species will be evaluated and appropriate techniques will be identified when it is determined such actions are warranted and only when appropriate levels of staff and finances are available.

The identification of Game Land hunters (or other users) would allow the NCWRC to generate a general observation survey in which data on the observations of multiple species could be collected by hunters or any game land user interested in recording the requested information. This type of survey would be especially helpful in reducing work load and financial hardships on already stretched resources within the agency.

Reports of diseased animals (regardless of species) should be investigated and, when possible, attempts will be made to diagnose the cause of mortality. Also, as disease surveillance is conducted (CWD, LPDV, etc...), the game land will be incorporated into the effort when appropriate.

Nongame

Birds

Red-cockaded Woodpecker:

Current Knowledge

Red-cockaded Woodpeckers occur in long leaf pine savannas, primarily in the eastern section of HSGL, with one active cluster on Bryant's Ridge in the center of the game land. The RCW Recovery Plan (2003) lists the number of active RCW clusters on HSGL at 38 with a potential size of 38, the recent addition of the Bear Garden Tract has increased the goal to 44 clusters. According to nest checks in summer 2013, 35/38 clusters had eggs or raised young. HSGL, along with Camp Lejeune and the Croatan NF, act as one of the 13 primary core populations that must reach 350 breeding groups before the RCW can be delisted.

Inventory/Monitoring Needs

Staff should continue to conduct nest surveys in accordance with RCW Recovery Plan. Yearly RCW cavity tree surveys should be continued to locate new cavity excavations. New and existing cavity trees should be painted during these surveys which happen prior to prescribed burning season.

Management Needs

Our land management techniques and practices must follow the recommendations provided by Part I, Section 3 of the U.S. Fish and Wildlife Service's RCW Recovery Plan (2003:71-117).

Research Needs

Currently, no research needs are warranted within Holly Shelter Game Lands. However, opportunities exist for studying yearling dispersal across the landscape.

Bachman's sparrow / Henslow's sparrow:

Current Knowledge

Bachman's *Peucaea aestivalis* and Henslow's *Ammodramus henslowii* sparrows both occur within the game land in areas managed with fire and sufficient ground cover. They are present in longleaf stands, and likely the adjacent power line right-of-ways. Bachman's are year round residents while the Henslow's sparrows occur only during the winter and they are much more cryptic and therefore difficult to detect during the non-breeding season.

Inventory/Monitoring needs

NCWRC staff have monitored Bachman's sparrows throughout NC during the 2012 and 2013 breeding seasons and should be able to generate breeding density estimates for HSGL. Playback surveys during the non-breeding season may help determine numbers but, as of now, not enough data exist to estimate density.

Management Needs

Generally, management for RCWs through the use of prescribed fire provides adequate habitats for Bachman's and Henslow's sparrows. Plentovich et al. (1998) found that more frequent fire earlier in the growing season provided the herbaceous layer favored by Bachman's sparrows while reducing the hardwood midstory.

Research Needs

Research opportunities exist as follows:

1. Better describe habitat characteristics.
2. Determine breeding success.

3. Determine survival estimates.

Anhinga:

Current Knowledge

Holly Shelter Game Land lies near the northern edge of the anhinga's (*Anhinga anhinga*) summer breeding range. The anhinga lives in shallow, slow-moving, sheltered waters (swamps) and uses nearby perches and banks for drying and sunning. It feeds primarily on fish and is rarely found away from freshwater, except during severe droughts. It is generally not found in extensive areas of open water, though it may nest on edges of open bays and lakes. The anhinga breeds near freshwater, often in association with other waterbirds such as herons, egrets, ibises, storks, and cormorants.

Inventory/monitoring needs

A monitoring protocol should be established for the green tree reservoir.

Management needs

Continued management of the Lodge Rd. impoundment will meet the feeding needs of the anhinga.

Research needs:

No research needs are warranted at this time.

Bald eagle:

Current Knowledge

Bald eagles (*Haliaeetus leucocephalus*) have nested near the Lodge Rd. impoundment in 2012 and 2013.

Inventory/Monitoring Needs

Observations and nesting occurrences should continue to be recorded.

Management Needs

Federal guidelines (National Bald Eagle Management Guidelines, USFWS, 2007) should be followed when implementing management practices in the vicinity of nesting bald eagles.

Research needs

No research needs are warranted at this time.

Mississippi Kites:

Current Knowledge

Mississippi kites (*Ictinia mississippiensis*) are likely to be found along Holly Shelter Creek and the Northeast Cape Fear River but these sightings have been few and far between.

Inventory/Monitoring Needs

Observations should continue to be recorded.

Management Recommendations

Not enough data currently exist to make detailed management recommendations at this time.

Research Needs

No research needs are warranted at this time.

Copper's hawk:

Current Knowledge

Cooper's hawks (*Accipiter cooperii*) occur on Holly Shelter Game Land.

Inventory/monitoring needs

All observations should be recorded and reported.

Management Practices

Not enough data currently exists to make detailed management recommendations at this time.

Research Needs

No research needs are warranted at this time.

Little blue heron:

Current Knowledge

A small (35 nests) nesting colony of great blue herons (*Ardea herodias*) was identified on Holly Shelter GL in 2009 by NCWRC biologists during aerial surveys. Little blue herons (*Egretta caerulea*) were not detected, but may have been missed due to their small size, cryptic coloration, and habit of nesting closer to the bole of trees and shrubs rather than in large nests in the canopy as great egrets nest. However, nesting little blue herons have not been detected on this GL during previous surveys, and likely nest only on islands within North Carolina's sounds and the lower Cape Fear River. There have been no well-designed surveys for little blue herons on HSGL.

Inventory/Monitoring needs

Seasonal surveys of swamps, marshes, and impoundments should be conducted to determine use of these habitats by little blue herons on Holly Shelter Game Land. Ground surveys along established transects conducted regularly would provide needed data on presence of little blue herons within HSGL and use of various habitats.

Management Practices:

Management practices that would benefit little blue herons include protection of marshes and forested swampland, and gradual drawdown of water levels in impoundments during early spring (March), and slow increases in water levels in the fall (September). Impoundments should be managed for diverse water levels to benefit the greatest number of waterbirds and waterfowl.

Research Needs

No research needs are warranted at this time.

Snowy egret:

Current Knowledge

Nesting snowy egrets (*Egretta thula*) have not been detected on this GL during aerial surveys for heronries in the late 1990s or mid-2000s, and likely nest only on islands within North Carolina's sounds and the lower Cape Fear River. The snowy egret is most likely to be found feeding in marshes and impoundments during spring, summer, or early fall. The snowy egret migrates south during the winter. There have been no well-designed surveys for snowy egrets on SHGL.

Inventory/Monitoring Needs

Seasonal surveys of swamps, marshes, and impoundments should be conducted to determine use of these habitats by snowy egrets on Holly Shelter Game Land. Ground surveys along

established transects conducted regularly would provide needed data on presence of snowy egrets within HSGL and use of various habitats.

Management practices

Management practices that would benefit snowy egrets include protection of marshes and forested swampland, and gradual drawdown of water levels in impoundments during early spring (March), and slow increases in water levels in the fall (September). Impoundments should be managed for diverse water levels to benefit the greatest number of waterbirds and waterfowl.

Research Needs

No research needs are warranted at this time.

Wood stork:

Current Knowledge

Nesting wood storks (*Mycteria americana*) have not been detected on this GL during aerial surveys conducted in the mid-2000s or during ground counts. Wood storks are conspicuous because of their color (white) and size, and are not difficult to detect when nesting, if nesting occurs. They nest in trees and shrubs within swamps, and only 3 confirmed nesting colonies have been recorded in North Carolina, and those colonies are not active each year. Currently, there are no known observations of wood storks on HSGL. NCWRC and others survey regularly for wood storks because they are a federally listed species (threatened).

Inventory/Monitoring Needs

Seasonal surveys of swamps, marshes, and impoundments should be conducted to determine use of these habitats by wood storks on HSGL. Ground surveys along established transects conducted regularly would provide needed data on presence of wood storks within HSGL and use of various habitats. Because wood storks migrate south during winter no detections of them would be expected during this season.

Management practices

Management practices that would benefit wood storks include protection of marshes and forested swampland, and gradual drawdown of water levels in impoundments during early spring (March), and slow increases in water levels in the fall (September). Impoundments should be managed for diverse water levels to benefit the greatest number of waterbird and waterfowl species. Shallow (10-30 cm) water levels in mid- to late summer would increase density of fish in impoundments and greatly benefit wood storks. Wood storks are tactile feeders and increase their foraging success by feeding in shallow ponds and ditches with high densities of fish. In mid- to late summer (mid-June to early August), wood storks are feeding chicks and teaching fledglings to obtain their own food. If HSGL provided optimum feeding conditions, wood storks may find the impoundments and benefit.

Research Needs

No research needs are warranted at this time.

Mammals

Bats:

Rafinesque's big eared bat/ Southeastern myotis:

Current Knowledge

Rafinesque's big eared (*Corynorhinus rafinesquii*) and the southeastern bat (*Myotis austroriparius*) are likely to occur on HSGL. The last known occurrence of the southeastern myotis was documented by Adams in 1989 (from Legrand 1997). None of the priority species were collected during a Natural Heritage Program biological inventory of Holly Shelter conducted in 1995. Both species were captured on the Whitehall Plantation in Bladen Co., NC in 2012, and 40 Southeastern myotis' were captured during a three day sampling effort on Neuse River Game Lands in Craven Co., NC during June 2013.

Management Needs

There are two primary explanations for recent declines in bat populations; habitat decline and White-Nose Syndrome (WNS). Preservation and management of the floodplain forest, especially that adjacent to the Northeast Cape Fear River, should continue. These species occur mainly in swamps and bottomland forests, where they roost in hollow trees, under loose bark, old buildings, and beneath bridges, at least in the warmer months (mammals in NC 11/26/13) Foraging habitat may be critical to species survival and should therefore be protected (protect mature floodplain and swamp forests; maintain large hollow tree component of such forests). These areas act as a Refugia and a source population to aid in the recovery of species affected by WNS.

Inventory/Monitoring Needs

If staff are available, a series of mist-netting surveys should be implemented in an attempt to collect information to close gaps in the distribution data of the aforementioned bats. A comprehensive biological inventory should be conducted with the assistance of the Natural Heritage program and/or UNC Greensboro to explore and update the small mammal communities on Holly Shelter.

Research Needs

No research needs are warranted at this time.

Terrestrial small mammals

Star-nosed mole/Eastern woodrat:

Current Knowledge

Holly Shelter has no known recorded observations of the star-nosed mole (*Condylura cristata*) or the eastern woodrat (*Neotoma floridana*). They are however, according to NC Gap, predicted to occur with the Game Land.

Management Needs

Not enough data currently exist to make detailed management recommendations at this time.

Inventory/Monitoring Needs

A cooperative biological inventory should be conducted with the assistance of the Natural Heritage program to explore and update the vertebrate communities on Holly Shelter.

Research Needs

No research needs are warranted at this time.

Game Animals

White-tailed deer:

Current Knowledge

White-tailed deer (*Odocoileus virginianus*) is the most abundant big game species on the game land with densities ranging from 30 -44 deer/mi² (2010 statewide density map) (*Appendix F*). Deer hunting on HSGL follows the eastern deer season and hunting currently occurs three 3 days/week. Maximum harvest (either sex the entire season) is allowed.

- Antlered buck harvest per square mile over the last 3 seasons (2010-2012) on Holly Shelter is 1.8.
- Total harvest over the last 3 seasons has been 40.6% does, which is; less than our statewide objective of at least 50% does in the harvest.
- Harvest prior to peak breeding (Oct. 31) has been 36.8% does, which is less than our statewide objective of at least 50% does in the harvest prior to peak breeding.
- 37% of the antlered buck harvest occurs prior to peak breeding. Our objective is to have no more than 20% of our antlered buck harvest occur prior to peak breeding.

Biological data from game land deer harvests are difficult to collect. Over the last 3 years, NCWRC has collected biological data from just 9 (6 bucks and 3 does) of 362 deer harvested on the game land.

Inventory needs

Baseline information should be collected for deer densities and/or population trends on Holly Shelter. These data could be collected via forward looking infrared (FLIR), spotlight, camera trap surveys, or track count surveys. There is also a great need to identify our game land hunters. Without these survey and harvest per effort data we have no way to track deer population trends. The use of FLIR offers a new survey technique that may have use on HSGL. This method utilizes a thermal imaging monocular that detects infrared radiation, including body heat. Similar to a spotlight survey, the FLIR camera will allow us to collect deer density/trend data via direct observation. It is our desire to collect density/population trend estimates using this method. A trial run should be conducted to ensure that this application is viable across all habitat types (e.g., ., if vegetation density allows).

Track counts could be a substitute for the FLIR survey. Holly Shelter has a sufficient road network with soils that are suitable for this type of survey. Although not a direct observation, this is a survey method that has long standing history and is well respected.

Staff will continue investigating whether new methods may better assist us in monitoring and managing the deer population trends on HSGL.

If a survey were developed to identify our game land deer hunters, the NCWRC could implement a jawbone/biological data mail survey. If not cost prohibitive, response rates could be improved by offering participants something similar to the hats cooperators of the Bear Program receive (e.g., , a raffle, a hat, a t-shirt, etc....). Also, with the identification of our game land specific hunters, the NCWRC would be able to create a survey similar to the one in appendix G. These data would give us better knowledge of hunter success per unit effort and allow us to make the science-based regulation changes needed to meet the state deer management goals and objectives mentioned earlier.

Management Strategy

It is our desire to manage deer on Holly Shelter Game Land accordance to with the statewide deer management goals and objectives outlined in the Ad hoc deer evaluation tool (Appendix H) As a habitat generalist, the white-tailed deer will benefit from the continuation of current land management practices.

The potential exists for improved open land management. This would have limited benefit for the deer population, but would provide opportunity for hunter harvest.

Research needs

No known research needs at present.

Black bear:

Current Knowledge

Current knowledge of black bear (*Ursus americanus*) populations on Holly Shelter is insufficient. The game land is included in the 8-week season starting the second Monday in November to January 1 (**15A NCAC 10B .0202**). Less than 10 bears are harvested/year on Holly Shelter (1, 3, 4, 7, 1, 2008-2012 respectively). Black bears are concentrated in and around the large pocosin and bay complexes that comprise the majority of the game land.

Inventory/monitoring needs

Currently, baseline density or relative abundance does not exist for HSGL. Track counts could be established using the existing road networks. Photo points could also be utilized to collect baseline data. Sex, weight, and age data should continue to be collected from hunter harvested black bears on Holly Shelter.

Management Strategy

Bears on the game land should be managed following the guidelines outlined in the NC Black Bear Management Plan (NCBBMP). NCBBMP objective #1, the identification of bear hunters, especially game land bear hunters would allow staff to better understand hunter success per unit of effort, and provide basic information on black bear population trends on HSGL. For instance, only one bear was harvested on Holly Shelter in 2012. Currently we cannot say that this decrease is related to weather, fewer hunters, lower hunter effort, declining population trends, any combination of the above or continuing impacts from the 2011 Juniper Road wildfire.

Many studies have concluded that black bear habitat preferences are simply a function of food availability, Maehr, (2001)). Therefore, any land management practices to improve or sustain food availability (soft and hard mast) will benefit black bears. Seasonal closure of the game land allows bears to utilize blackberry patches along roads with little to no disturbance. This practice should be continued in the future. Continued long rotation timber harvest, open land management, and prescribed fire will enhance or maintain habitats for black bears on Holly Shelter.

Black bears move extensive distances during certain times of the year. It is important for movement to occur between the various subpopulations of bears across the state to help maintain bear numbers and genetic connectivity. Corridors can also assist in reducing human-bear interactions by decreasing the proximity of traveling bears to human development. As such, corridors for movement are important. Continued acquisition of adjacent lands would support efforts to meet the NCBBMP objective 4 (strategies 3, 4, 5, and 6).

As the availability of huntable areas decrease, acquisition of land would also assist in NCBBMP objective 1 and objective 2, strategy 6. NCWRC game lands will become increasingly important in providing bear hunting opportunities and population management via harvest.

Research needs

No known research needs at present.

Eastern wild turkey:

Current Knowledge

Holly Shelter was included in the agency's Wild Turkey (*Meleagris gallopavo*) Restoration Program in 1995. A total of 17 birds, 7 gobblers and 10 hens were released. These birds came from CT., SC., VA, MI., and 2 came from within Pender Co., NC during 1995-2000... Harvest over the last 5 years (2009-2013) has been 10.8 birds/year. Unfortunately there is no tracking method available that provides success per unit of effort for game land hunters. With the identification of our game land specific hunters, the NCWRC would be able to create a survey similar to the one in appendix XII. These data would give us better knowledge or hunter success per unit effort and would allow us to make the science-based regulation changes needed to meet the state deer management goals and objectives mentioned earlier.

Inventory/monitoring needs

Currently there are no baseline data for turkey abundance. Several options are available to gather these data. Two surveys that could be utilized could be the direct observation by chance encounters similar to the Wild Turkey Summer Observation Survey, or a turkey hunter observation survey, (Appendix XII). Another could be gobbling bird point count. The combined information gathered would allow the NCWRC to make better science based regulation changes in the future.

Management Strategy

Maintain current level of hunter harvest until better data exists. Primary methods for habitat maintenance/enhancement should be through prescribed fire, long timber rotations, and open land management. The creation of field borders in open land areas will provide nesting and escape cover in close proximity to areas planted to small grains which provide bugging areas as well.

Research needs

No known research needs at present.

Furbearers:

Current Knowledge

Hunting opportunities exist for bobcat, coyote and raccoon. Trapping opportunities exist for bobcat, *Lynx rufus*, coyote, *Canis latrans*, raccoon, *Procyon lotor*, river otter, *Lontra canadensis*, mink, *Neovison vison*, and long-tailed weasel, *Mustela frenata*, muskrat, *Ondatra zibethicus* and beaver, *Castor canadensis*. Although the resource exists on the game land, they are somewhat under-utilized.

Inventory/monitoring needs

Inventory and monitoring should be considered on an as needed basis. Scent stations and track counts could be used for some species.

Management Strategy

Maintain current trapping season to allow for trapping opportunities and the harvest of surplus furbearers. Continue current land management techniques to benefit furbearers in each habitat type.

Research needs

No known research needs at present.

Small game (rabbit, squirrel):

Current Knowledge

Rabbits (*Sylvanigus floridanus*) and squirrels are common on HSGL. Gray (*Sciurus carolinensis*) and fox (*Sciurus niger*) squirrels occur on the game land. The gray squirrels commonly occur in the flood plain forests and, on occasion, can be found along with the eastern fox squirrel on the wet and dry pine savannas. Two populations of rabbits occur on the game land. Cottontails occur on the upland and brushy sites while the swamp rabbits utilize the pocosin habitats and the swamp forests.

Inventory/monitoring needs

Inventory and monitoring should be considered on an as needed basis.

Management Strategy

Continue to provide current hunting opportunities. Mowed/disked strips in the open lands would allow more hunter opportunity and enhanced habitat conditions. Other current land management practices should continue to provide suitable habitat.

Research needs

No known research needs at present

Northern Bobwhite:

Current Knowledge

Northern Bobwhites (quail) (*Colinus virginianus*) mostly occur on the eastern side of the game land residing on the pine flatwoods and pocosin/flatwoods transition zones. Public hunting opportunities exist from mid-November through the end of February.

Inventory/monitoring needs

Spring Quail call counts have been conducted yearly since 2000. There has been a steady decline in numbers heard from a high of 52.3 in 2001 to a low of 6.5 in 2011. The Juniper Rd. fire of 2011 has likely displaced some birds. However, the locations that were exposed to extreme ground fire (pocosins along Lodge Rd.) may have become more habitable for quail by completely changing the plant species composition, and the horizontal and vertical plant configurations. Aside from changes in observers, there is no known explanation for the recent decline of quail on HSGL. It could likely be attributed to the decline of bobwhite quail across the landscape. If the potential arises another call route could be established. Predator assessments could be determined during furbearer inventories.

Management Strategy

Continue to provide current hunting opportunities. Mowed/disked strips in the open lands would allow more hunter opportunity and enhanced habitat conditions. Other current land management practices should continue to provide suitable habitat with an emphasis on early successional habitats and Native Warm Season Grasses. Some special consideration should be given to the pocosins in the vicinity Lodge and Juniper Rds. These areas were subjected to extensive and substantial ground fires during the Juniper Rd. wildfire and are currently exhibiting characteristics that may lend them to be more favorable to quail during drier times.

Research needs

No known research needs at present

Webless migratory:

Current Knowledge

Mourning doves (*Zenaida macroura*), snipe (*Gallinago gallinago*), sora rails (*Porzana Carolina*), and gallinules (*Gallinula galeata*) are common on the game land. Hunting opportunities exist for doves in planted dove fields and for rails in the Lodge Rd. impoundment. Seasons and frameworks are created by the USFWS, but generally run from September through February.

Inventory/monitoring needs

Inventory and monitoring should be considered on an as needed basis.

Management Strategy

Hunting opportunities should be continued following framework set by the USFWS. Current land management practices provide suitable habitat and provide satisfactory numbers of webless migratory game birds for satisfactory hunting opportunities.

Research needs

No known research needs at present.

Waterfowl:

Current Knowledge

Waterfowl utilize HSGL year-round. They are primarily observed on the Lodge Rd. impoundment, Ashes Creek, and the Green tree impoundments near the Northeast Cape Fear River. Waterfowl also use the Northeast Cape Fear River and the associated swamps and creeks. Hunting is allowed on Tuesdays, Saturdays, Opening and closing days, and Holidays. Species commonly observed are wood ducks, teal, mallards, ring-necks, and gadwall.

Management Needs

Quality moist-soil vegetation and small grains should continue to be the primary goals of management practices on the Lodge Rd. impoundment. In order to accomplish these goals, soil samples should be collected. In areas planted to small gains (Japanese millet, etc.) adequate soil amendments should be made. Areas managed for moist soil vegetation (smartweed, Walter millet, Panicum sp., etc.) should be drained and disked or burned to set-back early successional plants.

Inventory/Monitoring Needs

If staff are adequate, waterfowl hunter harvest surveys could be initiated. These surveys are already conducted in many managed impoundments and allow us to follow trends in bird and hunter use throughout the year. Other surveys should include a vegetation survey conducted in mid-November. Furthermore, Waterfowl, wading, and shorebird surveys should also be implemented in early spring (late Feb.-March) to monitor these birds during spring migration.

Research Needs

No known research needs at present.

Infrastructure Assessment

Assessments of existing infrastructure throughout the Holly Shelter Game Land were conducted by Division of Engineering & Lands Management staff in 2013. The infrastructure maps included in the appendix to this document show the locations of existing public roads, administrative access roads, trails, parking areas, dams and gates within the Holly Shelter Game Land. The results of the assessments along with recommendations for maintenance and improvements are discussed by category below.

Road Assessment

The Holly Shelter Game Land has an extensive network of over 100 miles of roads. These roads were inspected by Engineering staff over several days in July and August of 2013. In addition, Coastal Region field staff and Engineering staff met in July to discuss the current infrastructure conditions and future needs. Figures 20 & 21 show recommended road improvements by priority.

Figure 20: Recommended Road Improvements for HSGL North.

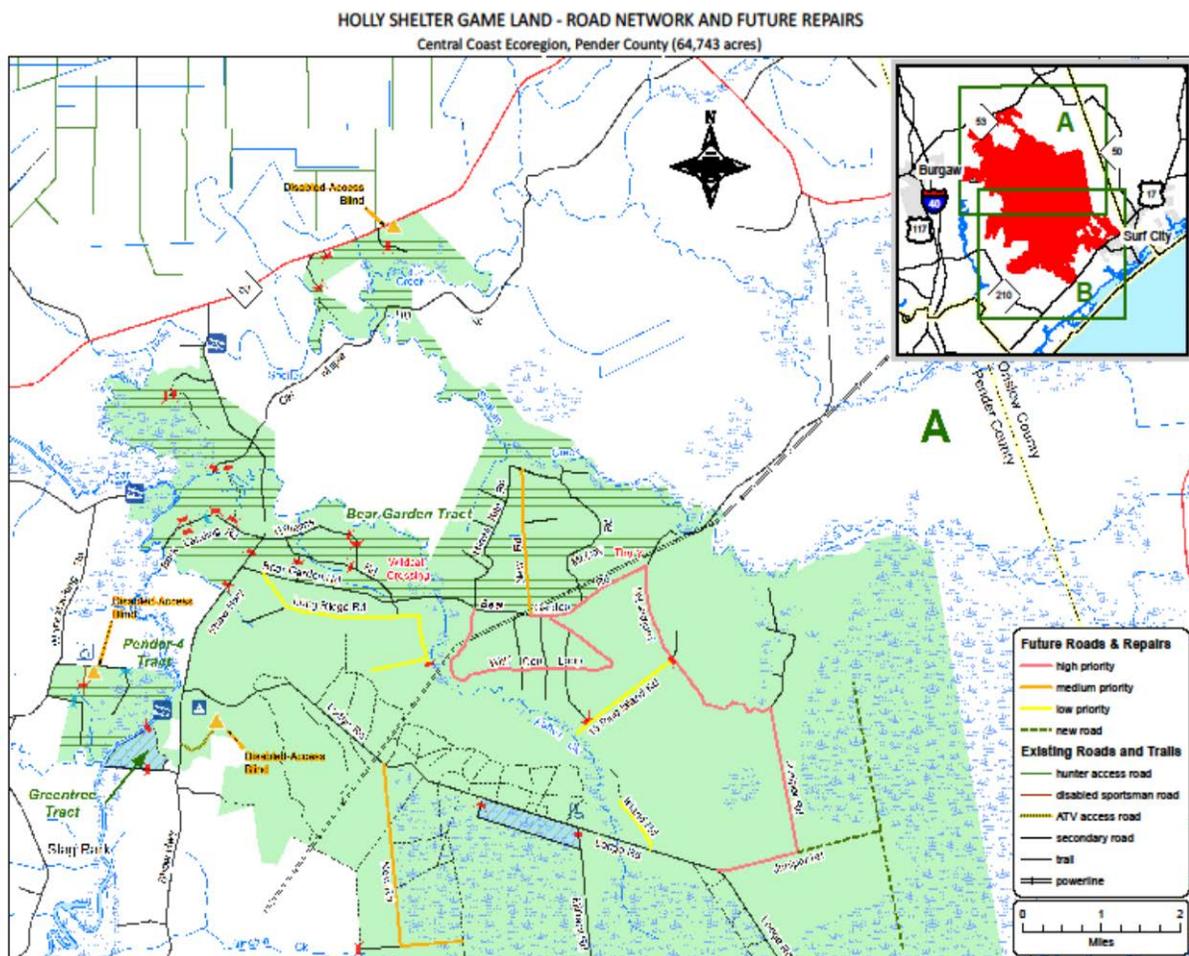
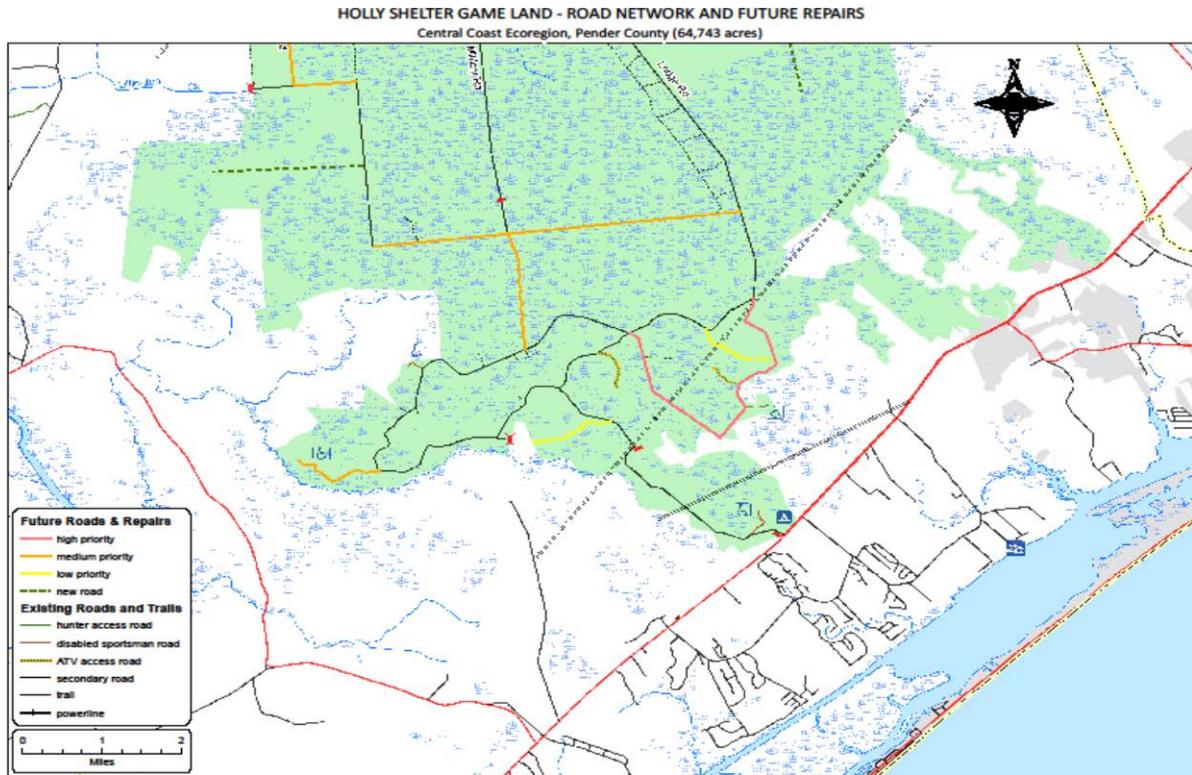


Figure 21: Recommended Road Improvements for HSGL South.



Good access is provided to the majority of the game land. There are two main types of roads located on the game land: roads open to public travel and fire lines/breaks. For the purposes of this infrastructure assessment, the fire lines/breaks have not been inspected, but are further described in other portions of the Plan. The roads on Holly Shelter are used by WRC staff to access the game land for maintenance and conservation work. They are also used by the public for hunting, hiking, geo-caching, wildlife viewing, and other outdoor recreational purposes.

Existing Road Conditions

Most of the major roads within the Holly Shelter Game Land are in good condition. The major roads in the best condition include the following:

Lodge Road

This road is the major road through the game land. It provides access from Shaw Highway on the western side of the game land, to US-17 on the southern boundary. This road has a gravel surface, varying from 10' to 25' in width.

Tram Road

This road provides access off of Lodge Road, and loops through the south western portion of the game land. Tram Road was upgraded in 2013, and is in the best condition of any road on the entire game land. The road has a crushed concrete surface, provides two-way access, and has adequate ditches. This is an ideal road for game land access.

Bear Garden Road (to New Road)

This road provides access to the Bear Garden Tract of the game land. The road is in excellent condition from Shaw Highway, to the intersection with New Road. This portion of road has a gravel surface and has a width that allows two-way traffic.

The remaining roads within the game land range from poor to fair condition. The roads are mostly sand, with varying amounts of gravel coverage, widths and levels of service. Some of the roads just need minor grading and the addition of gravel, while others require more extensive grading, including the addition of ditches and culverts. The future road improvements have been broken down into high, medium, and low priorities. It should be a goal to perform the high priority projects over the next ten years, which the medium priority projects done next as resources allow. At the end of this ten year period, a new assessment will be performed and new priorities set.

Future Road Improvements

Maintenance and needs for future improvements were identified on the remaining existing sections of NCWRC access roads. The recommended road improvements discussed in this section are grouped by priority as follows:

High Priority

While the above mentioned roads are in good condition, there are many more roads that need different levels of upgrades. Over the next ten years, the highest priority roads for upgrade are the following:

- Old Road
- Juniper Road/Bear Garden Road
- Wolf Den Loop Road

Old Road

Old Road is located in the southeastern portion of the Holly Shelter Game Land. This road experiences high usage and is used to reach a Handicap Hunter Access point. It is an existing one lane, dirt/sand road with poor drainage. During wet conditions, portions of the road require 4WD vehicles, or are impassible. This road needs to be designed and constructed to provide a two-way, gravel surface and improved drainage. The road will need to be raised in some areas and the side berms will need to be cut down.

The section of road needing upgrade is the entire loop, consisting of Old Road and the portion of Tram Road that ties back into Lodge Road. This road is approximately 4.6 miles and will have an estimated upgrade cost of \$920,000.

Juniper Road/Bear Garden Road

Juniper Road is located on the eastern portion of the Holly Shelter Game Land, and ties into Bear Garden Road in the northern portion of the game land. This road provides the only internal connection from the main portion of the game land to the Bear Garden Tract. The first portion of Juniper Road, from Lodge Road to the tee is a sand road with good drainage. This portion of road just needs the addition of gravel. However, the remainder of Juniper Road is grass only and is impassible. This section will require the design and construction of a new road. Juniper Road

ties back into Bear Garden Road, which runs west towards Shaw Highway. Bear Garden Road from Juniper Road to New Road is a sand road, which requires 4WD vehicles for passage. This section of road will require the design and construction of a new road, consisting of a two-way, gravel surface.

The section of road needing repair and construction is approximately 7.3 miles and will have an estimated cost of \$1,460,000.

Wolf Den Loop

Wolf Den Loop Road is located in the northern portion of the Holly Shelter game land and is accessed off of Bear Garden road. This is an existing one lane, sand and grass road, which is in poor condition. The road provides a loop access through the Ashes Creek portion of the game land. This road needs to be designed and constructed to provide year round public access, which will include a one lane road gravel surface, with adequate shoulders to allow the passage of oncoming vehicles.

The section of road needing repair and construction is approximately 4.0 miles and will have an estimated cost of \$800,000.

Medium Priority

The above mentioned roads have been rated as having the highest priority for repair over the next ten years. However, they are not the only roads in need up upgrade. The following roads are considered medium priority and should be repaired after the high priority projects are completed.

- Trumpeter Road
- New Road
- Military Road (from Tram Road to New Road)
- New Road (in Bear Garden Tract)

Trumpeter Road

Trumpeter Road is located in the southwestern corner of the game land, and is accessed off of Tram Road. This is an existing sand road, with poor drainage, which provides access to a Handicap Hunter Access Point. The road needs to be designed and construction to provide a gravel surface and improved drainage, which will include ditches and culverts.

The section of road needing upgrade is approximately 1.3 miles and will have an estimated cost of \$260,000.

New Road

New Road provides access to the western portion of the Holly Shelter Game Land. It begins off of Lodge Road, near Shaw Highway, and ties back into Lodge Road in the southern portion of the game land. The road consists of two long sections that run east/west and two sections that run north/south. The southernmost north/south section has been recently upgraded and is in good condition. However, the remainder of the road is a sand road that needs to be upgraded. This road shouldn't require any design and should just involve the addition of gravel.

The section of road needing upgrade is approximately 7.6 miles and will have an estimated cost of \$760,000.

Military Road (from Tram Road to New Road)

This section of Military Road runs north/south and provides a direct connection between Tram Road and New Road in the southern portion of the game land. This road is an existing one lane dirt road, with adequate shoulders for passing, and is in fair condition. This road shouldn't require any design and should just involve the addition of gravel.

The section of road needing upgrade is approximately 1.8 miles and will have an estimated cost of \$180,000.

New Road (in Bear Garden Tract)

New Road provides access to the northern most portion of the Bear Garden Tract. The existing road is a combination of sand and thick vegetation, and only should be used by light traffic. There are two other roads that loop and provide access to the same location, but New Road is the shortest and most direct path. This road will require design and construction of a new, one-lane gravel road, with shoulders adequate for the passing of oncoming traffic.

The section of road needing upgrade is approximately 1.7 miles and will have an estimated cost of \$340,000.

Low Priority

Other roads on the Holly Shelter Game Land that need upgrade, but are considered the lowest priority include the following:

- Long Ridge Road
- Pine Island Road
- T Island Road
- BJ Road
- Shingleton Road

Long Ridge Road

Long Ridge Road is located in the north western portion of the Holly Shelter Game Land and branches off of Bear Garden Road close to the entrance on Shaw Highway. This road provides access to a portion of Ashes Creek. This is an existing gravel road in fair condition. It will not require any design, but could be improved by the addition of gravel.

The section of road needing upgrade is approximately 3.5 miles and will have an estimated cost of \$350,000.

Pine Island Road

Pine Island Road is an existing road in poor condition. This road provides a connection between Juniper Road and Wolf Den Loop Road. The existing road is gated and closed to the public. It is recommended to upgrade this road and open to the public only after both Juniper Road and Wolf Den Loop Road are improved. This section of new road would require the design and construction of a one-lane gravel road.

The section of road needing upgrade is approximately 1.5 miles and will have an estimated cost of \$300,000.

T Island Road

T Island Road is located in the central portion of the Holly Shelter Game Land and provides access off of Lodge Road, towards Ashes Creek. This is an existing dirt/sand road, with bermed shoulders due to years of grading. This road upgrade will require engineering design, which will include raising the centerline, cutting down side berms, and improving drainage. It is recommended that this be a one lane, gravel road, with adequate shoulders to allow the passage on oncoming vehicles.

The section of road needing upgrade is approximately 1.2 miles and will have an estimated cost of \$240,000.

BJ Road

BJ Road is located in the south eastern portion of the Holly Shelter Game Land and provides a direct connection between Lodge Road and Old Road. This existing road is a sand road in fair condition and needs the addition of gravel. This road should only be improved after Old Road has been upgraded.

The section of road needing upgrade is approximately 1.1 miles and will have an estimated cost of \$110,000.

Shingleton Road

Shingleton Road is located in the southern portion of the Holly Shelter Game Land and ties into Lodge Road. This is an existing sand road in poor condition, which is gated and closed to the public. The road provides access to a small portion of the game land that is adjacent to Blossom Creek. It is recommended that this road be upgraded to provide a one-lane gravel surface and improved drainage, which will require an engineered design.

The section of road needing upgrade is approximately 1.0 miles and will have an estimated cost of \$200,000.

New Road Construction

As previously mentioned, there is an extensive road network currently in the Holly Shelter Game Land. In addition, much of the game land is located in wetlands and swamps, which are not allowed to be disturbed. Due to these two factors, there are few areas where new road construction is feasible. There are two areas that should be investigated, however unlikely.

These include the following:

- Access to eastern portion of game land off of Juniper Creek Road
- Access to western portion of game land off of New Road

Access to eastern portion of game land off of Juniper Creek Road

Juniper Road is listed as a high priority road improvement project. Once upgraded, future road locations should be investigated to provide access to the eastern portion of the game land. There

are currently 10+ square miles of game land in this area with no vehicle access. The possibility However, due to the existing wetlands, the feasibility of this access is unknown at this time.

Access to western portion of game land road off of New Road

New Road is listed as a high priority road improvement project. Once upgraded, future road locations should be investigated to provide access to the western portion of the game land. There are currently 5+ square miles of game land in this area with no vehicle access. However, due to the existing wetlands, the feasibility of this access is unknown at this time.

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.

Typical Road Maintenance Practices

- Inspect roads regularly, especially before the winter season and following heavy rains.
- Keep ditches and culverts free from debris (see also Culvert Maintenance Section of this Plan).
- Remove sediment from the road or ditches where it blocks normal drainage.
- Regrade 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 coarse 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 erosion-resistant surfacing such as grass or rip rap in ditches.
- If it is determined that a road needs major repairs or upgrades, contact Regional Supervisor and Design Services to schedule an assessment.

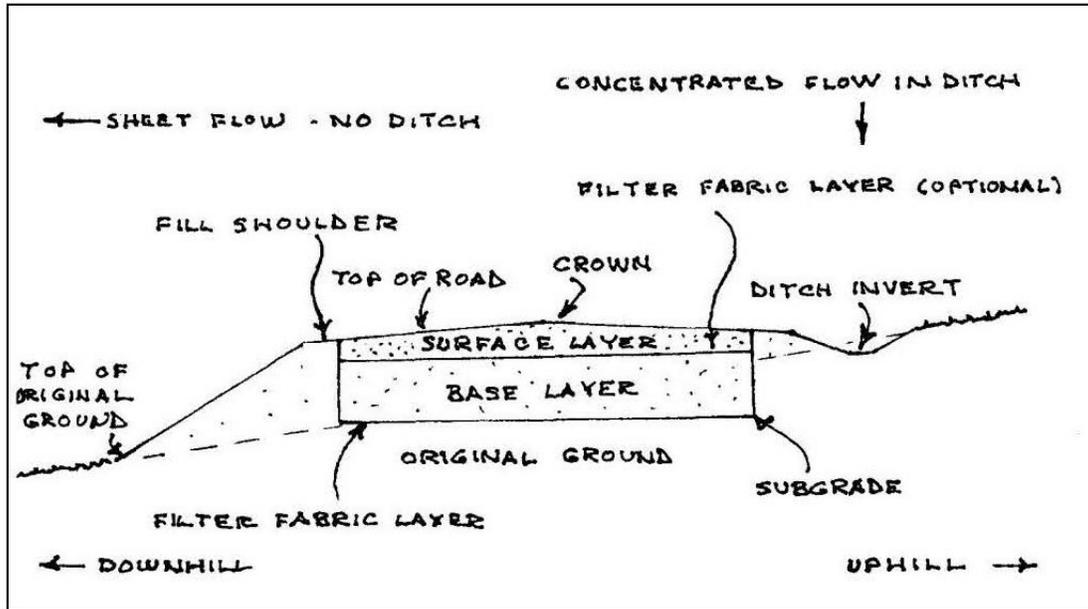


Figure 1 - Typical Road Cross-Section – Canaan, NH Highway Department

Road Safety Features

- Remove trees and other vegetation as necessary to provide adequate sight distance and clear travel way.
- Install and maintain road signage. This includes:
 - Stop signs – Should be installed at every intersection, with the signs on the minor roads.
 - Warning signs – Should be installed to warn the public of any road closures or problems in the game land.
 - Road/Route signs – Should be installed at every road intersection on a game land.
 - Information kiosks with game land road map – Entry signs should be installed at every entrance to a game land off of a DOT road. Information kiosks should be located near the entrances and in parking areas.

Gates

Gates should be used on game lands for maintenance and habitat conservation. For maintenance purposes, gates should be used to limit access to roads that are unsafe or are in disrepair, or to limit use on roads to certain times a year in order to minimize the wear and deterioration of the road. If a road is considered unsafe or in disrepair, field staff should contact an engineer. The engineer will perform an inspection to determine the best course of action to repair or upgrade the road.

All gates installed on game lands should be the standard swing gate and painted orange for maximum visibility. No cable gates should be installed, and any existing cables should be replaced.

Troubleshooting

Road Surface Problems

Problem: Longitudinal erosion of the road surface

Possible Causes:

- Flat or U-Shaped road. A crown or super-elevation of the road is needed to shed water laterally off the outer edges of the road surface
- Small ridge of soil or grass growth along the outer edge of the road is preventing water from draining off the road surface. Edge needs to be graded to remove this ridge.
- Water is traveling in a wheel rut. Road needs to be regraded. This problem often results from soft roads.
- Road ditch is not large enough and overflows onto road surface. Install more frequent turnouts to get water away from the road or increase the size of the ditch.

Problem: Lateral erosion cutting across the road surface

Possible Causes:

- Most often occurs at a low spot in the road or where a ditch filled in and no longer functions. Water builds up and overtops and erodes the road surface. A culvert should be installed in this location.

Problem: Potholes

Possible Causes:

- Potholes are typically caused by insufficient crown or road cross slope. The road should be re-graded to remove the potholes, then re-crown or super-elevate the road as necessary.

Ditch Problems

Problem: Bottom of ditch is eroding

Possible Causes:

- Slope of ditch is too steep to handle the flow without additional protective measures, which include addition vegetation, erosion control mats, rip rap, check dams, etc.
- Ditch is too small to handle the volume of water flowing through it. May need to install periodic turnouts to reduce flow through the ditch.
- Bottom of ditch is too narrow and needs to be widened to a parabolic shape.

Problem: Sides of ditches are slumping or eroding

Possible Causes:

- Side slopes are too steep and need to be lessened by digging the back.
- Side slopes need to be stabilized with additional vegetation, erosion control mat, or rip rap.

Parking Areas

The Holly Shelter Game Land consists of many miles of roads, but no designated parking areas. Currently, users of the game land park on the shoulders of roads, which can present several problems, ranging from blocking access to safety. The game land road network has been reviewed with field staff and numerous locations have been identified for the addition of parking areas. These parking areas are generally located the intersection of roads and at ADA (Americans with Disabilities Act) hunter locations.

Any new parking area should provide a gravel surface (approximately 6" layer of compacted ABC stone) and provide enough parking for three to five vehicles. Depending on the amount of clearing and grading required, it is estimated that each parking area will cost between \$5,000 and \$15,000.

Gates

There are several gates located throughout the game land, which limit access to certain roads and portions of the game land. The majority of the gates on the game land are swing gates and appear to be in good condition. The game land is typically closed outside of hunting season, with all gates closed and locked. Some of the gates on the game land are closed year round to keep the public off of some of the roads which are in poor condition. Other gates on the game land are opened/closed during specific times of the year, typically for deer and turkey hunting seasons. A Controlled Access Map has been included in this report, which identifies the times of the year when each gate/road is open to the public.

Drainage Structure Assessment

Dams

The Holly Shelter Game Land has no lakes/ponds or associated dam that needed to be inspected for this Management Plan

Impoundment

Holly Shelter has one impoundment, which is centrally located within the game land, near the intersection of Lodge Road and Military Road. The existing outlet structure (located at 34 31' 37.96" N, 77 43' 26.13" W) consists of an aluminum 48" barrel, with an aluminum 72" riser. This structure is in fair condition and currently needs no repairs. However, this structure should be regularly inspected in the future. When this aluminum structure is replaced in the future, it is recommended to be replaced with a reinforced concrete riser and barrel. The estimated cost of installing this new outlet structure is approximately \$40,000.

The berms/dikes around the impoundment are in good shape and currently need no improvements. They are free of large vegetation and do not appear to be experiencing any erosion problems. Routine maintenance and inspections should be conducted annually to ensure that the berms stay in good condition.

Dam/Impoundment Maintenance

Dams are complex structures that consist of many parts (figure 22). In order to prevent failures, dams must be inspected to identify potential problems, and maintenance must be performed to prevent deterioration of the structure that may result in failures. Because of their complexity, dams can fail in many ways including, but not limited to, overtopping, seepage failure, and structural failure.

Figure 22: Dam and Impoundment anatomy.

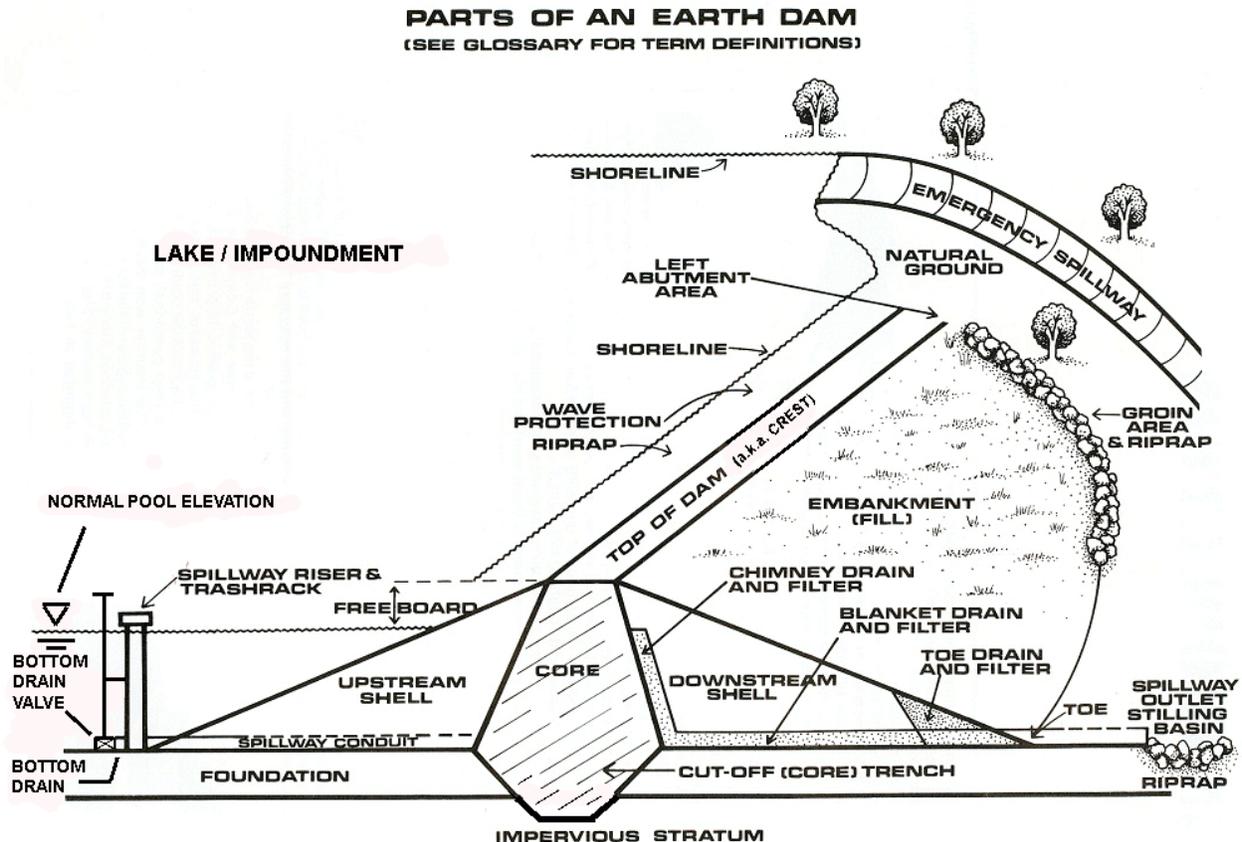


Figure 2 – Parts of an Earthen Dam (from Dam, Operation, Maintenance, and Inspection Manual – NCDENR Land Quality Section)

Periodic Inspection of dams is very important. Dams should be thoroughly visually inspected by technician staff at least twice a year, once in the summer and once in the winter. A closer inspection of the embankment can be made in the winter when the vegetation is dormant and in the summer after the embankment has been mowed. An engineer should be contacted after the embankment has been mowed. Ideally, an engineer will inspect the dam once per year. An engineer should be contacted any time of the year if a problem is observed. Each component of the dam should be inspected for problems, and corrective action should be taken as necessary. Records of inspections and corrective measures should be kept on hand to monitor any problems that may be observed. Checklists for inspections are available in the “Dam, Operation,

Maintenance, and Inspection Manual” published by the NC Department of Environment and Natural Resources.

A healthy stand of grass should be maintained on the dam embankment, toe, groin, top (if a road is not present), and in the emergency spillway to prevent erosion. Shrubs and woody vegetation should not be allowed on the embankment or in the spillway. Roots can cause seepage paths, and trees that fall can leave large holes that can weaken the dam. Brush and trees can also make it difficult to visually inspect the embankment for other issues, and they also provide a haven for burrowing rodents. They also prevent grass growth. As such, all trees, shrubs, and bushy vegetation should be removed from the dam. Embankments should be mowed at least once a year with equipment capable of navigating the potentially steep slopes and capable of removing small woody growth. Emergent vegetation on the shoreline of the embankment should also be controlled. Commercial herbicides can be used in these areas, however all application instructions, environmental precautions, and safety practices should be followed.

Any and all erosion observed on the embankment, on the groin, and in the emergency spillway should be addressed immediately. Vegetation should be re-established in the eroded area by adding soil as necessary and installing topsoil and fertilizer if necessary prior to seeding. Turf reinforcing mat may also be required to stabilize the repair. The cause of the erosion should also be addressed. The upstream face/shoreline of the embankment should also be checked for erosion. This may be caused by wave action. These areas should be repaired immediately by excavating out the eroded material and installing filter fabric and rip rap to prevent further damage.

Dam inspections should also address seepage that is observed. Seepage can occur anywhere on the downstream face, around principal spillway pipes, or beyond the toe of the dam. Seepage may vary in appearance from a soft, wet area to a flowing spring. These areas may show up as areas where the vegetation is lusher and darker green. Marsh or wetland vegetation may also be present in these areas. Seepage can lead to weakening of the embankment evidenced by slides caused by soil saturation or pressures in the soil pores. Seepage can also lead to piping, or the movement of soil particles, which can lead to dam failure. A continuous or sudden drop in the water level may also be an indication that seepage is occurring. Regular inspections and record keeping (seepage flow rates, water levels, content of flow, size of wet areas, and type of vegetation growth) are important to monitor the seepage conditions to determine whether the seepage is steady or in a state of change. If seepage is observed, an engineer should be notified.

The embankment should also be inspected for cracks, slides, sloughing, and settlement. Short, isolated cracks are not usually significant, however larger (wider than ¼ inch), well-defined cracks indicate problems. Transverse cracks that appear across the embankment may be due to differential settlement, and they can provide paths for seepage and piping. Longitudinal cracks that appear parallel to the embankment may indicate the early stages of a slide. Small cracks should be filled to prevent water intrusion. Slides are serious threats to dam safety as they can lead to instability of the embankment and failure. If a slide develops, the water level should be lowered to investigate of the cause and facilitate the construction of a repair. An engineer should be contacted to examine all cracks, slides, and settlements observed.

During the dam inspection, evidence of rodents (groundhogs, muskrat, and beavers) should be noted. Burrows can weaken the embankment and serve as pathways for seepage. Beavers can also plug spillways causing the water level to rise above the design level. Rodents should be

removed from the dam by acceptable means and burrows should be filled. Trash racks, spillways, and other outlets should be inspected for clogging and cleaned as necessary.

Roads on top of dams should be maintained to prevent damage to dam embankments. They should be constructed using a proper base and wearing surface. If a wearing surface is not constructed, traffic should not be allowed on the dam during wet conditions. Water trapped in ruts can lead to saturation and weakening of the embankment. A wearing surface will prevent or minimize ponding water and infiltration. A wearing surface should be constructed to drain into the impoundment, and stormwater runoff should not be concentrated at one point.

Principal spillway pipes should be inspected thoroughly once a year. They should be inspected for improper alignment (sagging), elongation and displacement at joints, cracks, leaks, surface wear, loss of protective coating, corrosion, and blockage. Special attention should be paid to pipe joints. The pipe should also be checked for signs of water seeping along the outside. Small or minor problems can be patched, however major problems may require replacement of the pipe. An engineer should be contacted if problems with the pipe are observed. Erosion at the pipe outlet should also be inspected. Severe undermining can lead to pipe joint displacement and weakening of the dam embankment. Rip rap may be installed to mitigate against continued erosion, however an engineer should be contacted if there is severe erosion. Inspection reports should be kept to monitor the progression of any observed problems.

Riser structures should be thoroughly inspected at least once a year. They should be examined for spalling and deterioration. Any cracking, staining, exposed reinforcing bars, and broken out sections that are observed should be further examined as this may lead to structural instability. They should also be checked for alignment and settlement. Mechanical equipment such as valves, gates, stems, and couplings should be inspected for corrosion, broken, or worn parts. It would also be good to operate these devices at least once a year to ensure that they are functioning and seating properly. An engineer should be contacted if problems in riser structures are observed, and they should be addressed immediately.

Trash racks and flashboards should be inspected on a more frequent basis. Clogging of these features can lead to higher water levels that may compromise the stability of the dam. Clogs should be cleared and all trash should be removed. If possible, the cause of the clogging should be identified and addressed. Broken trash racks and boards should be repaired or replaced. Broken trash racks can allow trash and debris to enter the riser and/or principal spillway pipe and can lead to clogging of these features.

Vegetated emergency spillways should be inspected at least twice per year (at the same time as the embankment). Spillway should be mowed to prevent trees, brush, and weeds from becoming established and to promote the growth of grass. Any erosion should be repaired immediately, and any obstructions should be removed. Periodic reseeding and fertilization may be necessary to avoid erosion and bare areas.

Concrete and other lined emergency spillways should be thoroughly inspected at least once a year. Concrete should be inspected for floor or wall movement, improper alignment, settlement, joint displacement, undermining, and cracking. Structural repairs should begin by removing all unsound concrete. Cracks must be repaired carefully to prevent water intrusion. An engineer should be notified if any structural problems are observed with the spillway. Rip rap lined spillways should be inspected for erosion and displacement of stone. All woody vegetation

should be removed, and any obstructions should be removed. Inspection forms and notes should be kept to monitor the progression of any observed deficiencies.

It is important to keep detailed and accurate records of all observations, inspections, maintenance, rainfall and pool levels, drawdowns, and other operational procedures. These records can aid in monitoring the progression of deficiencies as well as diagnosing problems. More information on dam inspections, operation, and maintenance can be found in the “Dam, Operation, Maintenance, and Inspection Manual” prepared by NCDENR Division of Land Resources Land Quality Section.

Culvert Assessment

Due to the size of the game land, and total quantity of culverts, there is no feasible way to locate and inspect every existing pipe. However, during the road investigation with field staff, several culverts were identified as needing repair or upgrade (*figure 23&24*). These include the following:

T Island Road/Intersection with Lodge Road

This is a 48” CMP culvert, approximately 30’ long, running under T Island Road. The culvert has both inlet and outlet scour and may be undersized. This culvert should be analyzed to determine the appropriate size, and rip rap or headwalls should be added to provide inlet and outlet protection.

Lodge Road (approximately 1.4 miles from intersection with US-17)

This is a 42” Aluminum culvert, approximately 30’ long, running under Lodge Road. This pipe is clogged, has both inlet and outlet scour, and shows evidence of overtopping the road. This pipe is undersized and should be analyzed to determine the appropriate size. Rip rap should also

be added to provide inlet and outlet protection.

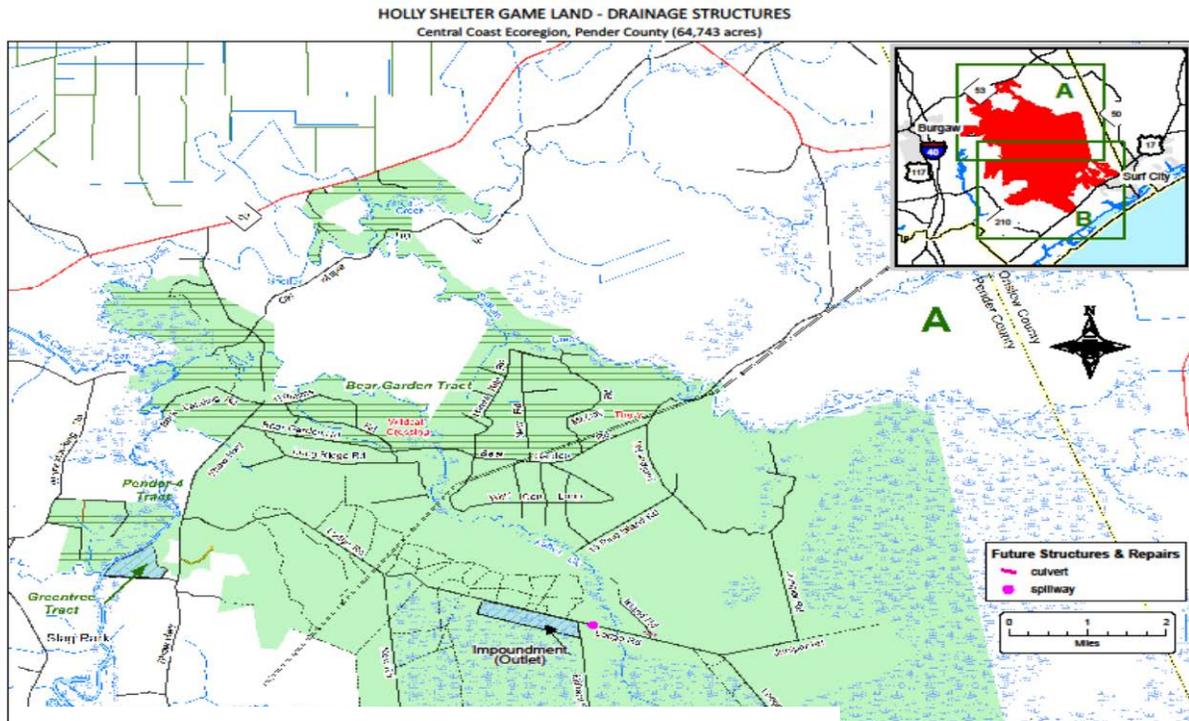
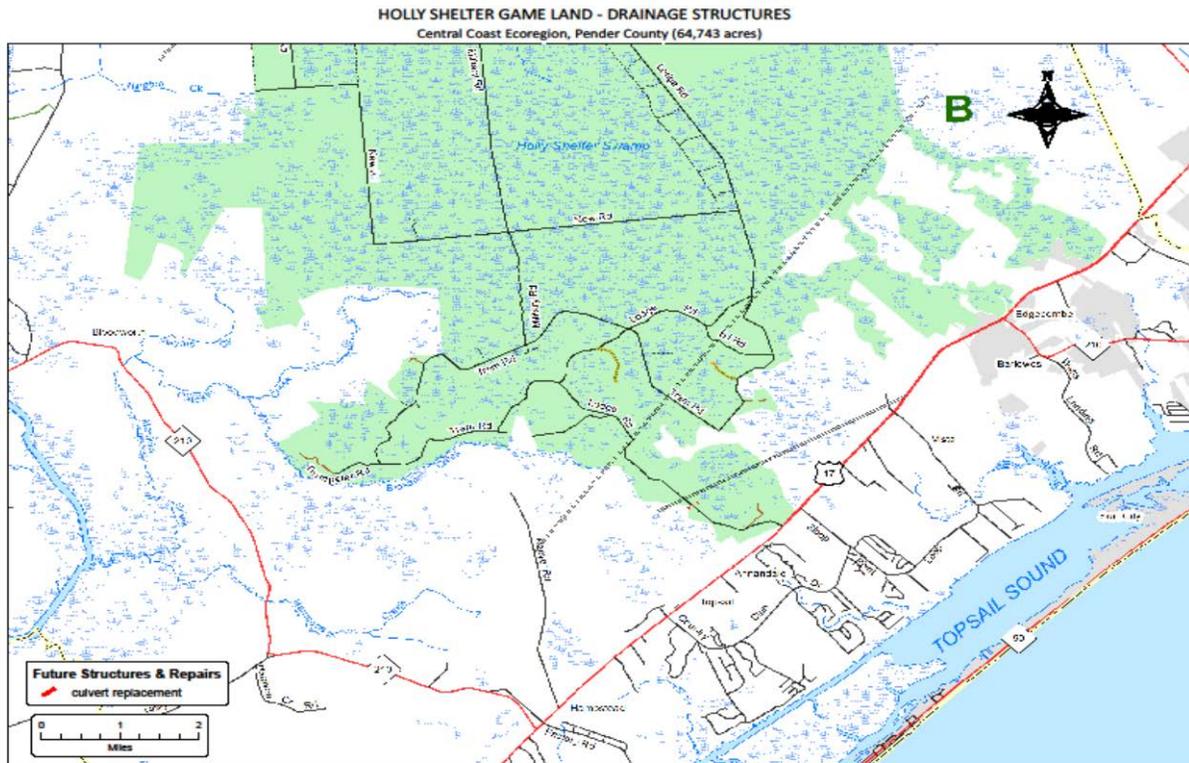


Figure 24: HSGL Drainage Structures South.



Culvert Maintenance

Culvert maintenance is performed to extend the life and ensure proper function of the installed drainage structure. 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 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.

Recreational Facilities

The Holly Shelter game lands experience a wide range of recreational uses. These include boating, fishing, and recreational shooting. Other non-traditional uses also occur on the game land, which include geocaching and hiking. Figures 25 & 26 show the locations of recreational facilities located on HSGL.

Figure 25: HSGL Recreational Facilities North.

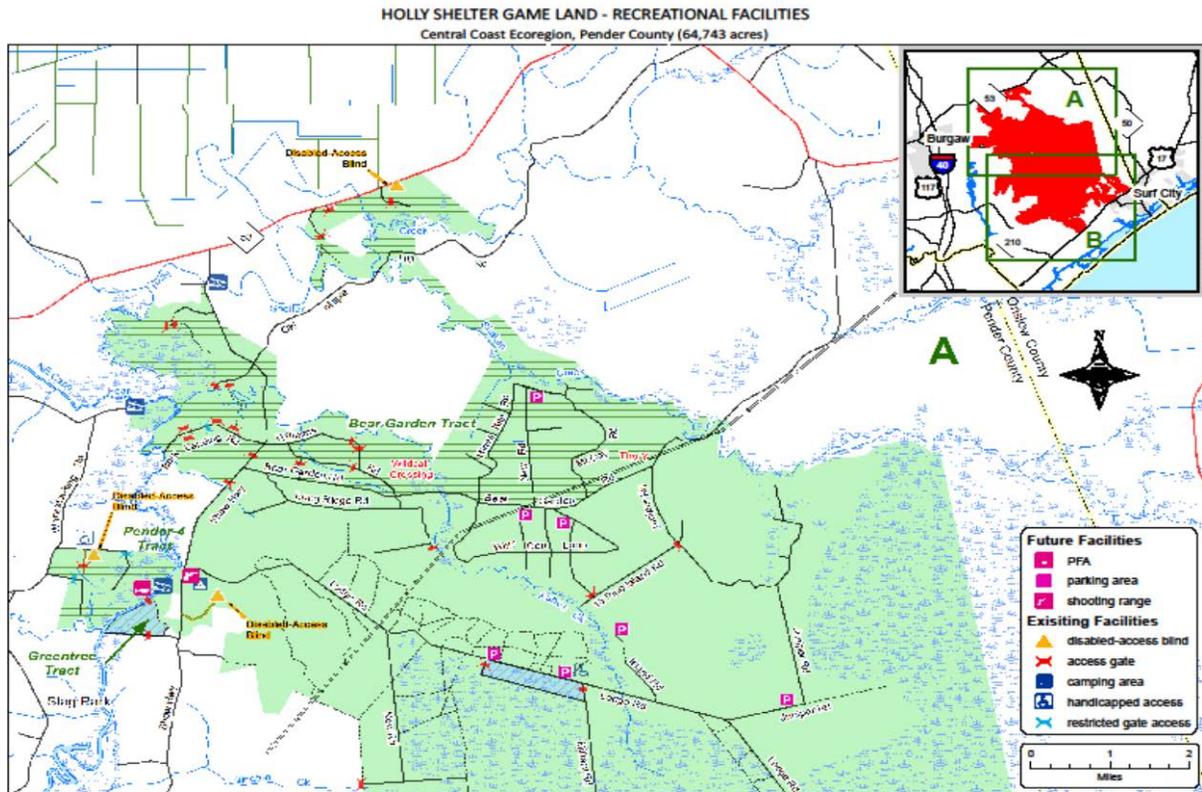
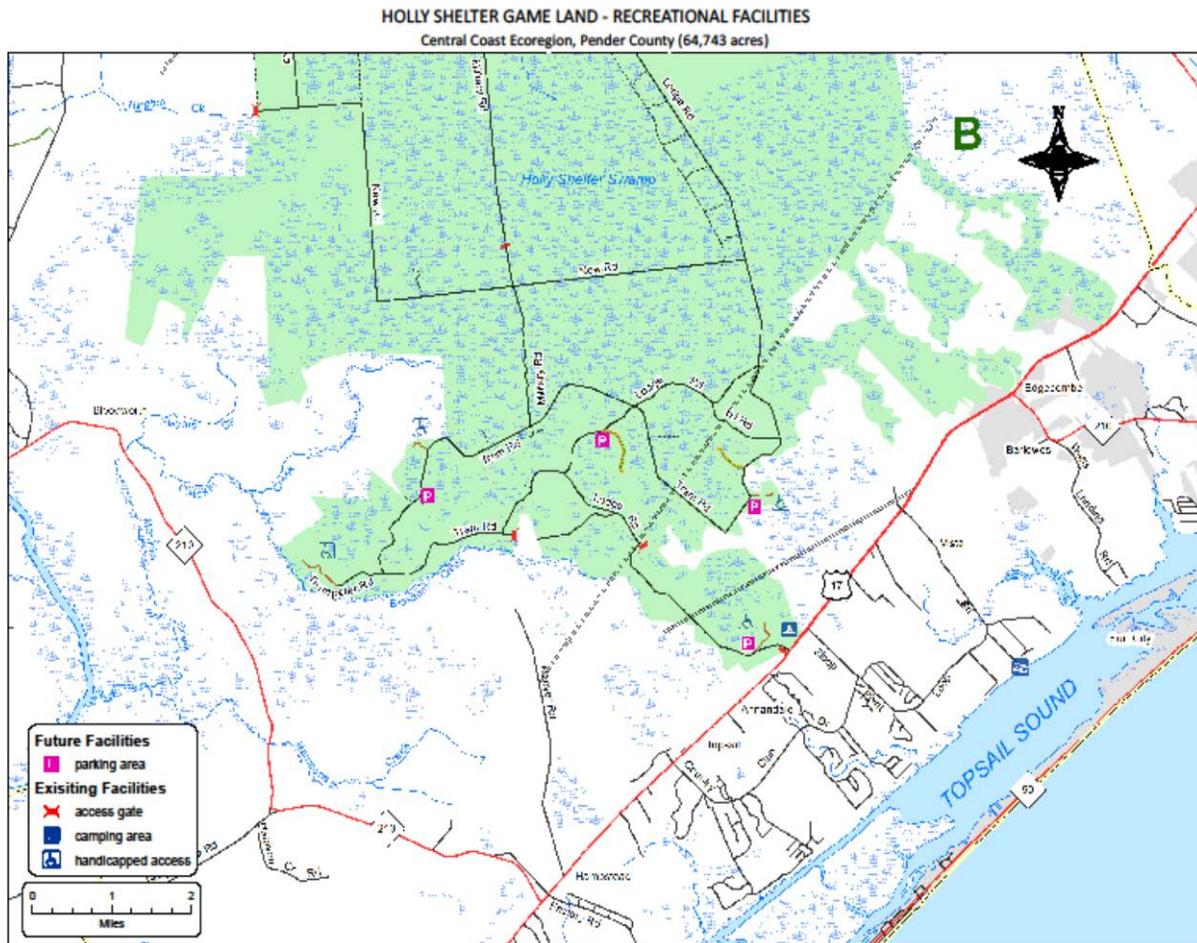


Figure 26: HSGL Recreational Facilities South.



Boating Access Areas

The Holly Shelter Boating Access Area is located in the western portion of the game land, and provides access to the Northeast Cape Fear River. The access area provides two concrete launch lanes, which were constructed in 1980 and are in fair condition. In 2012, new docks and ADA parking were provided. The area provides a gravel parking lot and access road.

This boating access area sees moderate use during specific times of the year and there is no need to pave the parking area or access road at this time. Due to the age of the ramp, staff should regularly inspect the concrete structure and notify an engineer if problems arise. Over the next ten years, this ramp will probably need replacement. This upgrade would include a new two-land ramp, docks and vinyl sheetpile bulkhead. The estimated cost of this upgrade is \$150,000.

There are no recommended locations for other boating access areas to be constructed within the Holly Shelter Game Land.

Public Fishing Areas

The Holly Shelter Game Land currently has no designated Public Fishing Areas. When the Holly Shelter BAA is renovated in the future, Engineering staff should coordinate with the Inland Fisheries Division to potentially install a pier near the access area. Any new piers located on the Northeast Cape Fear River would be fixed (on pilings) and constructed right along the shoreline. The estimated cost of a new fixed pier in this area is \$50,000.

Shooting Ranges

Design began in 2013 for the Holly Shelter Shooting Range. This range will be located off Lodge Road, near Shaw Highway and the Holly Shelter Depot. This facility will provide a 100-yard rifle range and a 25-yard pistol range, firing shelters and ADA accessibility. If a partnership with Pender County can be reached for the management and maintenance of the range, the facility may be expanded to include skeet/trap.

The game land currently has no rules limiting target practice or recreational shooting, and the public can shoot anywhere they like. This is not an ideal situation and presents safety concerns. By constructing this shooting range, the public will be required to use this facility and halt the unregulated recreational shooting on the game land. This will eliminate safety concerns and also help Enforcement Officers in policing the game land. The shooting range should also reduce the amount of trash related to recreational shooting on the game land, which includes spent ammunition and paper targets.

Non-Traditional Uses

Geocaching

Geocaching is a recreational activity, in which participants use a GPS receiver or mobile device to hide and locate hidden containers, or caches, located somewhere outdoors. The Holly Shelter game land has become a very popular geocaching location, with over 700 hidden caches. There are no major infrastructure elements required for this non-traditional use, but it would be beneficial to the participants to provide parking areas near the start/end of the geocaching trails.

Hiking/Camping

The Holly Shelter game land currently has two designated camping areas. One is located off of Lodge Road, near Shaw Highway, and the other is located off of Lodge Road near US-17. Both of these are primitive camping sites and are typically used by hunters. However, as non-traditional uses are becoming more popular, it is recommended that we investigate locations for additional recreational campsites to be designated in the future.

Holly Shelter also contains several miles of trails, which have typically been for hunter access. As with camping, hiking is becoming a more popular activity and will continue to be a demand on the game land. It is recommended that a staff work on a long term plan on building additional trails, which can be used for both hunter access and recreational hikers.

Recreational Facility 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 (Americans with Disabilities Act)
 - 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.

Public Uses

As stated previously in the Game Lands Program Mission Statement, primary public uses of North Carolina game lands are hunting, fishing, trapping, and wildlife viewing. However, the NCWRC recognizes 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.

As the human population of North Carolina has rapidly grown, state-owned game lands have received increasing pressure to provide public outdoor recreation opportunities. These uses include traditional activities such as hunting, fishing, trapping, and wildlife viewing, as well as other outdoor recreation pursuits. While hunting, fishing, trapping and wildlife viewing are the primary public uses of state-owned Game Lands, the NCWRC has always allowed and supported other dispersed and non-developed recreational activities. The funding sources of the NCWRC however, are focused on natural resources management rather than recreational development. Because of this, the NCWRC must exercise care in providing for recreational activities that may

not be compatible with the natural resources for which the lands are valued and the primary management objectives of these lands.

As a response to these increasing pressures, the NCWRC developed a Game Lands Use Evaluation Procedure to provide a statewide framework for determining appropriate uses for NCWRC-owned or controlled game land properties (Appendix J).

Hunting

Hunting is currently allowed on HSGL three days per week, Monday, Wednesday, and Saturday. Primary species pursued are Deer, turkey, black bear, and waterfowl (see information needs for harvest rates). Small game and webless migratory birds (dove, rail, and gallinule) are also hunted. Trapping occurs on the game land with raccoon, otter, coyote, bobcat, the primary species sought. Three areas offer Tier 2 disabled hunting opportunities (Pender 4, Bear Garden, and Webb Rd. field). These consist of two shooting houses and 1 Huntmaster lift blind (See infrastructure section).

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 and improvement of existing unimproved roads would be primary means to help increase the available use of the game land by hunters and trappers.

It should be noted that approximately 50% of those that attended the public meeting felt that the current level of access to the game land is satisfactory. Hunters generally felt that access was satisfactory. The addition of another tier 2 disabled hunter blind located on the 17 field will provide hunting opportunities previously not available on the East side of Holly Shelter. A focus on active open land management in heavily hunted sections of the game land will ensure that adequate numbers of game and furbearer species are present and will keep hunter and trapper interest high. Threats to a quality hunting or trapping experience include conflicts with other game land users, poorly managed habitats, poor access, and low numbers of species hunted.

Fishing

Fishing occurs on a limited basis inside on HSGL. Primary species are fliers, catfish, and jacks (chain pickerel). Fishing on HSGL is largely limited to times when game land gates are open. Year-round access is available at the Holly Shelter Boating Access Area near the wildlife Depot on the Northeast Cape Fear River.

Trapping

Trapping of furbearers is currently thought to occur at low levels. No public comments were received that indicated satisfaction, or the lack of, with trapping opportunities on GSGL

We are currently unaware of any specific infrastructure needs that would provide better opportunities for trappers. Additionally, we believed that ample opportunity is provided to trappers and there are no additional strategies we could implement to increase the use of the game land by trappers.

Geocaching

Geocaching is a recreational activity in which participants hide and seek objects called “caches” using GPS (Geographic Position System), or other devices. Geocaching frequently occurs at HSGL. This group of users is fairly new on the NCWRC’s radar, and was not represented at the public input meeting.

Geocachers from nearly all of the lower 48 states and Canada have been observed taking advantage of the more than 400 caches located on HSGL (Geocache.com, 11/18/2013). Caches are primarily adjacent to the game land road network. This is a highly unregulated activity that occurs during hunting seasons (gates are open). When administered in appropriate areas, during appropriate times, geocaching is a great outdoor activity that could be used to promote and educate the public about management activities occurring on game lands.

Educational/informational signage must be utilized at GL entrances. Geocachers are frequently observed by hunters “wandering” around in the woods wearing no blaze (safety) orange. Signage is used to help to inform this user group.

Target Shooting

The NCWRC is actively working on developing a shooting range to accommodate rifle, shotgun and pistol on the game land. Once completed all shooting activities will be limited to that area.

Hiking/Walking

Hiking and walking are very popular activities on HSGL and occurs year round. There are no designated hiking trails currently located on the game land. However, there are more than 100 miles of maintained paths, roads, and linear wildlife openings available for hiking. Where appropriate, upgrades to unmaintained, existing paths, and roads to a maintained status would increase walking and hiking opportunities. Strategies to increase and enhance hiking opportunities include: directional signage along roads that provide access to the game land, informational signage regarding maintained paths at key access locations (i.e. parking areas), and

adding signage at kiosks that indicates the best times of the year for hiking. Infrastructure improvements needed to better facilitate this user group includes signage as noted above, development of parking areas (see infrastructure section), and the establishment of additional kiosks at key access locations. Conflicts among hunters and hikers occasionally occur. 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.

Horseback Riding

There are currently no designated horseback riding areas on HSGL. The development of opportunities for horseback riders to use the game land and specific recommendations from the public input meeting were reviewed and discussed by NCWRC staff. Concerns include erosion issues, impacts to wildlife openings, conflicts with other user groups, and the potential for introducing exotic species. Horseback riding on HSGL is currently unregulated and most use is voluntarily restricted to the interior road network. There are no plans for restrictions at this time; staff will continue to monitor this activity and will recommend appropriate regulatory restrictions if and/or when warranted.

Financial Assets

Current assets

Central Coastal Eco-region Personnel (Based at Holly Shelter) in parentheses:

- 1-Eco-region Supervisor
- 1-Wildlife Forester
- 1-Management Biologist
- 1-Conservation Technician III
- 2-Conservation Technician II (1 at Holly Shelter Team Leader)
- 13-Conservation Technician I's (2 at Holly Shelter)
- 3-11 month temporary positions (1 at Holly Shelter)

Projected Financial Expenditures

Table 8 presents estimated expenditures for HSGL over the 10 year planning horizon. Cost estimates were derived (H) Habitat, (OM) Operations and Maintenance, from the Federal Aid Five Year Plan. Development (D) and Capital Improvements (CI) cost units were provided by Design Services. Average inflation of 2.48% was applied using rates provided from the period of 2003-2013.

Table 8: Estimated expenditures for HSGL for the time period 2015-2025.

Holly Shelter Game Land																
Financial Summary of Activities																
Habitat Activities																
Project	Description	Activity	Quantity	Unit	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	10	mi	\$525	5,250	5,380	5,514	5,650	5,790	5,934	6,081	6,232	6,387	6,545	\$58,764
H	Herbaceous Seeding	Seed or maintain	100	ac	\$175	17,500	17,934	18,379	18,835	19,302	19,780	20,271	20,774	21,289	21,817	\$195,879
H	Nesting Structures	Maintain Wood Duck boxes	9	box	\$50	450	461	473	484	496	509	521	534	547	561	\$5,037
H	Vegetation Control	Control vegetation on Impds	206	ac	\$30	6,180	6,333	6,490	6,651	6,816	6,985	7,159	7,336	7,518	7,704	\$69,173
H	Vegetation Control	Prescribe burning	1200	ac	\$30	36,000	36,893	37,808	38,745	39,706	40,691	41,700	42,734	43,794	44,880	\$402,952
H	Water Level Management	Manage water levels	3	sub-imp	\$1,166	3,498	3,585	3,674	3,765	3,858	3,954	4,052	4,153	4,256	4,361	\$39,157
<i>Subtotal</i>																\$770,962
Operation and Maintenance Activities																
Project	Description	Activity	Quantity	Unit	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	Maintain hunter access bridges	20	brg	\$150	3,000	3,074	3,151	3,229	3,309	3,391	3,475	3,561	3,650	3,740	\$33,579
O & M	Buildings	Maintain buildings	7	blg	\$4,000	28,000	28,694	29,406	30,135	30,883	31,649	32,433	33,238	34,062	34,907	\$313,407
O & M	Dams and Dikes	Maintain dams and dikes	3	mi	\$500	1,500	1,537	1,575	1,614	1,654	1,695	1,738	1,781	1,825	1,870	\$16,790
O & M	Public Use Facilities	Maintain campground	2	camp	\$225	450	461	473	484	496	509	521	534	547	561	\$5,037
O & M	Public Use Facilities	Maintain disabled hunter blind	3	blind	\$225	675	692	709	726	744	763	782	801	821	842	\$7,555
O & M	Road and Trails	Maintain Ashes Crk spillway	1	spill	\$2,500	2,500	2,562	2,626	2,691	2,757	2,826	2,896	2,968	3,041	3,117	\$27,983
O & M	Road and Trails	Maintain gates	46	gate	\$100	4,600	4,714	4,831	4,951	5,074	5,199	5,328	5,460	5,596	5,735	\$51,488
O & M	Road and Trails	Maintain road	99	mi	\$2,500	247,500	253,638	259,928	266,374	272,981	279,750	286,688	293,798	301,084	308,551	\$2,770,294
O & M	Road and Trails	Maintain trail	10	mi	\$2,500	25,000	25,620	26,255	26,907	27,574	28,258	28,958	29,677	30,413	31,167	\$279,828
O & M	Road and Trails	Replace culverts	5	cul	\$2,500	12,500	12,810	13,128	13,453	13,787	14,129	14,479	14,838	15,206	15,583	\$139,914
O & M	Signs and Boundaries	Maintain boundary	5	mi	\$135	675	692	709	726	744	763	782	801	821	842	\$7,555
<i>Subtotal</i>																\$3,653,430
Development Activities																
Project	Description	Activity	Quantity	Unit	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	Old Lodge road	4.6	mi	200,000	920,000										\$ 920,000
D	Road Upgrade	Juniper Road/Bear Garden Road	7.3	mi	200,000		1,496,208									\$ 1,496,208
D	Road Upgrade	Wolf Den loop Road	4	mi	200,000			839,680								\$ 839,680
D	Road Upgrade	Trumpeter Road	1.3	mi	200,000				279,344							\$ 279,344
D	Road Upgrade	New Road	7.6	mi	100,000		778,848									\$ 778,848
D	Road Upgrade	Military Road (Tram-New)	1.8	mi	100,000						202,320					\$ 202,320
D	Road Upgrade	New Road (Bear Garden)	1.7	mi	200,000					373,728						\$ 373,728
D	Road Upgrade	Longridge Road	3.5	mi	100,000							401,800				\$ 401,800
D	Road Upgrade	Pine Island Road	1.5	mi	200,000								352,080			\$ 352,080
D	Road Upgrade	BJ Road	1.1	mi	100,000									131,780		\$ 131,780
D	Road Upgrade	Shingleton Road	1	mi	200,000										244,600	\$ 244,600
D	Parking Areas	Parking Area Construction	11	ea	10,000	30,000		31,488		32,976		22,960				\$ 117,424
D	WCS Replacement	Lodge Rd Replacement	1	ea	40,000								46,944			\$ 46,944
<i>Subtotal</i>																\$ 6,184,756
Capital Improvements																
Project	Description	Activity	Quantity	Unit	Unit Cost	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	Total
C	BAA	Renovate Holly Shelter BAA	1	ea	\$150,000										183,450	\$183,450
C	PFA	PFA Construction	1	ea	\$50,000										61,150	\$61,150
<i>Subtotal</i>																\$183,450
Grand Total																\$10,792,597.95

Land Acquisition Plan

The current NCWRC statewide plan will address future land acquisition. Special preference will be given to inholdings, adjacent lands, those lands with critical habitats, or habitats of ecological importance. Acquisitions will be evaluated on a case by case basis, based on available funding, and will be from a willing seller. Acquisition proceedings will be conducted following the State Property Office land acquisition procedures and Phase I and II land evaluation forms (*Appendix K*).

Regulations/Enforcement

The following regulations and enforcement issues are identified on Holly Shelter Game Land

- Commercial use of game lands (statewide policy should be developed)
- Use of game lands for large events (statewide policy should be developed)
- Require all users to have game land use permit (statewide policy should be developed)
- Educational group or camp group event use permit (statewide policy should be developed)
- Unauthorized trail development
- Unauthorized camping
- Unauthorized removal of protected species from the game land

Partnerships/Collaboration/Volunteers

Ducks Unlimited

Mission Statement:

DU conserves, restores and manages wetlands and associated habitats for North America's waterfowl. These habitats also benefit other wildlife and people.

Delta Waterfowl:

Mission Statement: "to contribute knowledge, leaders and science-based solutions that efficiently conserve waterfowl and secure the future of waterfowl hunting."

Quail Unlimited:

Mission Statement: "Quail Unlimited is a nonprofit conservation organization dedicated to the wise use and management of America's wild quail, doves, upland game birds, and other forms of wildlife."

NC Clean Water Management Trust Fund:

Mission Statement: Restoring North Carolina's Natural and Economic Resources Through Non-Regulatory Partnerships with Local Communities

NC Natural Heritage Trust Fund:

Mission Statement: "to receive and administer gifts, grants, devises and bequests of real and personal property to further conservation, outdoor recreation, historic preservation and waterfront and community revitalization."

NC Natural Heritage Program:

Mission Statement: "To provide science and incentives to inform conservation decisions and support conservation of significant natural areas in our state."

The Nature Conservancy:

Mission Statement: "To conserve the lands and waters upon which all life depends."

National Wild Turkey Federation

Mission Statement: "Dedicated to the conservation of the wild turkey and the preservation of our hunting heritage."

North Carolina Forest Service:

Mission Statement: "To protect, manage and promote forest resources for the citizens of North Carolina."

National Fish and Wildlife Federation:

Mission Statement: "to protect and restore the nation's wildlife and habitats."

United States Marine Corp:

Mission Statement: "The Marine Corps has been America's expeditionary force in readiness since 1775. We are forward deployed to respond swiftly and aggressively in times of crisis. We are soldiers of the sea, providing forces and detachments to naval ships and shore operations. We are global leaders, developing expeditionary doctrine and innovations that set the

example, and leading other countries' forces and agencies in multinational military operations. These unique capabilities make us "First to Fight," and our nation's first line of defense."

Wayne Community College:

Mission Statement: "to meet the educational, training, and cultural needs of the communities it serves."

North Carolina Botanical Garden:

Mission Statement: "to inspire understanding, appreciation, and conservation of plants in gardens and natural areas and to advance a sustainable relationship between people and nature."

US Fish and Wildlife Service:

Mission Statement: "Working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people."

Boy Scouts of America:

Mission Statement: "The mission of the Boy Scouts of America is to prepare young people to make ethical and moral choices over their lifetimes by instilling in them the values of the Scout Oath and Scout Law."

Summary of Public Input

As part of the creation of the Holly Shelter Game Land Management Plan, public input was solicited over the summer of 2013. In order to reach as many individuals as possible, Management Biologists and Supervisory staff created a series of questions to gather information that would be most valuable in the creation of the Plans. Three venues were utilized to gather comments, public input meetings and an online Game Land Management Plan comment application. Comments were also solicited via email. Public comment was collected via the online/email applications from 15 July 2013 through 30 August 2013. The public input meeting was held on 22 July 2013 at the Cape Fear Community College's North Campus. In an effort to collect as much input as possible, the following individuals, Natural resource stakeholders, and sportsman groups were contacted via e-mail requesting their input.

- NC Natural Heritage Program
- NC Division of Marine Fisheries
- Jacksonville Urban Area MPO
- County of Onslow
- NC Forestry Association
- United States Fish and Wildlife Service
- North Carolina Division of Soil and Water Conservation
- Wendell Chamber of Commerce
- Weyerhaeuser Southern Timberlands
- North Carolina Coastal Land Trust
- NC Parks & Recreation
- NC Native Plant Society, Southeast Coast Chapter
- Cape Fear Council of Governments
- NC Wildlife Federation
- NC Coastal Federation
- Land Trust Alliance
- The Nature Conservancy, NC Chapter
- NC Department of Transportation
- NC office of Environmental Defense
- Friends of State Parks
- Rifle and Pistol Association (NC)
- Quail Forever-SE NC Chapter
- NC Wildlife Federation
- National Wild Turkey Federation
- NC Division of Natural Resources Planning & Conservation
- Wildlife Action, Inc. Lower Cape Fear River Chapter
- Natural Resources Conservation Service

- NC Sea Grant
- Partnership for the Sounds
- Lumber River Council of Governments
- Defense Advanced Research Projects Agency
- Conservation Trust of NC
- Brunswick Environmental Action Team
- Environmental Defense Fund
- North Carolina Coastal Land Trust
- NC State Beekeepers Association
- NC Museum of Natural Science; NC Herpetological Society
- Ecosystem Enhancement Program
- Carolina Waterfowl Rescue
- Bear Hunters Association (NC)
- Albemarle Pamlico National Estuary Program (APNEP)
- Wildlife Habitat Realty LLC
- NC Floodplain Mapping Program (Department of Crime and Public Safety)
- North Carolina Coastal Reserve & National Estuarine Research Reserve
- NC Watershed Coalition
- NC Chapter of the Wildlife Society
- North Carolina Native Plant Society c/o North Carolina Botanical Garden
- USFWS South Atlantic Landscape Conservation Cooperative
- US Marine Corps Camp Lejeune
- Foundation of Soil & Water Conservation
- USFWS - Alligator River NWR
- Wilmington MPO
- Conservation Fund-Resourceful Communities Program
- NOAA Fisheries Service Southeast Regional Office
- NatureServe - Southeast Office
- Sierra Club-North Carolina Club
- NC Ecosystem Enhancement Program
- Defense Coastal/Estuarine Research Program (Camp Lejeune)
- NOAA Ecosystems Goal Team
- Bowhunters Association (NC)
- Town of Burgaw (planning department)
- Clean Water Management Trust Fund
- NC Herpetological Society
- North Carolina Museum of Natural Sciences
- The Nature Conservancy
- Carolina Bird Club
- NC DENR Div. of Water Resources
- Carteret County Wildlife Club

- NC Division of Air Quality (DENR)
- Organization for Wildlife and Land Stewardship (OWLS)
- North Carolina Wildlife Federation
- NC Coastal Federation
- Audubon NC
- Coastal Plain Conservation Group
- International Paper
- MCAS Cherry Point
- United States Marine Corp; Marine Corps Installations East

The following is a summarization of received comments (all comments in *Appendix L*).

Q 1) What habitats do you think are most important to protect and/or improve on this game land?

50 % of the comments received were directly related to habitats associated with game animals i.e. Ducks, deer, dove, bear, turkey, etc. Generally these comments included the expansion of open land (food plots) and impoundment management. Remaining comments were evenly distributed over a variety of habitat types. More specifically, Hardwood bottoms, wet pine savannas, vernal pools, pocosin/pond pine, and wetlands were habitats that the public thought were most important.

Q2) Considering those that live on land and in water, what species do you think are most important to protect and/or improve on this game land?

Game animals were by far thought to be the most important (27 of 32 comments). Specifically, White-tailed deer and turkey were thought to be most important to protect and/or improve. They were specifically mentioned 15 and 12 times respectively in the 32 comments received. Others mentioned were bear, waterfowl, quail, raccoon, and small game. Threatened and Endangered plants and animals were commented on 6 times. RCWs, Carolina gopher frog, Venus fly-trap and golden sedge were specifically mentioned.

Q3) How do you use this game land?

An overwhelming number of individuals use Holly Shelter for “traditional” uses (hunting and fishing). Other users represented were campers, hikers, bikers, wildlife viewers, eco-tourists, paddlers and other boaters, photographers, dog walkers/runners, and horseback riders. It was unusual that geo-cachers were not represented. Holly Shelter is a well-known destination for those particular users, yet there is not a single comment from that user group.

Q4) Please explain why you think the current level of access is or is not, satisfactory on this game land?

Levels of satisfaction with regard to access are split nearly 50/50. Common comments of dissatisfaction were split that there is too much access for “non-traditional” users i.e. geo-cachers, target shooters; on the other hand, the “non-traditional” users would like more access. There were several requests for more hunting days/week, improved roads, and better (more) access for disabled sportsmen.

Q5) What suggestions, if any, do you have for changing how this game land is managed and maintained?

Comments regarding changes in management ranged from “all Game Land users should pay a user fee” to “keep doing what you’re doing.” Most common comments were, the need for improved food plot management, increased use of prescribed fire, the creation of archery only (still hunt) zones, the reduction/elimination of unregulated target shooting, the inclusion of the green tree and Lodge Rd. impoundments into the permit system, and increased non-game management.

Q6) What would encourage you to start using this game land, or to continue using it more actively?

Currently there are many things that discourage individuals from using Holly Shelter. Safety and equality of users came up repeatedly. Issues of unregulated target shooting, Game Land users in the woods without hunter orange, during hunting season, were common and need to be addressed. The expansion of the GL user fee to all users was repeated numerous times. Additionally, the creation of a still/bow hunting zone, the removal of the three days/week restriction, the reduction of gated roads, increased camping opportunities, the installation of walking trails, and increased food plot management would encourage the public to use Holly Shelter Game Land more frequently.

Q7) What additional comments do you have regarding this game land?)

Additional comments were broad in spectrum ranging from the creation of a calendar of hunting days to the State providing more money to the WRC for use on Holly Shelter. Issues of user safety and equality were expressed again in many final comments. The need for a shooting range and concerns of non-hunters on the Game Land with no hunter orange on hunt days were again common comments. Again many individuals wish to see all GL users pay a fee.

Appendices

Appendix I.

Glossary of Terms, Acronyms, and Rankings

Bedding-Land prepared before planting in the form of small mounds. The prepared land concentrates topsoil and elevates the root zone of seedlings above temporary standing water. Fertilizer is often incorporated into the bedding.

Cape Fear Arch-The Cape Fear Arch is a special geologic feature stretching from Cape Lookout, NC to Cape Romain, SC that contains nationally significant animal and plant communities. Created in 2006, the Cape Fear Arch Conservation Collaboration is a partnership of organizations and individuals interested in protecting this region while balancing the needs of man and nature. Its mission is to develop and implement a community conservation vision to build awareness, protection and stewardship of the region's important natural resources.

CWD-Chronic Wasting Disease is a transmissible spongiform encephalopathy (TSE) of mule deer, white-tailed deer, elk (or "wapiti"), and moose ("elk" in Europe). TSEs are caused by unusual infectious agents known as prions.

DNP-Dedicated Nature Preserve-

DOD-The mission of the [Department of Defense](#) is to provide the military forces needed to deter war and to protect the security of our country. The department's headquarters is at the [Pentagon](#).

FAS-Fixed Assets-Number assigned to items for monitoring inventory.

Fire Return Interval-The average interval between fires at a given site, or the average interval between fires in an equivalent specified area.

FLIR-Forward looking infrared (FLIR) cameras, typically used on military and civilian aircraft, use an imaging technology that senses infrared radiation.

LPDV-Lymphoproliferative Disease, a cancer of turkey and chickens, is caused by a retrovirus.

NC GAP-The Gap Analysis Program (GAP) is a national program of the US Geological Survey (USGS) Biological Resources Division whose goal is to work with partners to develop data and conservation plans that serve to keep common species common. The North Carolina Gap Analysis Project (NC GAP) is the state level representative of the National Gap Analysis Program.

Onslow Bight-The Onslow Bight extends from the lower Northeast Cape Fear River to the Pamlico River and from offshore waters to approximately 30 miles inland. The area is a unique landform of barrier islands, marshes, riverine wetlands, pocosins, longleaf pine savannas and many other coastal ecosystems. In 2002, The Nature Conservancy along with several governmental agencies and private conservation groups and other interested agencies and groups, formed the North Carolina Onslow Bight Conservation Forum. This ongoing collaboration aims to increase land protection, promote appropriate land management, create habitat corridors and reach out to local communities to encourage their involvement.

TPA-Trees per Acre-The number of trees per acre vary by the distance between each tree. In plantations, the number of trees per acre would be determined by knowing the spacing within a row and the spacing between rows. In planting systems, the initial number of trees per acre can be estimated by their spacing. Within general forest management, the spacing between trees and the number of trees per acre can be used to estimate timber volumes and values, prescribe silvicultural treatments, and provide simple examples of forest growth dynamics.

V-Sheering-Slicing or cutting trees or stumps at the ground line. Sheering may be done at harvest or with a KG blade during site preparation.

State rank

S1 (1–5 extant populations): Critically imperiled in North Carolina because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from North Carolina.

S2 (6–20): Imperiled in North Carolina because of rarity or because of some factor(s) making it very vulnerable to extirpation from North Carolina.

S3 (21–100): Rare or uncommon in North Carolina.

S4 (100–1000): Apparently secure in North Carolina, with many occurrences

S5 (1000+): Demonstrably secure in North Carolina and essentially ineradicable under present conditions.

SA (1–?): Accidental or casual; one to several records for North Carolina, but the state is outside the normal range of the species.

SH (0?): Of historical occurrence in North Carolina, perhaps not having been verified in the past 20 years, and suspected to still be extant.

SR (--): Reported from North Carolina, but without persuasive documentation which would provide a basis for either accepting or rejecting the report.

SX (0): Apparently extirpated from North Carolina.

SU (--): Possibly in peril in North Carolina but status uncertain; need more information

S? (--): Unranked, or rank uncertain

_B (1–?): Rank of breeding population in the state. Used for migratory species only.

_N (1–?): Rank of non-breeding population in the state. Used for migratory species only.

Z (1–?): Population is not of significant conservation concern

Global rank - applies to the status of a species throughout its range, and based on data on the species' status range wide.

G1 (1–5 extant populations): Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction.

G2 (6–20): Imperiled globally because of rarity or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3 (21–100): Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single physiographic region) or because of other factors making it vulnerable to extinction throughout its range.

G4 (100–1000): Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 (1000+): Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GH (0?): Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered.

GX (0): Believed to be extinct throughout its range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered.

GU (--): Possibly in peril range-wide, but status uncertain; need more information

G? (--): Unranked, or rank uncertain

G_Q (--): Questionable taxonomic assignment.

T_ (--): The rank of a subspecies or variety.

Appendix II.

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Appendix III.

NC Forest Service/WRC Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING

BETWEEN

NORTH CAROLINA
WILDLIFE RESOURCES COMMISSION

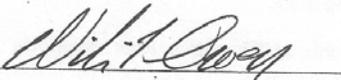
AND

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF FOREST RESOURCES

By: 

Gordon S. Myers
Executive Director
North Carolina Wildlife Resources Commission

Date: 18-Dec-2008

By: 

Wib L. Owen
Director
North Carolina Division of Forest Resources
Department of Environment and Natural Resources

Date: 12/18/08

By: 

Michael G. Bryant
Director
North Carolina Division of Purchasing and Services
Department of Environment and Natural Resources

Date: 12/19/08

DENR CONTRACT NO. 1988

I. BACKGROUND AND OBJECTIVES

This Memorandum of Understanding (MOU) is hereby entered into by and between the North Carolina Department of Environment and Natural Resources, Division of Forest Resources (hereinafter referred to as "*Forest Resources*") and the North Carolina Wildlife Resources Commission (hereinafter referred to as "*Commission*"), hereinafter referred to collectively as the "*Parties*", to facilitate the cooperation of the two parties in fire management activities. These activities will include, but shall not be limited to, mitigation, training, wildfire prevention, and wildfire suppression.

Forest Resources is charged under General Statute 113, with the responsibility of protecting state and private forest lands from forest fires and is also charged with enforcing laws relating to forest fires.

The *Commission* is charged under General Statute 143 Article 24 to manage, restore, develop, cultivate, conserve, protect, and regulate the wildlife resources of the State of North Carolina, and to administer the laws relating to game, game and freshwater fishes, and other wildlife resources enacted by the General Assembly to the end that there may be provided a sound, constructive, comprehensive, continuing, and economical game, game fish, and wildlife program directed by qualified, competent, and representative citizens, who shall have knowledge of or training in the protection, restoration, proper use and management of wildlife resources.

It is to the *Parties* mutual advantage to coordinate their efforts in mitigation activities, training, wildfire prevention, and wildfire suppression.

This MOU shall become effective once it has been executed by both *Parties*; it shall continue in effect for Five (5) years from the date of the last signature.

Either party may rescind their participation in this MOU with a letter describing the circumstances for withdrawal. This MOU will cease to exist 30 days after the letter is received by the other party. There should be an effort to collaboratively solve any differences prior to seeking the termination of this MOU.

Amendments and/or changes to this MOU will be mutually agreed upon and submitted to each *Party* for approval and will become a permanent part of this MOU upon signed approval of both *Parties*.

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II. FOREST RESOURCES AGREES:

A. Wildland Fire

1. The *Forest Resources'* District Forester will alert the *Commission* when conditions are at Readiness Plan Level (RPL) 4 or greater. The notification will include information on burn restrictions or bans and recommendations regarding the use of prescribed fire.
2. District Forester or designee will notify the *Commission* immediately of any wildfires on or threatening a *Commission* property and will attempt to consult with and coordinate all responses through the *Commission* representative to identify a mutually agreeable response.
3. To control and extinguish all wildfires on lands under its protection utilizing the National Incident Management System (NIMS) concepts/Incident Command System. Methods used to suppress wildfires should minimize impacts on *Commission* property, commensurate with effective control, resource values to be protected and fiscal constraints of both agencies.
4. Firefighter and public safety must be first priority in all fire management activities. However, whenever possible and when mutually agreed to, methods used to control wildfires or escaped prescribed fires on *Commission* property will be planned and implemented so that secondary impacts, including plowed or bulldozed lines, are minimized. *Forest Resources* staff will attempt to consult with the *Commission's* staff on all suppression activities prior to initiating them on *Commission* property, consistent with the existing threat/safety issue related to the activity and where conditions are deemed acceptable and are agreed to by both parties, wildfires or escaped prescribed fires will be allowed to burn out to already established lines or natural barriers in lieu of establishing new plowed or bulldozed lines on *Commission* property.
5. To assume direction for the control of any wildfire either on or threatening *Commission* property as quickly in coordination with *Commission* personnel.
6. Record and document paid out suppression costs incurred for extended wildfire suppression on *Commission* property within 60 days of close out. This information will be made available to *Forest Resources* and *Commission* leadership.

B. Prescribed Fire

1. The District Forester or designee will receive electronic or paper copies of burn permits. Smoke management information, updates on fire weather conditions, spot weather forecasts, and related information will be provided when requested by the *Commission* for prescribed fire planning on *Commission* property.

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2. On the day of a prescribed burn the district forester or representative will record smoke management information reported by the *Commission*. The *Commission* representative will be notified if smoke management guidelines are exceeded.
3. The District Forester or representative will alert the *Commission* representative when severe wildfire conditions exist and may advise the *Commission* not to conduct prescribed burns during severe conditions in the Spring Fire Season or when Fire Readiness Plans are 4 or higher.
4. Provide the *Commission* fire suppression assistance and/or take control of fire suppression activities after prescribed fire escapes if requested.
5. To coordinate with the *Commission's* Regional Supervisor when *Forest Resources* personnel are available as determined by the District Forester to assist with *Commission* prescribed fire operations to either allow *Forest Resources* personnel to gain experience/training or for *Forest Resources* personnel to assist with the training of *Commission* personnel.

C. Training

1. Provide to the *Commission* notice of pending prescribed fire training available to their personnel.
2. Provide to the *Commission* the *Forest Resources* training calendar that outlines *Forest Resources* fire training.
3. Work collaboratively in developing a prescribed fire program for *Commission* properties as requested by the *Commission*.
4. Provide an opportunity for the *Commission* to be a part of the NC Fire Environment Working Group (FEWG).

D. Information and Education

1. As requested by *Commission*, provide a Firewise assessment on *Commission* facilities outlined in a plan developed by the local *Forest Resources* District Supervisor and *Commission* representative.

III. COMMISSION AGREES:

A. Wildland Fire

1. *Commission* representative will report any wildfire detected either on or threatening *Commission* property, to the *Forest Resources* District Forester, county ranger/forester or through the 911 system and will initiate immediate and appropriate control measures upon the detection of any unplanned or uncontrolled ignition.
2. Information on each *Commission* property, including planned prescribed burns, roads, other GIS data, and *Commission* contacts for wildfire management response will be provided to District Foresters and updated annually.
3. To turn over direction of control of any wildfire not on *Commission* property to the first *Forest Resources* Incident Commander to arrive. Direction of control of any wildfire on *Commission* property will be turned over to the first *Forest Resources* Incident Commander to arrive. After taking control of a wildfire on *Commission* property, *Forest Resources* will consult with local *Commission* staff regarding best plan of control as related to existing roads, streams, topographic features, resources and personnel allocation.
4. To make available *Commission* personnel, equipment, and facilities for use in suppressing wildfire on *Commission* property. The *Commission* will make available *Commission* personnel, equipment, and facilities for use in suppressing wildfire not on *Commission* property in extreme emergencies, in cases of catastrophic wildfires, when *Forest Resources* personnel, equipment, and facilities are unavailable, and with approval from the *Commission's* Director or his designated representative. *Commission* personnel will have and use appropriate wildland fire Personal Protective Equipment (PPE) to include at a minimum, fire shirt, fire pants, fire shelter, gloves, goggles, 8" leather lace up boots, and hard hat when assisting with fire suppression activities under the direction of *Forest Resources* personnel on lands not under *Commission* control.
5. To appoint a *Commission* resource advisor/liaison officer to an incoming *Forest Resources* Incident Management Team in support of wildland fire suppression efforts on *Commission* property. This position will be staffed in shifts by rotating personnel as needed for the duration of the incident or until released by the *Forest Resources* Incident Commander.

B. Prescribed Fire

1. During Spring Fire Season which is March through May or when *Forest Resources* is operating on a Fire Readiness Plan 4 or higher, the *Commission* representative will notify the district forester prior to any prescribed burn, preferably at least one day in advance. Weather conditions and *Commission* resource allocation may not allow a one day notice but notice should be made

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when a decision has been made to move forward with the burn. *Commission* will not burn when Fire Readiness Plans are 5 or higher.

2. The *Commission* agrees to follow and to abide by the North Carolina Smoke Management Plan and to work collaboratively with *Forest Resources* to identify plan revisions that provide additional opportunities for prescribed burning.
3. The *Commission* representative will contact the *Forest Resources* District Operations Officer on the day of a planned prescribed burn prior to ignition for notification purposes to report smoke management information. The *Commission* representative will also contact the office of the county ranger on the day of the prescribed burn and County 911 Dispatch.
4. To coordinate with the District Forester when *Commission* personnel are available as determined by the *Commission* Regional Supervisor to assist with *Forest Resources* prescribed fire operations to either allow *Commission* personnel to gain experience/training or for *Commission* personnel to assist with the training of *Forest Resources* personnel.

C. Training

1. To train selected key personnel in the Incident Command System. These are web-based courses through FEMA.
 - IS-700: NIMS, An Introduction
 - IS-800 National Response Plan: An Introduction
 - ICS-100: Introduction to ICS
 - ICS-200: Basic ICS
2. To train personnel who may have prescribed fire or wildfire assignments as *Commission* resources allow. The minimum fire training will be S-130, S-190, and L-180 (Basic Fire Weather and Fire Behavior).
3. To participate in the Certified Burner Program under the management of *Forest Resources*.
4. To participate in prescribed fire under the direction of *Forest Resources* personnel on lands not under *Commission* control for the purpose of additional training/experience as identified by the *Commission* representative and when the *Commission* Regional Supervisor determines that *Commission* personnel are available for that purpose.
5. To participate in the NC Fire Environment Working Group (FEWG).

D. Information and Education

1. To participate in the NC Firewise Program where applicable.

IV. BOTH PARTIES AGREE:

Forest Resources District Foresters and/or their designees will be available to meet with the *Commission* representative to review burning plans for the year and discuss technical input. *Forest Resources* will not assume responsibility for approval of individual prescribed burn plans.

- A. To be responsible for training their employees and to participate in joint training meetings for the purpose of developing closer working relations.
- B. Not to direct media or any other non-agency personnel to the location of active prescribed burn or wildfire sites without attempting to advise agency staff at the site that such personnel are in route.
- C. Key contact officials for this agreement are the Forest Protection Section Chief, *Forest Resources* and the State & Private Lands Section Manager, *Commission*. These officials will coordinate an Annual Cooperative Meeting by March 1 or some other mutually agreeable date of each year to discuss and review statewide coordination of training, prescribed burning, wildfire prevention, and wildfire suppression.
- D. All *Commission* prescribed fire management operations will occur pursuant to the North Carolina Smoke Management Plan and only under the direction of an on-site *Commission* certified prescribed burner and/or burn boss. *Commission* staff will assume complete control for all prescribed fire operations on *Commission* property.
- E. *Commission* property closures warranted by wildfire will be a joint decision following consultation between agency directors.
- F. The *Commission* and *Forest Resources* public information officers will consult prior to issuing press releases regarding closures of *Commission* property.
- G. The *Commission* representative and district foresters during Annual Operating Plan meetings to be held prior to March 1 or some other mutually agreeable date of each year will review fire management plans for every *Commission* property. Development of an Annual Action Plan for each *Commission* property will include, but not be limited to:
 1. Logistics: Including personnel and equipment; maps; communications and notification procedures; contact information; operational procedures; and other matters as deemed necessary by the participants.
 2. *Commission* Fire Management Planning: a review of each *Commission's* wildfire management response plan and, if applicable, the *Commission's* prescribed fire management plans.
 3. Response Plans: Including a review of the incident command system; appropriate, *Commission* specific suppression methods and response levels based on fire severity and location; access points and containment lines;

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ecological issues; minimization of secondary impacts from suppression; public safety; facilities protection, etc.

- H. In the event of a significant wildfire or escaped prescribed fire on *Commission* property requiring *Forest Resources* assistance, *Forest Resources* staff will be briefed and will assume overall responsibility on arrival. *Commission* staff will be included in a unified Incident Command System and will be included in all discussions and decisions on suppression actions on *Commission* property. *Commission* personnel, equipment, and facilities will be made available as necessary and appropriate.
- I. Exceptions to full suppression may be ecologically and logistically warranted and are expected to be fully considered, regardless of the ignition source, especially in ecologically sensitive areas and where full suppression is clearly not warranted owing to fire location, size, intensity, etc. Where conditions are deemed acceptable and are agreed to by both parties, wildfires or escaped prescribed fires will be allowed to burn out to already established lines or natural barriers in lieu of establishing new plowed or bulldozed lines on *Commission* property.
- J. Whenever possible, all appropriate measures will be taken to minimize secondary suppression impacts to *Commission* property. Preferred suppression methods on *Commission* property will be discussed in the annual fire plan reviews and planned to the extent possible. This will include the identification of ecologically sensitive areas, equipment options and preferences, access areas and existing fire lines, pre-determined control lines, burn-out blocks, etc.
- K. In the event of a significant wildfire or escaped prescribed fire on *Commission* property, a post-fire review will be conducted. This review will be conducted within six months of the fire by the *Forest Resources* District Forester or designee, the *Commission* representative or designee, the burn boss, and other administrative personnel as deemed appropriate by either agency. The review of escaped *Commission* prescribed fires will include, but not be limited to, a review of the pre-burn approval records; burn boss and crew qualifications; unit prescriptions; predicted and on-site weather parameters; required and on-site fire management resources; anticipated and actual fire behavior and factors contributing to the fire's spread; pre-fire response planning; the actual response, including methods and equipment used; and suppression impacts.

----- End of MOU Terms -----

Appendix IV.

Cultural Resources Act

Archaeological Resources Protection Act North Carolina General Statutes Chapter 70, Article 2

This statute applies to all state-owned, occupied or controlled property except for highway rights-of-way.

The purpose of the statute is to provide for the protection of archaeological resources on state lands. Major provisions of the law are as follows:

1. Archaeological resources are defined as any material remains of past human life or activities which are at least 50 years old and which are of archaeological interest, including pieces of pottery, basketry, bottles, weapons, weapon projectiles, tools, structures or portions of structures, rock paintings, rock carvings, intaglios, graves or human skeletal materials.
2. Permits are required in order to conduct archaeological investigations on state lands.
3. (The 1991 amendment to ARPA, effective July 1, 1991, transferred to the Department of Cultural Resources--from Department of Administration--the authority to issue permits under G.S. 70, Article 2.)
4. Information on archaeological site locations is exempted from unrestricted public access may result in damage to or destruction of the archaeological resources
5. All archaeological resources, equipment and vehicles utilized in conjunction with violation of the law are subject to forfeiture.

Prohibitions and penalties under the law are as follows:

1. No person may excavate, remove, damage or otherwise alter or deface any archaeological resource located on state lands without a permit.
2. No person may sell, purchase, exchange, transport, receive or offer to sell, purchase, exchange, transport or receive any archaeological resource excavated or removed from state lands in violation of the law.
3. Any person who knowingly and willfully violates or employs any other person to violate any prohibition of the law, shall upon conviction, be fined not more than \$2,000 or imprisoned not more than six months, or both.
4. Each day on which a violation occurs shall be a separate and distinct offense.
5. Civil penalties may also be assessed against any person who violates the provisions of the act.

Appendix V.

Deeds

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MAR 2 4 05 PM 1961

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1/16 Register of Deeds
Pender Co
Book 367, p. 118

STATE OF NORTH CAROLINA
COUNTY OF PENDER

THAD EURE
SECRETARY OF STATE
NORTH CAROLINA

file -
71-8,7

THIS DEED, made and entered into this 12 day of January
1961, by and between Robert W. Roberts, Jr. and wife, ^{myself} Mary E. Roberts,
and Inez S. Roberts (widow), all of Pender County, North Carolina, Grantors,
parties of the first part, and the State of North Carolina, Grantee, party
of the second part,

W I T N E S S E T H:

THAT the said parties of the first part, for and in consideration of
the sum of Ten Dollars and other good and valuable consideration to them
in hand paid, the receipt of which is hereby acknowledged, have bargained
and sold, and by these presents do grant, bargain, sell, and convey to the
said party of the second part, its successors and assigns, those certain
tracts or parcels of land lying in Topsail Township, Pender County, North
Carolina, and adjoining lands of the State of North Carolina (formerly
Finley McMillan and perhaps others) and bounded as follows:

FIRST TRACT: BEGINNING at the Northwest corner of the land
described in a grant to H. B. Griffin, recorded in Book 60,
page 383, of the Registry of Pender County, said stake being
a corner of the North Carolina Wildlif. Resources Commission,
and being in or near the Northern edge of Rosen Ear Ridge;
running thence with the Western line of the land described in
the aforesaid grant South 14 degrees 45 minutes West 1500 feet
to a stake in or near the Southern edge of Rosen Ear Ridge, a
corner of said grant; thence around Rosen Ear Ridge, approximately
with the edge of the bay the following courses and distances:
South 75 degrees 2 minutes 33 seconds West 730.3 feet; South 66
degrees 41 minutes 33 seconds West 816.9 feet; North 52 degrees
55 minutes 57 seconds West 443.4 feet; North 52 degrees 47
minutes 57 seconds West 360.8 feet; South 86 degrees 40 minutes
3 seconds West 300.2 feet; North 35 degrees 38 minutes 57 seconds
West 561.2 feet; North 3 degrees 3 minutes 57 seconds West 175.5
feet; North 63 degrees 41 minutes 33 seconds East 349.1 feet;
North 38 degrees 54 minutes 33 seconds East 605.8 feet; North
37 degrees 52 minutes 27 seconds West 129.4 feet; North 71
degrees 4 minutes 27 seconds West 262.3 feet; North 14 degrees
9 minutes 27 seconds West 159.6 feet; North 58 degrees 23 minutes
33 seconds East 321.6 feet; North 28 degrees 31 minutes 27 seconds
West 139.1 feet; North 61 degrees 17 minutes 33 seconds East 299
feet; South 76 degrees 59 minutes 27 seconds East 290.6 feet
South 47 degrees 59 minutes 27 seconds East 176.6 feet; South
66 degrees 25 minutes 27 seconds East 166.3 feet; South 19
degrees 45 minutes 12 seconds East 412.5 feet; South 45 degrees
28 minutes 12 seconds East 432.7 feet; South 74 degrees 19 minutes
12 seconds East 457.5 feet; South 17 degrees 51 minutes 12 seconds
East 84.4 feet; North 81 degrees 8 minutes 48 seconds 227.9 feet;
North 1 degree 53 minutes 48 seconds East 685.5 feet; South 73

degrees 13 minutes 42 seconds East 401 feet; North 84 degrees 9 minutes 18 seconds East 207.6 feet to the BEGINNING, containing 99.03 acres, as shown by survey and maps of Wildlife Resources Commission in Map Book No. 3, page 81, of the Registry of Pender County.

Being that tract designated as "Rosensar Ridge", "Roasting Ear Place", "Rosen Year", and Grant to Hill W. Nixon, dated September 5, 1855, filed December 7, 1855, recorded in Book NN, page 250, of the Registry of New Hanover County.

SECOND TRACT: All right, title and interest in that tract of land adjoining the "First Tract" of 99.03 acres in this deed, bounded and described as follows: BEGINNING at a stake, the Northwest corner of the land described in a grant to H. B. Griffin, recorded in Book 60, page 383, of the Registry of Pender County, said stake being a corner of the North Carolina Wildlife Resources Commission in or near the Northern edge of Rosen Ear Ridge, and being the beginning corner of the 99.03-acre "First Tract" herein, and running thence from said beginning point, so located, North 84 degrees 9 minutes 18 seconds East 198 feet to a stake; thence South 26 degrees 45 minutes 42 seconds East 1295.1 feet to a stake; thence South 15 degrees 33 minutes 42 seconds East 355.7 feet to a stake; thence South 23 degrees 58 minutes 18 seconds West 457.3 feet to a stake; thence North 65 degrees 25 minutes 42 seconds West 1080.8 feet to a stake; thence South 75 degrees 2 minutes 33 seconds West 95 feet to a stake, a corner of the 99.03-acre "First Tract" herein; thence with the first line of said tract North 14 degrees 45 minutes East 1500 feet to the point of BEGINNING, containing 41 acres, more or less, and being the lands described in a grant to H. B. Griffin, recorded in Book 60, page 383, of the Registry of Pender County.

TO HAVE AND TO HOLD the aforesaid tracts or parcels of land and all privileges or appurtenances thereunto belonging, to the said party of the second part, its successors and assigns, forever. And the said parties of the first part, for themselves and their heirs, executors, and administrators, covenant with said party of the second part, its successors and assigns, that they are seized of said "First Tract" in fee and have the right to convey the same in fee simple; that said "First Tract" is free and clear of all encumbrances and that they do forever warrant and will forever defend said title to the same against the claims of all persons whomsoever; that they make no warranty as to the "Second Tract", in that they are transferring only whatever right, title, and interest that they may have in the same.

IN TESTIMONY WHEREOF, the parties of the first part have hereunto set their hands and seals the day and year first above written.

s/ _____ (SEAL)
Robert W. Roberts, Jr.

s/ _____ (SEAL)
Mary P. Roberts

s/ *Inez S. Roberts* _____ (widow) (SEAL)
Inez S. Roberts

Approved for Acquisition:

s/ Dave S. Caltrane
Director of Administration

Approved as to form:

T. W. BRUTON,
Attorney General

By s/ Charles D. Barkham, Jr.
Real Property Attorney

STATE OF NORTH CAROLINA
COUNTY OF PENDER

I, Kathryn P. Rich, a Notary Public in and
for the aforesaid County and State do hereby certify that

Robert W. Roberts, Jr. and wife, Mary P. Roberts, and

Inez S. Roberts

personally appeared before me this date and acknowledged the due execution by
them of the foregoing instrument for the purposes therein expressed.

WITNESS my hand and Notarial Seal this 12 day of January
1961.

s/ Kathryn P. Rich
Notary Public

My commission expires:

5/26/62

STATE OF NORTH CAROLINA
COUNTY OF PENDER

The foregoing certificate (~~s~~) of Kathryn P. Rich

Notary (~~is~~) Public in and for the County and State aforesaid, duly
authenticated by he Notarial Seal (~~is~~) thereto attached (~~is~~) (~~are~~)
adjudged to be correct, in due form, and according to law; therefore,
let the instrument with the certificates be registered. This 16th
day of January 1961.

s/ Frances N. Zutch
Asst. Clerk of Superior Court

\$336.00
 STATE OF NORTH CAROLINA Real Estate Excise Tax
 FILED
 04 DEC 22 PM 3: 38
 JOYCE M. SWICEGOOD
 REGISTER OF DEEDS
 PENDER COUNTY, NC
 BK 2550 PG 156
 FILED
 MAY 17 2005
 SECRETARY OF STATE
 PIN # 3259-23-7557-8098
 DATE 12-22-04 INT KB
 Excise Tax: \$336.00
 Recorded and Verified
 Joyce M. Swicegood
 Register of Deeds
 Pender County, NC

STATE OF NORTH CAROLINA SPECIAL WARRANTY DEED
 COUNTY OF PENDER

THIS DEED, made this 20th day of December, 2004
 by and between THE NATURE CONSERVANCY, a nonprofit corporation of the
 District of Columbia (hereinafter called "Grantor") with a local address of One
 University Place, Suite 290, 4705 University Drive, Durham, North Carolina
 27707; and the STATE OF NORTH CAROLINA, a body politic (hereinafter
 called "Grantee") with a mailing address of NC State Property Office, 1321 Mail
 Service Center, Raleigh, North Carolina 27699;

WITNESSETH:

THAT the said Grantor, in consideration of the sum of TEN DOLLARS
 (\$10.00) and other good and valuable consideration paid to it, receipt of which is
 hereby acknowledged, has bargained and sold, and by these presents does
 hereby grant, bargain, sell and convey unto the said Grantee, its successors and
 assigns, in fee simple, the following described tract or parcel of land located in
 the County of Pender, State of North Carolina and being more particularly
 described as follows:

See EXHIBIT "A" attached hereto and incorporated herein.

TO HAVE AND TO HOLD said above described tract or parcel of land,
 together with all and singular, the rights, privileges, easements, tenements and
 appurtenances thereunto belonging, or in anywise appertaining unto the said
 Grantee, in fee simple.

THE GRANTOR COVENANTS with the Grantee, that Grantor has done
 nothing to impair such title as Grantor received, and Grantor will warrant and
 defend the title against the lawful claims of all persons claiming by, under or
 through Grantor, except for the matters herein stated:

1. Utility easements and rights of way crossing the property;
2. Zoning laws, local ordinances and land use regulations affecting the property;

Prepared by Seay Law Firm
 Return to: J. L. Seay, Jr., SEAY LAW FIRM, 519 Market St., Wilmington, NC 28401

3. Any state of facts which a current survey or an inspection of the property would reveal, including, but not limited to, the location of boundary lines, improvements and encroachments, if any;

4. Conservation Easement by and between the Grantor and the State of North Carolina acting through the North Carolina Clean Water Management Trust Fund, dated June 1, 2004 and recorded June 17, 2004 in Book 2412 at Page 063 of the Pender County Registry; and

5. No warranty of title is made to any portion of the property which lies below the mean high water mark of the North East Cape Fear River or Burgaw Creek.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its corporate name by its duly authorized officer the day and year first above written.

THE NATURE CONSERVANCY

By: Katherine D. Skinner
Name: Katherine D. Skinner
Its Vice President

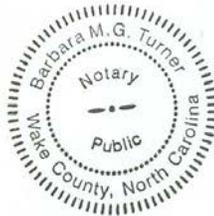
STATE OF NORTH CAROLINA

COUNTY OF DURHAM

I, Barbara M. G. Turner, the undersigned Notary Public in and for the County and State aforesaid, do hereby certify that Katherine D. Skinner personally came before me this day and acknowledged that she is the Vice President of THE NATURE CONSERVANCY, a nonprofit D.C. corporation, and that by authority duly given and as the act of such entity, she signed the foregoing instrument in its name on its behalf as its act and deed.

Witness my hand and official seal or stamp this 20th day of December, 2004.

Barbara M. G. Turner
NOTARY PUBLIC
My Commission expires: August 11, 2007
(Notary Seal)



NORTH CAROLINA - PENDER COUNTY: The foregoing (or annexed) certificate of Barbara M. G. Turner is certified to be correct. This 22 day of Dec., A.D. 2004
JOYCE M. SWICEGOOD - Pender County Register of Deeds
By: Jahli P. Green Deputy Register of Deeds

EXHIBIT "A"

Lying and being in Pender County, North Carolina:

Being all of that tract shown on a Plat for The Nature Conservancy entitled "Portion of the Pender Number Four Tract" dated December 3, 2003 and recorded in Map Book 37, Page 032 (Slide 498), Pender County Registry, shown thereon containing 776.78 total acres, more or less, reference to which map is hereby made for a more particular description; and being an Eastern portion of the Eighth Tract conveyed to The Nature Conservancy by deed dated March 6, 2002, recorded in Book 1881, Page 118, Pender County Registry.

SUBJECT TO the covenants, conditions and restrictions contained in that certain Conservation Easement recorded in Book 2412, Page 063, Pender County Registry.

SUBJECT TO a nonexclusive, right of way easement for the use of a road (thirty feet in width) crossing through and running along a Northern line of the above described tract, in favor of Jeanette G. Register, her successors and assigns, which easement is more particularly described in that certain Right-Of-Way Easement dated July 1, 1993 and recorded in Book 919, Page 164, Pender County Registry. Grantor conveys and assigns to Grantee all its right, title and interest in and to said Right-Of-Way Easement, including any and all reversionary rights thereto.

FILED

OCT 18 2 43 PM 1962

THAD EURE
SECRETARY OF STATE
NORTH CAROLINA

STATE OF NORTH CAROLINA

DEED

COUNTY OF PENDER

THIS DEED made this 13th day of September 1962, by and between JAMES D. DIXON and wife, ALICE DIXON, *New Hanover* of Pender County, North Carolina, parties of the first part, and the STATE OF NORTH CAROLINA, party of the second part,

WITNESSETH:

THAT the parties of the first part for and in consideration of \$100.00, and other valuable considerations in hand paid, the receipt of which is hereby acknowledged, have bargained, sold and conveyed, and by these presents do hereby bargain, sell and convey unto the party of the second part the following described lands, lying and being in Pender County, North Carolina, and adjoining the lands of J. A. Shingleton, and the run of Trumpeter Swamp, and bounded as follows, to wit:

BEGINNING in the run of Trumpeter Swamp at the southeastern corner of the J. A. Shingleton tract of 110 acres, and runs thence with the Shingleton line, and beyond, North 15 degrees 28 minutes West 3,284 feet to a stake; thence North 42 degrees 32 minutes East 264 feet to a stake; thence North 00 degrees 28 minutes West 660 feet to a stake; thence North 69 degrees 32 minutes East 528 feet to a stake; thence South 52 degrees 28 minutes East 330 feet to a stake; thence South 85 degrees 28 minutes East 660 feet to a stake; thence North 16 degrees 28 minutes West, 660 feet to a stake; thence North 50 degrees 28 minutes West 924 feet to a stake; thence North 37 degrees 32 minutes East 528 feet to a stake; thence South 79 degrees 28 minutes East 660 feet to a stake at the run of Buckhorn Branch; thence with the run of Buckhorn Branch South 36 degrees 28 minutes East 4,899 feet, more or less, to the run of Trumpeter Swamp; thence down the run of Trumpeter Swamp to the BEGINNING, containing 311 acres, more or less, according to a survey made in 1961 by V. W. Herlevich and Lindsey B. Hopkins.

TO HAVE AND TO HOLD the said lands together with all privileges and appurtenances thereunto belonging, or in any wise appertaining, to the party of the second part in fee simple forever, and the parties of the first part covenant that they are seized of the said lands in fee simple, that the same are free and clear from any and all encumbrances, and that they, their heirs and assigns, will forever warrant and defend the title thereto against all lawful claims, and the parties of the first part do further hereby quitclaim unto the party of the second part all of their right, title and interest, together with any and all rights to use roads, rights of ways and cartways, in any and all other lands in the Holly Shelter Wildlife Management Area, Pender County, North Carolina, as shown by map drawn by B. B. White and recorded in Map Book 8 at page 22 of the Registry of Pender County; excepting however, the lands conveyed to James D. Dixon and wife, Alice Dixon, by deed of even date herewith.

IN TESTIMONY WHEREOF, the parties of the first part have hereunto set their hands and affixed their seals, the day and year first above written.

s/ James D. Dixon (SEAL)

s/ Alice Dixon (SEAL)

STATE OF NORTH CAROLINA

COUNTY OF New Hanover

I, G. S. Hargrave Notary Public, for the above State and County, do hereby certify that personally appeared before me this day James D. Dixon and wife, Alice Dixon, who signed the foregoing instrument, and acknowledged their due execution thereof for the purposes therein expressed.

WITNESS my hand and Notarial Seal this the 18th day of September 1962.

s/ G. S. Hargrave
Notary Public

My commission expires:

June 11, 1964

Recorded in Pender Co.
Book 377, page 448
9/27/62

HLP

FILED

03 JUN -5 PM 2: 13

JOYCE M. SWICEGOOD
REGISTER OF DEEDS
PENDER COUNTY, NC

FILED

SEP 11 2003

SECRETARY OF STATE

Recorded and Verified
Joyce M. Swicegood
Register of Deeds
Pender County, NC

71-8.24

Excise Tax: 0
Tax ID No.: S040-006 and S040-008

STATE OF NORTH CAROLINA
COUNTY OF PENDER

DEED
(Timber Release)

THIS DEED, made this 17th day of February, 2003 by and between **SUSTAINABLE FORESTS L.L.C.**, a Delaware limited liability company (hereinafter called "Grantor"); and the **STATE OF NORTH CAROLINA**, a body politic and corporate (hereinafter called "Grantee"), whose mailing address is: ATTN: Chad Guthrie, 116 West Jones Street, 1321 Mail Service Center, Raleigh, NC 27699 ;

WITNESSETH:

THAT the said Grantor, for the business convenience of the Grantor, and upon the request of SP Forests L.L.C., but otherwise for no consideration, has conveyed and released, and by these presents does hereby grant, convey and release unto the said Grantee, all its right, title and interest, including all timber, in and to the following described parcel(s) or tract(s) of land located in the County of Pender, State of North Carolina and being more particularly described as follows:

See attached EXHIBIT "A" incorporated herein.

TO HAVE AND TO HOLD the above described land(s) and premise(s) together with all and singular, the rights, privileges, easements, tenements and appurtenances

Prepared by Seay Law Firm, PO Box 2027, Wilmington, NC 28402-2027
Return to: _____

thereunto belonging, or in anywise appertaining unto the said Grantee, free and clear from any claim by the Grantor.

THE GRANTOR makes no representation or warranty, express or implied, with regard to the title to this property.

IN WITNESS WHEREOF, Grantor has caused this Instrument to be signed in its company name by its duly authorized manager/officer the day and year first above written.

SUSTAINABLE FORESTS L.L.C.

By: W. Robert Richman (Seal)
Its: Manager/VP

STATE OF South Carolina
COUNTY OF Harley

I, Sarah U Wheeler, a Notary Public in and for the aforesaid County and State, do certify that W Robert Richman, Manager/VP of SUSTAINABLE FORESTS L.L.C., a Delaware limited liability company, personally appeared before me this day and acknowledged the due execution of the foregoing instrument on behalf of the company.

Witness my hand and official seal this 17th day of February, 2003.

Sarah U Wheeler

NOTARY PUBLIC

My Commission expires: June 7, 2012

[Notary Seal]

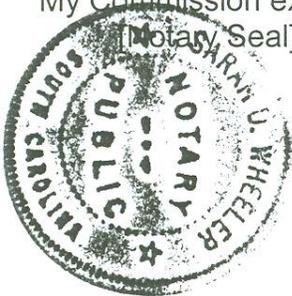


EXHIBIT "A"

STATE OF NORTH CAROLINA COUNTY OF PENDER

TRACT 1: Situate, lying and being in Topsail Township, Pender County, North Carolina: BEING the D. N. CHADWICK LOT NO. 1, as the same is shown on map of Riegel Woodlands Corp., Portion of W. A. Atkinson Estate made by S. B. Blanton, Registered Land Surveyor, in October 1951, recorded in Map Book 4 at Page 10 of the Pender County Registry, reference to which map is hereby made for a more particular description, shown thereon containing 118 acres more or less;

BEING the same property as was conveyed to Riegel Woodlands Corporation by D. N. Chadwick, Jr. and wife, Margaret M. Chadwick by deed dated February 23, 1952 and recorded in Book 293 at Page 501 of the Pender County Registry;

AND BEING the same "Atkinson, W. A. Estate" Tract described in a deed from Sustainable Forests L.L.C. to SP Forests L.L.C., dated October 17, 2001 and recorded in Book 1787 at Page 133 of the Pender County Registry;

TOGETHER WITH all of Grantor's right, title and interest, but without warranty of title, in and to any and all portions of the old abandoned ACL RR (Seaboard Coastline Railroad) right of way, 125 feet wide, which crosses the above referenced tract;

SUBJECT TO an AT&T cable easement, ten feet wide, dated December 19, 1988 and recorded in Book 726, Page 71 of the Pender County Registry.

(Tax ID No. S040 008)

TRACT 2: Situate, lying and being in Topsail Township, Pender County, North Carolina: BEING the W. S. HALL LOT NO. 2, as the same is shown on a map of Riegel Woodlands Corp., Portion of W. A. Atkinson Estate made by S. B. Blanton, Registered Land Surveyor, in October 1951, recorded in Map Book 4 at Page 10 of the Pender County Registry, reference to which map is hereby made for a more particular description, shown thereon containing 115 acres more or less; EXCEPTING that certain 5.4 acres conveyed out to Mrs. T. B. Atkinson by deed dated September 30, 1954 recorded in Book 328 at Page 169 of the Pender County Registry;

BEING the same property as was conveyed to Riegel Woodlands Corporation by W. S. Hall, widower, *et al.* by deed dated February 29, 1952 and recorded in Book 293 at Page 552 of the Pender County Registry; EXCEPTING that certain 5.4 acres conveyed out to Mrs. T. B. Atkinson by deed dated September 30, 1954 recorded in Book 328 at Page 169 of the Pender County Registry;

AND BEING the same "Atkinson, W. A. Hall" Tract described in a deed, or intended to be described in a deed, from Sustainable Forests L.L.C. to SP Forests L.L.C., dated October 17, 2001 and recorded in Book 1787 at Page 133 of the Pender County Registry;

TOGETHER WITH all of Grantor's right, title and interest, but without warranty of title, in and to any and all portions of the old abandoned ACL RR (Seaboard Coast Line Railroad) right of way, 125 feet wide, which crosses the above referenced tract;

TOGETHER WITH all of Grantor's right, title and interest as Lessor, in and to, and subject to that certain Oil, Gas and Mineral Lease made with Piedmont Petroleum & Gas Co., Inc., Lessee, dated October 14, 1947 and recorded in Book 276, Page 123 of the Pender County Registry; which Lease is hereby assigned to Grantee, as the same was assigned to Riegel Woodlands Corporation by instrument recorded in Book 293, Page 554 of the Pender County Registry;

SUBJECT TO an AT&T cable easement, ten feet wide, crossing the property dated December 19, 1988 and recorded in Book 726, Page 72 of the Pender County Registry; and subject to that certain CP&L easement dated October 29, 1992 and recorded in Book 870, Page 177 of the Pender County Registry.

(Tax ID NO. S040 006)

TRACTS 1 AND 2 above are conveyed together with and subject to that certain appurtenant, access easement, 60 feet wide, running from U.S. Highway No. 17 to and across said Tracts 1 & 2 above described, as the same is more particularly described in an Exchange of Right of Ways agreement between Federal Paper Board Company, Inc., and Emmett M. Sniff and wife, Ruth B. Sniff and Walter H. Sniff and wife Tammy Sniff, dated January 10, 1991, recorded in Book 769, Page 619 of the Pender County Registry.

NORTH CAROLINA - PENDER COUNTY: The foregoing
(or annexed) certificate of Sarah H. Wheeler, is
certified to be correct. This 5th day of June, A.D. 2003
JOYCE M. SWICEGOOD - Pender County Register of Deeds
By: Faye Brewette **Deputy/Assistant**
Register of Deeds

FILED

OCT 18 2 44 PM 1962

THAD EURE
SECRETARY OF STATE
NORTH CAROLINA

STATE OF NORTH CAROLINA

DEED

COUNTY OF PENDER

THIS DEED made this 13th day of September 1962, by and between JAMES D. DIXON and wife, ALICE DIXON, of ^{New Hanover} Pender County, North Carolina, parties of the first part, and the STATE OF NORTH CAROLINA, party of the second part,

WITNESSETH:

THAT the parties of the first part for and in consideration of the sum of \$10.00, and other valuable consideration in hand paid, the receipt of which is hereby acknowledged, have bargained and sold, and by these presents do hereby bargain, sell and convey unto the party of the second part, its successors and assigns, all that certain tract or parcel of land situate, lying and being in Topsail Township, Pender County, North Carolina, and more particularly described as follows, to wit:

BEGINNING at a point on the south side of the Tram Road and near the western terminus of said road and running South 15 degrees 45 minutes East 392.0 feet to a point; thence South 83 degrees 54 minutes West 375.0 feet to a point; thence South 68 degrees 08 minutes West 465.0 feet to a point; thence North 18 degrees 20 minutes East 718.6 feet to a point; thence South 79 degrees 02 minutes East 481.7 feet to the point of BEGINNING and containing 7 acres, more or less.

Being a portion of Tract "A" on the Composite Map prepared by Lindsey B. Hopkins, December 12, 1961 for James D. Dixon and wife, Alice Dixon vs. North Carolina Wildlife Resources Commission and the State of North Carolina, filed with the Superior Court of Pender County.

TO HAVE AND TO HOLD the aforesaid tract or parcel of land and all privileges and appurtenances thereunto belonging to the said party of the second part, its successors and assigns, in fee simple.

IN TESTIMONY WHEREOF the said parties of the first part have hereunto set their hands and seals the day and year first above written.

s/ James D. Dixon (SEAL)

s/ Alice Dixon (SEAL)

STATE OF NORTH CAROLINA

COUNTY OF New Hanover

I, G. D. Hargrave, Notary Public, for the above State and County, do hereby certify that personally appeared before me this day James D. Dixon and wife, Alice Dixon, who signed the foregoing instrument, and acknowledged their due execution thereof for the purposes therein expressed.

WITNESS my hand and Notarial Seal this the 18th day of September 1962.

s/ G. D. Hargrave
Notary Public

My commission expires:

June 11, 1964

Recorded in Pender Co.
Book 377, page 449
9/27/62

FILED

08:11 DI JAN-5 AM 10:18

JOYCE M. SWICEGOOD
REGISTER OF DEEDS
PENDER COUNTY, NC

No N.C. Real Estate
Excise Tax Affixed

Gift

Excise Tax

FILED

BK 1653 PG 188

MAR 5 2001

SECRETARY OF STATE

71-8-23

Recording Time, Book and Page

Tax Lot No. _____ Parcel Identifier No. _____
Verified by _____ County on the _____ day of _____, 19____
by *KS*

Mail after recording to State of North Carolina, Property Control
P O Box 629, Raleigh, NC 27602

This instrument was prepared by David Bland, Esq.

Brief description for the Index 150 & 90 acres, Southwest Ridge

NORTH CAROLINA SPECIAL WARRANTY DEED

THIS DEED made this *22nd* day of November, 2000, by and between

GRANTOR

THE NATURE CONSERVANCY
4245 North Fairfax Drive, Suite 100
Arlington, VA 22203-1606

GRANTEE

THE STATE OF NORTH CAROLINA
Property Control
P O Box 629
Raleigh, NC 27602

Recorded and Verified
Joyce M. Swicegood
Register of Deeds
Pender County, NC

Enter in appropriate block for each party: name, address, and, if appropriate, character of entity, e.g. corporation or partnership.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in the City of _____, Holly Township, Pender County, North Carolina and more particularly described as follows:

Two tracts as follows:

A tract of land consisting of 150 acres more or less lying between the International Paper Company tract and the tract known as the South West Ridge tract, which was conveyed to H. E. Miller, Jr., by Milton J. Humphrey et ux, in a deed recorded in Book 430 at Page 74 in the Registry of Pender County.

A tract in Holly Township, beginning at a pine on the east end of Southwest Ridge of the south side of Ashes Creek, running thence S 15 W 26 poles; thence S 82 W 166 poles; thence N 61 W 28 poles; thence S 86 W 64 poles; N 73 E 96 poles; thence N 48 W 34 poles; and thence with the bay to the first station, containing by estimation 90 acres, more or less, and known as the Southwest Ridge, this being the same tract of land conveyed by Ward and Grimes to Q. G. Southerland et al by deed dated 26 May 1928 and recorded in Record of Deeds Book 172 at Page 368 of the Public Registry of Pender County; and being the Third Tract described in deed dated 10 September, 1973, from Sledge Industries, Inc. to W. F. Sledge, registered in Book 474, Page 295, Office of Register of Deeds of Pender County, NC.

The property hereinabove described was acquired by Grantor by instrument recorded in Book 661, Page 206 and Book 659, Page 214

A map showing the above described property is recorded in Plat Book page

DO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor has done nothing to impair such title as Grantor received, and Grantor will warrant and defend the title against the lawful claims of all persons claiming by, under or through Grantor, except for the exceptions hereinafter stated.

Title to the property hereinabove described is subject to the following exceptions:

Subject to all matters of record.

This deed is given to replace a prior deed from Grantor to Grantee for the same property which was lost prior to recordation.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first above written.

THE NATURE CONSERVANCY (Corporate Name)
By: Charles R. Bassett Vice President
TEST: David Bland Assistant Secretary (Corporate Seal)

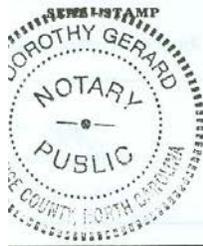
USE BLACK INK ONLY



SEAL - STAMP

USE BLACK INK ONLY

NORTH CAROLINA, Durham County.
I, a Notary Public of the County and State aforesaid, certify that Grantor, personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this 22nd day of November, 192000.
My commission expires: 02/10/2002 Notary Public



Use Black Ink

NORTH CAROLINA, Durham County.
I, a Notary Public of the County and State aforesaid, certify that David Bland Assistant Secretary of The Nature Conservancy, a non-profit D.C. North Carolina Corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its Vice President, sealed with its corporate seal and attested by him as its Assistant Secretary.
Witness my hand and official stamp or seal, this 22nd day of November, 2000.
My commission expires: 02/10/2002 Dorothy Gerard Notary Public

The foregoing Certificate(s) of Dorothy Gerard

is/are certified to be correct. This instrument and this certificate are duly registered at the date and time and in the Book and Page shown on the first page hereof. JOYCE M. SWICEGOOD

by Angela Morley REGISTER OF DEEDS FOR Pender COUNTY
Assistant-Register of Deeds.

STATE OF NORTH CAROLINA

QUITCLAIM DEED

COUNTY OF PENDER

THIS QUITCLAIM DEED, made and entered into this 15^d day of September 1964, by and between the STATE OF NORTH CAROLINA, a body corporate and politic, party of the first part, and RANSEY WEATHERSHEE, JR., of New Hanover County, North Carolina, party of the second part;

W I T N E S S E T H:

THAT WHEREAS, the North Carolina Wildlife Resources Commission has authorized the conveyance of the lands hereinafter described to the party of the second part; and

WHEREAS, the execution of this instrument on behalf of the State of North Carolina has been duly approved by the Governor and Council of State by resolution adopted at a meeting held in the City of Raleigh, North Carolina, on the 3rd day of September 1964;

NOW, THEREFORE, the party of the first part in consideration of the premises and in further consideration of the sum of ONE (\$1.00) DOLLAR to it in hand paid, the receipt of which is hereby acknowledged, has remised and released and by these presents does hereby remise, release, and forever quitclaim unto the party of the second part, his heirs and assigns, all right, title, claim, and interest of the said party of the first part in and to a certain tract or parcel of land lying and being in the County of Pender, and State of North Carolina, in Topsail Township, and more particularly described as follows:

BEGINNING at an old granite stone at the Old Newbern Road, the Northeastern corner of Tract No. 1 as shown on the map of Subdivision of Land of R. C. Nixon Estate, dated March 1923, by J. L. Becton, C. E.; running thence from said

Beginning point South 34 degrees 34 minutes East with the Eastern line of said Tract No. 1 846.0 feet to an iron pipe in a fire lane; thence South 64 degrees 23 minutes West along said fire land 536.95 feet to an iron pipe; thence North 57 degrees 53½ minutes West along said fire lane 542.8 feet to an iron pipe in the Western line of Tract No. 2 as shown on said map; thence North 25 degrees 00 minutes West with the Western line of said Tract No. 2 241.0 feet to a concrete monument, the Northwestern corner of said Tract No. 2 at the Old Newbern Road; thence North 53 degrees 40 minutes East with the Northern line of said Tracts Nos. 1 and 2 and along the Old Newbern Road 747.6 feet to the point of Beginning; the same containing 9.58 acres and being the Northern parts of Tracts Nos. 1 and 2 of the Subdivision of Land of R. C. Nixon Estate according to the aforementioned map, and being part of the Second Tract conveyed to Ransay Weathersbee, Jr., and wife by deed recorded in Book 352 at Page 357 of the Pender County Registry, and also being part of the First Tract conveyed to Dr. Ransay Weathersbee, Jr., by deed recorded in Book 352 at Page 4 of said registry.

TO HAVE AND TO HOLD the aforesaid tract or parcel of land and all privileges thereunto belonging to him, the said party of the second part, and his successors and assigns, free and discharged from all right, title, claim, or interest of the said party of the first part, or any one claiming by, through, or under it.

IN TESTIMONY WHEREOF, the State of North Carolina has caused this deed to be executed in its name by Terry Sanford, Governor, and attested by Thad Eure, Secretary of State, and the Great Seal of the State of North Carolina hereunto affixed, by virtue of the power and authority aforesaid, the day and year first above written.

STATE OF NORTH CAROLINA

BY S. Terry Sanford
Governor

ATTEST:

S. Thad Eure
Secretary of State

APPROVED FOR DISPOSITION

S. Hugh Cannon
Director of Administration

APPROVED AS TO FORM:

THOMAS WADE BRUTON
Attorney General

BY S. Parks St. James
Real Property Attorney

I, Claire Eastman Nickels, a Notary Public in and for said County and State, do hereby certify that Terry Sanford, Governor of the State of North Carolina, and Thad Eure, Secretary of State of North Carolina, personally came before me this day and being by me duly sworn says each for himself that he knows the Great Seal of the State of North Carolina and that the seal affixed to the foregoing instrument is the Great Seal of the State; that Terry Sanford, Governor of said State, and Thad Eure, as Secretary of State, subscribed their names thereto; that the said Great Seal of the State of North Carolina was affixed thereto, all by virtue of a resolution of the Council of State and by the Governor of said State, and the said instrument is the act and deed of the State of North Carolina.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal on this the 15th day of September 1964.

Claire Eastman Nickels
Notary Public

My Commission expires:

1-8-65

FILED

STATE OF NORTH CAROLINA
COUNTY OF PENDER

JUL 26 10 31 AM 1965
QUIT CLAIM DEED

THAD EURE
SECRETARY OF STATE
NORTH CAROLINA

This Quit-Claim Deed, made and entered into this 14th day of June, 1965, by and between HARVEY H. JONES, and wife, ELSIE C. JONES, of Pender County, North Carolina, parties of the First Part, and North Carolina Wildlife Resources Commission, Party of the Second Part:

WITNESSETH:

That said parties of the First Part, for and in consideration of the sum of Ten (\$10.00) Dollars and other valuable consideration to them in hand paid, the receipt of which is hereby acknowledged, have remised and released and by these presents do remise, release and forever quit-claim unto the Party of the Second Part and its successors and assigns all right, title, claim and interest of the said parties of the First Part and to a certain tract or parcel of land lying and being in Topsail Township, County of Pender and State of North Carolina, and more particularly described as follows:

All lands located within the bounds of the Holly Shelter Wildlife Management Area, as shown by map recorded in Map Book 8, p. 24 in the Pender County Registry prepared by B. B. White, R. L. S., in August, 1961, filed for record on September 11, 1961.

To have and to hold the aforesaid tract or parcel of land and all privileges thereunto belonging to it the party of the Second Part and its successors and assigns free and discharged from all right, title, claim and interest of the said parties of the First Part or anyone claiming by, through or under them.

In testimony whereof, said parties of the First Part have hereunto set their hands and seals the day and year first above written.

Harvey H. Jones (SEAL)

Elsie C. Jones (SEAL)

STATE OF NORTH CAROLINA
COUNTY OF PENDER New Hanover

I, Mary DeRosier, a Notary Public in and for the State and County aforesaid, do hereby certify that on this day personally appeared before me HARVEY H. JONES, and his wife ELSIE C. JONES

and acknowledged the due execution of the foregoing and annexed instrument.

WITNESS my hand and Notarial Seal, this the 14th day of June, 1965.

Mary DeRocco
Notary Public

My commission expires: April 7, 1967

STATE OF NORTH CAROLINA - Perdue County
The foregoing certificate of Mary DeRocco
a Notary Public of New Hanover County,
and her official seal is adjudged to be correct. Let
the said instrument and the certificates be registered.
This, the 9th day of July, 1965
Catherine M. Pearson
Clerk of Superior Court

STATE OF NORTH CAROLINA
COUNTY OF PENDER

WARRANTY DEED

FILED

JUL 26 10 31 AM 1965

THAD EURE
SECRETARY OF STATE
NORTH CAROLINA

THIS INDENTURE, made and entered into this 14th day of June, 1965, by and between HARVEY H. JONES, and wife, ELSIE C. JONES, of Pender County, North Carolina, parties of the first part; and NORTH CAROLINA WILDLIFE RESOURCES COMMISSION, party of the Second Part:

WITNESSETH:

That the said parties of the First Part, for and in consideration of the sum of One (\$1.00) Dollar, and other valuable considerations to them in hand paid by the said party of the second part; the receipt whereof is hereby acknowledged, have given, granted, bargained and sold, aliened and conveyed, and by these presents do hereby give, grant, bargain and sell, alien, convey and confirm unto the said party of the second part, and to its successors and assigns forever, all of those certain lots or parcels of land, situated, lying and being in Topsaid Township, County of Pender, State of North Carolina, more particularly described as follows:

out of Jones
FIRST TRACT: BEGINNING at the center of the A. C. L. R. R. track, the Northeast corner of the Wildlife Resources Commission Holly Shelter Game Refuge and running thence with the center of the railroad track, South 44° 34' West 107.7 feet to a stake where the old R. J. Nixon Tract crosses said railroad track, running thence with the old R. J. Nixon line, North 27° 45' West 1170.4 feet to a stake; thence North 18° 0' West 110.0 feet to a stake; thence South 31° 40' 27" East 1191.1 feet to the Beginning.

SECOND TRACT: BEGINNING at a stake in the Northwestern-most corner of the first tract and running thence North 46° 29' West 346.5 feet to a stake; thence North 2° 25' East 330 feet to a stake; thence North 23° 5' West 693 feet to a stake; thence South 53° 05' East 397.9 feet to a stake in the Wildlife Resources Commission's Holly Shelter Game Refuge Line; thence with the Holly Shelter Game Refuge line, South 21° 35' 42", East 374.85 feet to a stake; thence South 2° 12' 33" West 332.3 feet; thence South 19° 52' 27" East 401.1 feet to the point of Beginning.

THIRD TRACT: BEGINNING at a point located as follows: BEGINNING at a corner of the North Carolina Wildlife Resources Commission located at or near the Askino Spring and running thence South 58° 18' West 495 feet to a stake in the outside boundary line of the North Carolina Wildlife Resources Commission; thence North 62° 37' 3" East 343.5 feet to the BEGINNING POINT of the tract to be described, and running from said BEGINNING POINT thus located, North 62° 37' 3" East 501.8 feet to a stake in the Holly Shelter Game Refuge Boundary line; thence with the Holly Shelter Game Refuge boundary line, North 79° 52' 3" East 1319.6 feet to a stake, another corner of said Refuge; thence South 66° 59' 57" East 422.5 feet to a stake, another corner of said Refuge; thence North 80° 5' East 380 feet to another corner of said Refuge; thence South 45° 25' East 1923 feet to a stake, another corner in said Refuge boundary line; thence South 10° 31' 33" West 254 feet to a stake; thence South 32° 3' 57" East 591.2 feet to a stake; thence South 65° 20' 27" East

301.9 feet to a stake; thence North 82° 23' 48" East 172.2 feet to a stake; thence South 33° 43' 42" East 519.9 feet to a stake; thence South 10° 24' 42" East 482.5 feet to a stake where the boundary line of the North Carolina Wildlife Resources Commission intersects the old R. J. Nixon estate line; thence with the old R. J. Nixon estate line, North 45° 27' West 4636.0 feet to a stake or iron pipe and old corner of the R. J. Nixon estate line; thence with another of the old R. J. Nixon estate lines, South 80° 3' West 1320.0 feet to a stake; thence North 59° 13' West 742 feet to a stake; thence North 87° 3' West 329.01 feet to the point of Beginning.

FOURTH TRACT: BEGINNING at an old iron pipe near the causeway of Rosnear in the North Carolina Wildlife Resources Commission's outside boundary of the Holly Shelter Game Refuge, at a point where the Harvey H. Jones 202.5 acre tract corners in said line and running from the Beginning point thus located South 62° 5' West 2970 feet to a stake, which said stake is located a short distance Northeast of the Askino Spring and running thence North 27° 55' West 2970 feet to a stake; thence North 62° 5' East 2970 feet to a stake; thence South 27° 55' East 2970 feet to a stake the Beginning corner.

Together with all and singular, the lands, tenements, easements and appurtenances thereunto belonging, or in anywise appertaining.

TO HAVE AND TO HOLD the above granted and described premises, together with all and singular, the rights, privileges, easements, tenements and appurtenances thereunto belonging, or in any wise appertaining unto the said party of the second part, its successors and assigns, in fee simple, forever.

And the said parties of the first part, for themselves, their heirs, executors and administrators, do covenant to and with the said party of the second part, its successors and assigns, that they are seized in fee of the above granted and described premises, and they have good right to sell and convey the same; that the same are free and clear from any and all encumbrances, and that they will and their heirs, executors and administrators shall WARRANT and DEFEND the title to the same against the lawful claims and demands of any and all persons whomsoever

IN TESTIMONY WHEREOF, the said parties of the first part have hereunto set their hands and affixed their seals, all on the day and year first above written.

Harvey H. Jones (SEAL)

Elsie C. Jones (SEAL)

STATE OF NORTH CAROLINA

COUNTY OF PENDER *New Hanover*

I, *Mary DeRocco*, a Notary Public in and for the State and County aforesaid, do hereby certify that on this day personally came before me HARVEY H. JONES, and wife, ELSIE C. JONES, and acknowledged the due execution of the foregoing and annexed instrument.

WITNESS my hand and official seal, this the *14th* day of June, 1965.

Mary DeRocco
Notary Public

My commission expires: *April 7, 1967*

CLERK OF SUPERIOR COURT - Pender County
The foregoing certificate of *Mary DeRocco*
a Notary Public of *New Hanover* County,
under his official seal is adjudged to be correct. Let
the said instrument and the certificate be registered.
This, the *9th* day of *June*, 19*65*
Catherine M. Creamer
Assistant CLERK OF SUPERIOR COURT

*Recorded in Book 401,
page 62 Pender County*

FILED

11 010

STATE OF NORTH CAROLINA

DEC 10 4 08 PM '75

COUNTY OF PENDER

THAD EURE

BOUNDARY AGREEMENT

THIS AGREEMENT, made and entered into this 23rd day of

August, 1975, by and between Ruth A. King, widow, of the County of Pender, State of North Carolina; Houston D. Meares, Jr., of the County of Mecklenburg, State of North Carolina; Carolyn A. Ashe, of the County of Wake, State of North Carolina; Della B. King, of the County of Pender, State of North Carolina; Esther A. Henderson, of the County of Pender, State of North Carolina, all parties of the first part; and Cheryl O. Meares, of the County of Mecklenburg, State of North Carolina; Earl L. Ashe, Jr., of the County of Wake, State of North Carolina; Robert Bruce King, of the County of Pender, State of North Carolina; Laurence H. Henderson, of the County of Pender, State of North Carolina, (spouses of the parties of the first part), parties of the second part; and the State of North Carolina, party of the third part;

W I T N E S S E T H:

WHEREAS, the parties hereto own adjoining tracts of land in Topsail Township, Pender County, North Carolina by virtue of instruments recorded in the Office of the Register of Deeds of Pender County, North Carolina; and

WHEREAS, there is controversy to the exact boundary lines dividing the lands of the above parties and it is the purpose of this agreement to fix and make certain those said boundary lines;

WHEREAS, Johnie C. Garrason, Registered Land Surveyor of Wilmington, North Carolina was employed by the parties of the first part to establish and survey a portion of the lands of the heirs of W. R. Atkinson; and

WHEREAS, said survey has been completed and it is the desire of the parties to establish boundary lines between the lands of the parties of the first part and the lands of the party of the third part.

* NOW, THEREFORE, the parties hereto, in consideration of these premises and further in consideration of the sum of TEN and NO/100 (\$10.00) DOLLARS by each to the other paid, the receipt of which is hereby acknowledged, do mutually covenant and agree one with the other that the boundary line between their said property shall be as follows:

BEGINNING at an existing iron stake, point "R" as shown on a map entitled "Map of Survey for W. R. Atkinson Est." as recorded in Map Book 13 at Page 52 in the office of the Register of Deeds of Pender County, North Carolina, said beginning point being the Southernmost point on a line bearing North 26 degrees 05 minutes 43 seconds East 1.86 chains as shown on a map of the Holly Shelter Wildlife Management Area as recorded in Map Book 8 at Page 24, Sheet 12 of the Pender County Registry and lying approximately 16.5 chains Southeast of Lodge Road, running thence from said beginning point North 23 degrees 09 minutes 45 seconds East 117.28 feet to an existing iron stake, point "S" as shown on said "W. R. Atkinson" map; running thence North 17 degrees 38 minutes 30 seconds West 1093.43 feet to an existing iron stake, point "T" as shown on said "W. R. Atkinson" map, running thence North 22 degrees 51 minutes 00 seconds East 529.73 feet to an existing iron stake; running thence South 50 degrees 32 minutes 15 seconds East 443.52 feet to an existing iron stake; running thence North 69 degrees 05 minutes 15 seconds East 816.42 feet to a new iron stake; running thence North 77 degrees 26 minutes 15 seconds East 730.62 feet to a new iron stake; running thence North 77 degrees 26 minutes 15 seconds East 95.04 feet to a new iron stake; running thence South 63 degrees 02 minutes 00 seconds East 1081.08 feet to a new iron stake; running thence North 25 degrees 22 minutes 00 seconds East 457.38 feet to a new iron stake; running thence North 13 degrees 10 minutes 00 seconds West 355.74 feet to a new iron stake; running thence North 24 degrees 22 minutes 00 seconds West 1293.60 feet to a new iron stake; running thence South 86 degrees 33 minutes 00 seconds West 405.90 feet to a new iron stake; running thence North 70 degrees 50 minutes 00 seconds West 401.28 feet to a new iron stake; running thence South 4 degrees 21 minutes 00 seconds West 684.59 feet to a new iron stake; running thence South 83 degrees 32 minutes 30 seconds West 227.70 feet to a new iron stake; running thence North 15 degrees 27 minutes 30 seconds West 84.48 feet to a new iron stake; running thence North 71 degrees 55 minutes 30 seconds West 439.56 feet to a new iron stake; running thence North 43 degrees 04 minutes 30 seconds West 432.96 feet to a new iron stake; running thence North 17 degrees 21 minutes 30 seconds West 412.50 feet to an existing iron stake; running thence North 12 degrees 18 minutes 30 seconds East 462.38 feet to an existing iron stake; running thence North 28 degrees 05 minutes 00 seconds East 480.21 feet to an existing iron stake; running thence North 88 degrees 32 minutes 00 seconds East 318.30 feet to an existing iron stake; running thence South 62 degrees 10 minutes 00 seconds East 625.26 feet to an existing iron stake; running thence North 0 degrees 18 minutes 30 seconds East 310.31 feet to an existing iron stake; running thence North 14 degrees 56 minutes 30 seconds West 361.75 feet to an existing iron stake; running thence North 76 degrees 17 minutes 45 seconds East 314.52 feet to an existing iron stake; running thence South 76 degrees 08 minutes 45

seconds East 415.28 feet to an existing iron stake; running thence North 89 degrees 37 minutes 00 seconds East 755.09 feet to an existing iron stake; running thence North 44 degrees 35 minutes 00 seconds East 476.64 feet to an existing iron stake; running thence North 81 degrees 15 minutes 30 seconds East 847.09 feet to an existing iron stake; running thence North 7 degrees 12 minutes 15 seconds East 98.57 feet to an existing iron stake; running thence North 7 degrees 12 minutes 15 seconds East 146.48 feet to an existing iron stake; running thence North 73 degrees 51 minutes 30 seconds East 353.67 feet to an existing iron stake; running thence North 22 degrees 16 minutes 30 seconds West 921.11 feet to an existing iron stake; running thence North 17 degrees 16 minutes 30 seconds East 736.83 feet to an existing iron stake; running thence North 64 degrees 55 minutes 30 seconds East 842.57 feet to a new iron stake; running thence North 64 degrees 55 minutes 30 seconds East 179.70 feet to an existing iron stake; running thence North 9 degrees 34 minutes 30 seconds East 510.85 feet to an existing iron stake; running thence North 31 degrees 48 minutes 30 seconds East 531.89 feet to a new iron stake, the termination point of the above described line, as surveyed by Johnie C. Garrason, Registered Land Surveyor, number L-1347 in March - April, 1975, said point being designated number "37" on a new Map of the "W. R. Atkinson Est." to be recorded in the office of the Register of Deeds of Pender County, North Carolina and dated March-April 1975.

The parties of the first and second parts, in consideration of these premises do hereby forever quitclaim and release unto the party of the third part, all their right title and interest in and to the following property:

Any and all lands lying adjacent to and North of the lines bearing South 50 degrees 32 minutes 15 seconds East 443.52 feet, North 69 degrees 05 minutes 15 seconds East 816.42 feet, North 77 degrees 26 minutes 15 seconds East 730.62 feet and 95.04 feet, South 63 degrees 02 minutes 00 seconds East 1031.02 feet, North 88 degrees 32 minutes 00 seconds East 318.30 feet, South 62 degrees 10 minutes 00 seconds East 625.26 feet, North 76 degrees 17 minutes 45 seconds East 314.52 feet, South 76 degrees 08 minutes 45 seconds East 415.28 feet, North 89 degrees 37 minutes 00 seconds East 755.09 feet, North 81 degrees 15 minutes 30 seconds East 847.09 feet, North 73 degrees 51 minutes 30 seconds East 353.67 feet and North 64 degrees 55 minutes 30 seconds East 842.57 feet and 179.70 feet and to any and all lands lying adjacent to and South of the lines bearing South 86 degrees 33 minutes 00 seconds West 405.90 feet, North 70 degrees 50 minutes 00 seconds West 401.28 feet, South 83 degrees 32 minutes 30 seconds West 227.70 feet and North 71 degrees 55 minutes 30 seconds West 439.56 feet and to any and all lands lying adjacent to and East of the line bearing South 4 degrees 21 minutes 00 seconds West 684.59 feet and to any and all lands lying adjacent to and West of the remainder of the above described lines.

The party of the third part in consideration of these premises, does hereby forever quitclaim and release unto the parties of the first part in the same manner as they now hold title to the "W. R.

Atkinson Est." all their right, title and interest in and to the following properties:

Any and all lands lying adjacent to and on the opposite side of all of the lines as quitclaimed and released to to the party of the third part as mentioned in the preceding paragraph.

TO HAVE AND TO HOLD unto the respective parties to this agreement, the respective properties herein above quitclaimed one to the other, together with all and singular the rights, privileges and appurtenances thereunto belonging or in anywise appertaining unto the respective parties in fee simple;

IN WITNESS WHEREOF, and for the purposes herein expressed the parties have hereunto set their hands and seals the day and year first above written.

Ruth A. King (SE
Ruth A. King

Houston D. Meares, Jr. (SE
Houston D. Meares, Jr.

Carolyn A. Ashe (SE
Carolyn A. Ashe

Della B. King (SE
Della B. King

Esther A. Henderson (SE
Esther A. Henderson

Cheryl O. Meares (SE
Cheryl O. Meares

Earl L. Ashe, Jr. (SE
Earl L. Ashe, Jr.

Robert Bruce King (SE
Robert Bruce King

Laurence H. Henderson (SE
Laurence H. Henderson

STATE OF NORTH CAROLINA

[Signature]
Governor

SECRETARY OF STATE

ATTEST: [Signature]
Secretary of State

APPROVED [Signature]
Secretary of Administration
WTB

APPROVED AS TO FORM

RUFUS L. EDMISTEN, Attorney General

NORTH CAROLINA

PENDER COUNTY

I, Pauline H. Culbreth, Notary Public do hereby certify that RUTH A, KING, (widow), DELLA B. KING, ESTHER A. HENDERSON, ROBERT BRUCE KING and HOUSTON D. MEARES, JR. personally appeared before me this day and acknowledged the due execution of the foregoing Boundary Agreement.

Witness my hand and notarial seal, this 23 day of Aug.,

1975.



My commission expires: _____
NORTH CAROLINA

Pauline H. Culbreth
Notary Public

PENDER COUNTY

I, Pauline H. Culbreth, Notary Public do hereby certify that LAURENCE H. HENDERSON personally appeared before me this day and acknowledged the due execution of the foregoing Boundary Agreement.

Witness my hand and notarial seal, this 3 day of Sept

1975.

My commission expires: _____
NORTH CAROLINA

Pauline H. Culbreth
Notary Public



MECKLENBURG COUNTY

I, ALEX S. BADGER JR., Notary Public do hereby certify that CHERYL O. MEARES personally appeared before me this day and acknowledged the due execution of the foregoing Boundary Agreement.

Witness my hand and notarial seal, this 29 day of August

1975.

My commission expires: _____



Alex S. Badger Jr.
Notary Public

NORTH CAROLINA

WAKE COUNTY



I, Vivian Boston, Notary Public do hereby certify that CAROLYN A. ASHE and EARL L. ASHE, JR. personally appeared before me this day and acknowledged the due execution of the foregoing Boundary Agreement.

Witness my hand and notarial seal, this 2nd day of Sept. 1975.

Vivian Boston
Notary Public

My commission expires:

3.11.79

STATE OF NORTH CAROLINA

COUNTY OF WAKE

I, Sarah Jones, a Notary Public in and for said County and State, do hereby certify that JAMES E. HOLSHOUSER, JR., Governor of the State of North Carolina, and THAD EURE, Secretary of State of North Carolina, personally came before me this day and being by me duly sworn says each for himself that he knows the Great Seal of the State of North Carolina and that the seal affixed to the foregoing instrument is the Great Seal of the State; that JAMES E. HOLSHOUSER, JR. Governor of said State, and THAD EURE, Secretary of State, subscribed their names thereto, all by virtue of a resolution of the Council of State; and that said instrument is the act and deed of the State of North Carolina.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this the 27th day of September, 1975.

Sarah Jones
Notary Public

My commission expires:

January 11, 1978



NORTH CAROLINA, PENDER COUNTY

The foregoing or annexed certificate of Pauline H. Culbreth, Alex S. Badger, Jr., Vivian Boston, Sarah Jones Notary Public/Notaries Public is/are certified to be correct.

STATE OF NORTH CAROLINA

COUNTY OF PENDER

THIS DEED, made and entered into this 10 day of August, 1960 by and between the State of North Carolina, party of the first part, and J. A. Shingleton of Pender County, North Carolina, party of the second part,

W I T N E S S E T H:

THAT WHEREAS, the parties hereto desire to settle a land controversy between said parties; and

WHEREAS, the North Carolina Wildlife Resources Commission authorized and approved the execution of this instrument for the purposes herein set forth on the 15th day of March 1960; and

WHEREAS, the execution of this instrument for and on behalf of the State of North Carolina has been duly approved by the Governor and Council of State by resolution adopted at a meeting held in the City of Raleigh, North Carolina, on the 10 day of August, 1960;

NOW, THEREFORE, in consideration of the premises and the sum of ONE (\$1.00) DOLLAR, receipt of which is hereby acknowledged, the party of the first part has remised and released, and by these presents does remise, release, and forever quitclaim unto the party of the second part, his heirs and assigns, all right, title, claim, and interest of the said party of the first part in and to a certain tract or parcel of land lying and being in Topsail Township, Pender County, North Carolina and more particularly described as follows:

BEGINNING at the run of Mauls Branch where the 5th Call in Grant #1371 to Ezekiel Chadwick crosses said Mauls Branch, said Beginning point being located N 82 degrees 32 minutes E 1395.0 feet from a point in the South edge of a small slash leading out of Mauls Bay, the termination of the 4th Call of said Ezekiel Chadwick's Grant #1371, and runs thence with said 5th call N 78 E (the old Grant call), now N 82 degrees 32 minutes E 783.0 feet to a pine on the East side of Mauls Branch on the edge of a small Bay, now marked stake; thence S 20 E (the old Grant call), now S 15 degrees 28 minutes E 1828.3 feet to a point in line where it crosses the center line of Trumpeter road; said point in the road center line is located S 49 degrees 17 minutes E 357.6 feet and N 82 degrees 53 minutes E 301.0 feet from a point above an 18.6 feet long Cypress culvert that accomodates the waters of a small branch beneath the roadway; thence the same course continued (S 15 degrees 28 minutes E) 1455.7 feet to the run of Trumpeter, the point of termination of the 6th call of said Ezekiel Chadwick's Grant; thence down the run of Trumpeter as it meanders the following traverse courses and distances: S 84 degrees 43 minutes W 63.4 feet; S 73 degrees 05 minutes W 414.7 feet; S 73 degrees 20 minutes W 117.8 feet; S 74 degrees 18 minutes W 157.5 feet; S 88 degrees 40 minutes W 214.0 feet; N 89 degrees

53 minutes W 335.1 feet; N 57 degrees 05 minutes W 198.8 feet; N 57 degrees 20 minutes W 147.0 feet; N 54 degrees 50 minutes W 65.5 feet; N 21 degrees 58 minutes W 281.0 feet; N 19 degrees 12 minutes W 121.0 feet; N 56 degrees 20 minutes W 168.9 feet; N 55 degrees 20 minutes W 228.2 feet; N 55 degrees 45 minutes W 233.0 feet; and N 4 degrees 00 minutes W 132.0 feet to a large pine tree in the West edge of the main run of Trumpeter at the mouth of Mauls Branch; thence up the well defined run of Mauls Branch as it meanders to the BEGINNING, containing 110 acres, more or less.

✓ The party of the first part reserves from this conveyance the right to maintain and use the roads existing on the above described lands; and the said J. A. Shingleton is hereby granted the right to use the roads existing on other lands of the Wildlife Resources Commission for the purpose of ingress and egress to and from the above described lands by the most direct route. ✓ (2)

TO HAVE AND TO HOLD the aforesaid tract or parcel of land and all privileges thereunto belonging to him, the said party of the second part, his heirs and assigns, free and discharged from all right, title, claim, or interest of the said party of the first part, or any one claiming by, through, or under it.

IN TESTIMONY WHEREOF, the State of North Carolina has caused this instrument to be executed in its name by Luther H. Hodges, Governor, attested by Thad Eure, Secretary of State, and the Great Seal of the State of North Carolina hereunto affixed, by virtue of the power and authority aforesaid.

ATTEST:

15/ Thad Eure
SECRETARY OF STATE

STATE OF NORTH CAROLINA
By 15/ Luther H. Hodges
GOVERNOR

APPROVED AS TO FORM:

THOMAS WADE BRUTON
ATTORNEY GENERAL

15/ Paul H. Jenhous
REAL PROPERTY ATTORNEY

APPROVED FOR DISPOSITION:

15/ Paul A. Johnston
DIRECTOR OF ADMINISTRATION

STATE OF NORTH CAROLINA

COUNTY OF WAKE

I, Clair Estlin Nichols a Notary Public in and for said County and State, do hereby certify that on this 10 day of August, 1960, personally came before me Luther H. Hodges, Governor of the State of North Carolina, and Thad Eure, Secretary of State of North Carolina, who, being by me duly sworn, says each for himself, that he knows the Great Seal of the State of North Carolina, and that the seal affixed to the foregoing instrument is the Great Seal of the State, and that the name of the State of North Carolina was subscribed thereby by Luther H. Hodges, Governor of said State, and that said Luther H. Hodges as Governor of said State, and said Thad Eure as Secretary of State, subscribed their names thereto; that the said Great Seal of the State of North Carolina was affixed thereto by virtue of a resolution of the Council of State and by the Governor of said State, and the said instrument is the act and deed of the State of North Carolina.

IN WITNESS WHEREOF, I have hereunto set my hand and notarial seal on this the 10 day of Aug., 19 60.

Clair Estlin Nichols

Notary Public

My Commission Expires:

1-8-61

FILED

OCT 23 9 22 AM 1967

THAD EURE
SECRETARY OF STATE
NORTH CAROLINA

COMMISSIONER'S DEED

STATE OF NORTH CAROLINA

COUNTY OF PENDER

THIS DEED, made the 30th day of June, 1967,
by OLIVER CARTER, COMMISSIONER acting as hereinafter stated, of
the County of New Hanover, State of North Carolina, GRANTOR, to
the STATE OF NORTH CAROLINA, GRANTEE:

W I T N E S S E T H:

THAT, WHEREAS, there is a civil action entitled "State
of North Carolina, ex rel Wildlife Resources Commission, plain-
tiff vs. Casey Lumber Company, Inc., defendant," pending in the
Superior Court of Pender County, North Carolina, wherein the
plaintiff in its complaint alleges that it is the owner of a
large tract of land described in the complaint situated in said
county and that the defendant had trespassed thereon and had cut
and removed therefrom a quantity of timber for which the plain-
tiff demanded damages; and

WHEREAS, in the answer filed in said action on behalf
of the defendant Casey Lumber Company, Inc., and J. R. Casey,
three tracts of land are described, that the boundaries of the
tract described in the complaint purported to cover a part of
said three tracts of land, that J. R. Casey owned these tracts,
that the plaintiff was not the owner of any part of these tracts,
and that the defendant Casey Lumber Company, Inc., had cut timber
trees from these tracts as grantee of said J. R. Casey; and

WHEREAS, it has been determined that the description
of the land in the complaint and the descriptions of the land in
the answer overlap and that the sole question in said civil action
is the question of title to the area of lappage which is herein-

after referred to and described as the "disputed area;" and

WHEREAS, the said J. R. Casey died on the 11th day of August, 1960, leaving a last will and testament in which he devised all of his property, including the three tracts described in the answer, to his widow, his children and his grandchildren, and that since his death a special proceeding for the partition of the lands of said deceased, including said three tracts designated together in said partition proceeding as Parcel Three, was instituted and is pending in the Superior Court of Pender County, North Carolina, entitled "Exie O. Casey, Petitioner vs. J. R. Casey, Jr., et al, Respondents"; and

WHEREAS, to facilitate said proceeding for partition and to avoid long and costly litigation an agreement was reached between all interested parties for the settlement of the civil action mentioned above on the basis that the right, title and interest of said J. R. Casey, deceased, and of the parties to said proceeding, his heirs and devisees, in the parts of the three tracts of land composing Parcel Three embraced within the disputed area be quitclaimed to the State of North Carolina, or to its order, excepting the timber and pulpwood on the disputed area which was to be reserved with the right to cut and remove the same within two years after the settlement is completed and that said timber and pulpwood be offered for sale together with the remainder of said Parcel Three; and

WHEREAS, said proposal of settlement was presented to the Court in said partition proceeding whereupon the Court entered judgment therein, dated the 8th day of January, 1966, finding, adjudging and decreeing that the settlement of said civil action on that basis and the sale of the timber and pulpwood in the partition proceeding as proposed would be in the best interest of all of the tenants in common, especially the infant tenants in common, and that their interests would be materially promoted thereby, and the grantor herein was duly appointed Commissioner

by the Court to complete said settlement and make the conveyance of the disputed area as proposed;

NOW, THEREFORE, the Grantor, acting as Commissioner as aforesaid, under authority of said judgment, in full settlement of said civil action, and in consideration of the nonsuit and dismissal thereof, has remised and released and by these presents does hereby remise and release and forever quitclaim unto the Grantee, and its assigns, all right, title, claim and interest of the said J. R. Casey, deceased, and the parties to the above mentioned special proceeding, his heirs and devisees, in and to that certain tract of land, except the timber and pulpwood hereinafter described, herein referred to as the disputed area, situated in Union Township, Pender County, North Carolina, bounded and described as follows:

The beginning point of the disputed area is located as follows, starting at a stone corner, located south 87 degrees east 5,150 feet from a point on the eastern margin of the Northeast Cape Fear River, opposite the intersection of Rockfish Creek with said river, and proceeding from said stone corner south 19 degrees 12 minutes west 2,425.4 feet to a stone corner; thence south 68 degrees 48 minutes east 101.5 feet to a stone corner; thence south 66 degrees 1 minute east 266.9 feet to a stone corner; thence south 18 degrees 56 minutes west 2,639.8 feet to a stone corner; thence south 31 degrees 18 minutes west 1,936.3 feet to a stone corner; thence south 68 degrees 44 minutes west 1374 feet to a stone corner, the point of beginning of this disputed area for the purpose of said settlement, which beginning corner is (1) the seventh corner of the land claimed by plaintiff as described in its complaint above mentioned, and (2) the northwestern corner of a tract of land containing 90 acres, more or less, described in a deed from the State of North Carolina to Nicanor Murray, dated February 13, 1850, recorded in Book GG, at page 545, in the office of the Register of Deeds of Pender County, North Carolina, and (3) the northeast corner of a tract of land containing 200 acres, more or less, described in a deed from the State of North Carolina to said Nicanor Murray, dated October 7, 1883, recorded in Book AA, at page 374, in the office of the Register of Deeds of Pender County, North Carolina; and running thence, from the beginning corner of the disputed area as above located, along the line described in the complaint, which is a boundary line between the tract of 90 acres, more or less, and the tract of 200 acres, more or less, above mentioned, south 23 degrees 16 minutes east 1982.6 feet to a lightwood stake corner; thence with another boundary line between said two tracts south 61 degrees 52 minutes west 1,246.2 feet to a lightwood stake, another common corner of said grants; thence with a line of the tract of 90 acres, more or less, south 9 degrees 46 minutes east 765 feet to a lightwood stake; thence with another line of said tract of 90 acres, more or less, to its southwestern corner and beyond, south 1 degree 18 minutes west 664.6 feet to a lightwood

stake; thence south 10 degrees 19 minutes east 858 feet to a point, with old pointers; thence south 4 degrees 6 minutes west 2,568.4 feet to a lightwood stake, referred to in the description of the First Tract of land described in the answer filed in the above mentioned action as the "North Carolina Department of Conservation and Development and J. C. Murray's corner"; thence south 5 degrees 55 minutes east 150 feet to an iron pipe, the southwestern corner of the tract described in the complaint; thence with the southern line of said tract south 86 degrees 37 minutes east, crossing the western line of and continuing to the intersection of this line with the southern line of a tract of land containing 50 acres, more or less, described in a deed from the State of North Carolina to Nicanor Murray, dated December 12, 1835, recorded in Book AA, at page 371, in said Registry and described as the third tract in the answer; thence with the line of said tract to the southeastern corner thereof; thence with the eastern line of said tract to a point which is located south 20 degrees east 825 feet from the northeastern corner of said tract of 50 acres, more or less, and the southeastern corner of the tract of 90 acres, more or less, mentioned above, thence north 20 degrees west 825 feet to that corner; thence with the eastern line of said tract of 90 acres, more or less (course reversed) north 9 degrees 30 minutes west 4125 feet to the northeastern corner of said tract of 90 acres, more or less, which is located in the sixth line of the tract described in the complaint at a point north 63 degrees east 825 feet from the seventh corner of said tract; thence with said sixth line thereof south 63 degrees west 825 feet to the beginning. The courses given above have been taken from old deeds of record and no adjustment has been made for magnetic declination.

Excepting and reserving, however, from this conveyance by agreement of the Grantee and under authority of said judgment the following described timber and pulpwood upon said land, and the following rights and privileges for the cutting and removal of said timber and pulpwood therefrom:

1. All timber of every kind, standing or lying upon the above described land which, when cut within the period hereinafter specified, will measure ten (10) inches or more in diameter measured across the stump, twelve (12) inches from the ground, together with the right to remove the tops, limbs and slabs of the timber cut of said size.
2. All pulpwood standing or lying upon the above described land.
3. All such timber and pulpwood shall be cut and removed from said land within two years next after the date of this deed or the nonsuit and dismissal of said civil action, and all such timber and pulpwood not cut and removed from said land by the expiration of said period shall become the property of the Grantee.
4. The right and privilege of the person, firm or corporation cutting said timber and pulpwood (a) to erect, operate and maintain upon said land a saw mill or mills, buildings, sheds and other structures, machinery and other equipment, provided that such saw mill and other property shall be removed from said land within sixty (60) days after the expiration of said two year period, (b) to pass and repass on said land and to open, maintain and use bridges and roadways on said land and between said land and public roads or highways, and (c) to cut and injure and use such smaller timber, trees and other growth on said land to the extent reasonably necessary to cut, handle and remove such timber

TO HAVE AND TO HOLD the above described tract of land and all privileges and appurtenances thereunto belonging to the Grantee, and its assigns, free and discharged from all right, title, claim and interest of the heirs and devisees of J. R. Casey, deceased, parties to the above mentioned partition proceeding, or anyone claiming by, through or under them or any of them, in said tract of land (disputed area) subject to the exceptions and reservations set forth above, in as ample a manner as the Grantor, as Commissioner as aforesaid, is authorized and empowered to convey the same, and by accepting this deed the Grantee for itself and its assigns does thereby agree to the exception and reservation of said timber and pulpwood and the rights and privileges set forth above regarding the cutting and removal of said timber and pulpwood from the disputed area and thereby renounces and acknowledges that it has no right, title, claim or interest in the remainder of the three tracts of land described in the answer in said civil action outside of the disputed area.

IN TESTIMONY WHEREOF, the Grantor, acting as Commissioner as aforesaid, has hereunto set his hand and seal the day and year first above written.

Oliver Carter (SEAL)
Commissioner

STATE OF NORTH CAROLINA

COUNTY OF NEW HANOVER

I, Jean Middleton, a Notary Public in and for the state and county aforesaid, do hereby certify that Oliver Carter, as Commissioner as set forth in the foregoing Deed, personally appeared before me this day and acknowledged the due execution of said Deed.

WITNESS my hand and official seal this the 30th day of

June, 1967.

Jean Middleton
Notary Public

My commission expires: 12-29-67

Pender

*NIXON
JONES*

*Wildlife
Comm*

STATE OF NORTH CAROLINA
COUNTY OF PENDER

Release

THAD EURE
SECRETARY OF STATE

OCT 7 11 59 AM 1958

FILED

THIS RELEASE DEED, made this the 25th day of May, 1958, by the State of North Carolina, (for and on behalf of the North Carolina Wildlife Resources Commission, successor in interest to the State Board of Conservation and Development), party of the first part, to State Jones, of Pender County, North Carolina, party of the second part.

W I T N E S S E T H

WHEREAS, the description in the deed from Finley McMillan and wife, Clara McMillan, dated July 31st 1941, to the State of North Carolina (State Board of Conservation and Development) and recorded in the Public Registry of Pender County, North Carolina, in Book of Deeds, #229 at page #387 et seq., contains the property hereinafter described; and

WHEREAS, it now appears from abstracts of title, surveys and other investigations that the true owner of the hereinafter described lands is the party of the second part, and that the said Finley McMillan and wife were not vested with title therein; and

WHEREAS, the North Carolina Wildlife Resources Commission, successor in interest to the State Board of Conservation and Development, has adopted a resolution recommending and requesting the execution of this conveyance by the Governor and Secretary of State for the purpose of removing the cloud on the title to said property brought about by the locus in quo being erroneously contained in the description in the deed from the said Finley McMillan to the party of the first part; and

WHEREAS, the Governor and Council of State have adopted a proper resolution authorizing the Governor and Secretary of State to execute this conveyance.

NOW, THEREFORE, the party of the first part, for and in consideration of the sum of One Dollar and other valuable considerations to it in hand paid by the said party of the second part, receipt of which is hereby acknowledged,

has released and quitclaimed and by these presents does release and quit-
claim unto the party of the second part and to his heirs and assigns all
of its right, title and interest in and to the following described tract
of land, situated, lying and being in Holly Township, Pender County, North
Carolina, bounded and described as follows:

BEGINNING at a stake Harvey Jones' corner of a tract
of land allotted to him in the Ida S. Jones division,
also Simon Jones' corner; thence N. 26 deg. 45' 3"
East 390.5 feet to a stake; thence, North 20 deg. 15' 33"
East 116.8 feet; thence South 59 deg. 24' 27" East
1094.3 feet; thence South 38 deg. 16' 27" East 872.7
feet; thence South 10 deg. 31' 33" West to Harvey Jones'
line; thence with Harvey Jones' line in a Northwesterly
direction to the point of beginning, containing 27
acres more or less, as shown by survey and maps of Wild-
life Resources Commission in Map Book # 3 page # 82
of the Registry of Pender County, North Carolina.

As a part of consideration for the execution of this conveyance,
party of the second part agrees that the State of North Carolina (North
Carolina Wildlife Resources Commission), its successors and assigns shall
have full title, easement and right-of-way to and for any roads now used
by the party of the first part.

TO HAVE AND TO HOLD said lands fully released from any right, title and
interest which the party of the first part may have therein, except as to
the roads heretofore mentioned, as fully as if said lands had not been
contained in the conveyance from the said Finley McMillan and wife to the
said party of the first part.

IN TESTIMONY WHEREOF, these presents have been executed in the
name of The State of North Carolina by His Excellency, W. Kerr Scott,
Governor of the State of North Carolina, attested by Thad Eure, Secretary
of State of the State of North Carolina, and the Great Seal of the State
of North Carolina has been hereto affixed in the manner provided by the
laws of the State and by authority of a resolution of the Council of State.

STATE OF NORTH CAROLINA

By /s/ W. Kerr Scott
Governor

Approved as to form and legality

this 29 day of Nov, 1950

/s/ Thad Eure
Secretary of State

/s/ E. J. Rhodes

Assistant Attorney General

NORTH CAROLINA

WAKE COUNTY

I, Claire E. Nichols, a Notary Public in and for said County and State, do hereby certify that on this 29th day of September, 1950, personally came before me W. Kerr Scott, Governor of the State of North Carolina, and Thad Eure, Secretary of State of North Carolina, who being duly sworn, swore each for himself that he knows the Great Seal of the State of North Carolina, and that the seal affixed to the foregoing instrument is the Great Seal of the State, and that the name of the State of North Carolina was subscribed thereby by W. Kerr Scott, Governor of the State, and that said W. Kerr Scott as Governor of said State, and said Thad Eure as Secretary of State, subscribed their names thereto; that the said Great Seal of the State of North Carolina was affixed thereto by virtue of a resolution of the Council of State and by the Governor of said State, and the said instrument is the act and deed of the State of North Carolina.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal on this the 29th day of September, 1950.

/s/ Claire E. Nichols
Notary Public

My Commission expires Jan. 6, 1951

Pender

A-10

STATE OF NORTH CAROLINA
COUNTY OF PENDER



THAD EURE
SECRETARY OF STATE

OCT 7 11 59 AM 1958

FILED

THIS RELEASE DEED, made this the 25th day of May, 1950, by the State of North Carolina, (for and on behalf of the North Carolina Wildlife Resources Commission, successor in interest to the State Board of Conservation and Development), party of the first part, to Walter Linton Peralay, Donald Mackas Peralay, Jr., and Elizabeth Westbrook Peralay, of Harnett Township, County of New Hanover, North Carolina, parties of the second part.

W I T N E S S E T H:

WHEREAS, the description in the deed from Finley McMillan and wife, Clara McMillan, dated July 31st 1941, to the State of North Carolina (State Board of Conservation and Development) and recorded in the Public Registry of Pender County, North Carolina, in Book of Deeds, #287 at page #187 et seq., contains the property hereinafter described; and

WHEREAS, it now appears from abstracts of title, surveys and other investigations that the true owners of the hereinafter described lands are the parties of the second part, and that the said Finley McMillan and wife were not vested with title therein; and

WHEREAS, the North Carolina Wildlife Resources Commission, successor in interest to the State Board of Conservation and Development, has adopted a resolution recommending and requesting the execution of this conveyance by the Governor and Secretary of State for the purpose of removing the cloud on the title to said property brought about by the locus in quo being erroneously contained in the description in the deed from the said Finley McMillan to the party of the first part; and

WHEREAS, the Governor and Council of State have adopted a proper resolution authorizing the Governor and Secretary to State to execute this conveyance.

MEM, THOMPSON, the party of the first part, for and in consideration of the sum of One Dollar and other valuable considerations to it in hand paid by the said parties of the second part, receipt of which is hereby acknowledged, has released and quitclaimed and by these presents does release and quitclaim unto the parties of the second part and to their heirs and assigns all of its right, title and interest in and to the following described tract of land, situated, lying and being in Holly Township, Fender County, North Carolina, bounded and described as follows:

BEGINNING at an iron stake in or near the Southeastern edge of Wolf Ridge, Harvey Jones' corner of a tract of land allotted to him in the Ida S. Jones Division, and running thence with the line of the North Carolina Wildlife Resources Commission, approximately with the edge of the bay and Wolf Ridge, the following courses and distances; North 66 deg. 59' 57" West 622.5 feet; South 79 deg. 52' 3" West 1319.6 feet; South 62 deg. 37' 3" West 845.3 feet; South 40 deg. 43' 18" West 300.7 feet; South 30 deg. 34' 18" West 610.9 feet; North 72 deg. 50' 42" West 385.5 feet; North 32 deg. 48' 42" West 411.8 feet; South 85 deg. 54' 18" West 1249.2 feet; North 35 deg. 22' 42" West 489.4 feet; North 25 deg. 13' 42" West 900.8 feet; North 66 deg. 15' 48" West 630 feet; North 78 deg. 47' 18" West 761 feet; North 58 deg. 6' 18" East 630 feet; North 4 deg. 16' 18" East 309.7 feet; North 16 deg. 7' 42" West 573.3 feet; North 50 deg. 17' 18" East 288.5 feet; South 75 deg. 37' 42" East 182.5 feet; South 32 deg. 26' 18" West 254.2 feet; South 37 deg. 34' 42" East 928.5 feet; South 1 deg. 19' 42" East 262.2 feet; South 47 deg. 26' 42" East 235 feet; South 27 deg. 12' 42" East 480.2 feet; North 82 deg. 11' 18" East 446.7 feet; North 16 deg. 47' 48" East 267 feet; South 24 deg. 3' 12" East 313.2 feet; North 81 deg. 16' 3" East 410.8 feet; North 2 deg. 59' 3" East 1001 feet; North 43 deg. 22' 3" East 692.4 feet; South 69 deg. 20' 57" East 1074.1 feet; South 69 deg. 43' 57" East 1058.9 feet; and South 86 deg. 27' 57" East 289.8 feet to a stake in the line of Nixon Jones tract allotted to him in the Ida S. Jones division; thence with Nixon Jones' line South 26 deg. 45' 3" West 390.5 feet to Harvey Jones' line; thence with Harvey Jones' line South 26 deg. 45' 3" West 481.8 feet to the beginning, and being the tract of land known as Wolf Ridge, containing 163 acres more or less as shown by survey and maps of Wildlife Resources Commission in map book # 3 at page # 82.

As a part of consideration for the execution of this conveyance, parties of the second part agree that the State of North Carolina (North Carolina Wildlife Resources Commission), its successors and assigns shall have full title, easement and right-of-way to and for any roads now used by the party of the first part.

TO HAVE AND TO HOLD said lands fully released from any right title and interest which the party of the first part may have there except as to the roads heretofore mentioned, as fully as if said lands had not been contained in the conveyance from the said Finley MOORE and wife to the said party of the first part.

IN TESTIMONY WHEREOF, three presents have been executed in the name of The State of North Carolina by his Excellency, W. Kerr Scott Governor of the State of North Carolina, attested by Thad Rury, Sec of State of the State of North Carolina, and the Great Seal of the State of North Carolina has been hereto affixed in the manner provided by law of the State and by authority of a resolution of the Council of the State.

STATE OF NORTH CAROLINA

By: /s/ W. Kerr Scott
Governor

ATTEST:

/s/ Thad Rury
Secretary of State

Approved as to form and legality
this 22 day of May, 1933

/s/ E. J. Rhodes
Assistant Attorney General

NORTH CAROLINA

WAKE COUNTY

I, Claire E. Nickels, a Notary Public in and for said County and State, do hereby certify that on this 29th day of September, 1950, personally came before me W. Kerr Scott, Governor of the State of North Carolina, and Thad Eure, Secretary of State of North Carolina, who being by me duly sworn, says each for himself that he knows the Great Seal of the State of North Carolina, and that the seal affixed to the foregoing instrument is the Great Seal of the State, and that the name of the State of North Carolina was subscribed thereby by W. Kerr Scott, Governor of the State, and that said W. Kerr Scott as Governor of said State, and said Thad Eure as Secretary of State, subscribed their names thereto; that the said Great Seal of the State of North Carolina was affixed thereto by virtue of a resolution of the Council of State and by the Governor of said State, and the said instrument is the act and deed of the State of North Carolina.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal on this the 29th day of September, 1950.

/s/ Claire E. Nickels
Notary Public

My Commission expires January 8, 1951

Revised

A - 11

STATE OF NORTH CAROLINA
COUNTY OF PENDER

THIS RELEASE DEED, made this the 25th day of May, 1950, by the State of North Carolina, (for and on behalf of the North Carolina Wildlife Resources Commission, successor in interest to the State Board of Conservation and Development), party of the first part, to Harvey Jones of Rowan County, North Carolina, party of the second part.

OCT 7 11 57 AM 1950
THAD EURE
SECRETARY OF STATE

FILED

W I T N E S S E T H

WHEREAS, the description in the deed from Finley McKillan and wife, Clara McKillan, dated July 31st, 1941 to the State of North Carolina (State Board of Conservation and Development) and recorded in the Public Registry of Pender County, North Carolina, in Book of Deeds, #229 at page #387 et seq., contains the property hereinafter described; and

WHEREAS, it now appears from abstracts of title, surveys and other investigations that the true owner of the hereinafter described lands is the party of the second part, and that the said Finley McKillan and wife were not vested with title therein; and

WHEREAS, the North Carolina Wildlife Resources Commission, successor in interest to the State Board of Conservation and Development, has adopted a resolution recommending and requesting the execution of this conveyance by the Governor and Secretary of State for the purpose of removing the cloud on the title to said property brought about by the locus in quo being erroneously contained in the description in the deed from the said Finley McKillan to the party of the first part; and

WHEREAS, the Governor and Council of State have adopted a proper resolution authorizing the Governor and Secretary of State to execute this conveyance.

NOW, THEREFORE, the party of the first part, for and in consideration of the sum of One Dollar and other valuable considerations to it in hand paid by the said party of the second part, receipt of which is hereby acknowledged, has released and quitclaimed and by these presents does release and quitclaim unto the party of the second part and to his heirs and assigns all of its right, title and interest in and to the following described tract of land, situated, lying and being in Holly Township, Pender County, North Carolina, bounded and described as follows:

BEGINNING at a stake, Nixon Jones' corner of a tract of land allotted to him in the division of Ida S. Jones lands, also Harvey Jones' corner, and running thence S. 26 deg. 45' 3" West 481.8 feet to a stake; thence North 80 deg. 5' East 390 feet; thence South 45 deg. 25' East 192.3 feet to a stake; thence North 10 deg. 21' 33" East to Nixon Jones' line; thence in a Northwesterly direction with Nixon Jones' line to the point of beginning, containing 14 acres more or less, as shown by survey and maps of Wildlife Resources Commission in Map Book 93 at page 82 of the Registry of Pender County.

As a part of consideration for the execution of this conveyance, party of the second part agrees that the State of North Carolina (North Carolina Wildlife Resource Commission), its successors and assigns shall have full title, easement and right-of-way to and for any roads now used by the party of the first part.

TO HAVE AND TO HOLD said lands fully released from any right, title and interest, which the party of the first part may have therein, except as to the roads heretofore mentioned, as fully as if said lands had not been obtained in the conveyance from the said Finley Neffillan and wife to the said party of the first part.

IN TESTIMONY WHEREOF, these presents have been executed in the name of the State of North Carolina by his Excellency, W. Kerr Scott, Governor of the State of North Carolina, attested by Thad Eure, Secretary of State of the State of North Carolina, and the Great Seal of the State of North

Carolina has been hereto affixed in the manner provided by the laws of the State and by authority of a resolution of the Council of State.

STATE OF NORTH CAROLINA

By: /s/ W. Kerr Scott
Governor

Approved as to form and legality

this 29 day of May, 1950

/s/ Thad Euro
Secretary of State

/s/ H. J. Rhodes
Assistant Attorney General

NORTH CAROLINA

WAKE COUNTY

I, Claire E. Nichols, a Notary Public in and for said County and State, do hereby certify that on this 29th day of September, 1950, personally came before me W. Kerr Scott, Governor of the State of North Carolina, and Thad Euro, Secretary of State of North Carolina, who being by me duly sworn, says each for himself that he knows the Great Seal of the State of North Carolina, and that the seal affixed to the foregoing instrument is the Great Seal of the State, and that the name of the State of North Carolina was subscribed thereby by W. Kerr Scott, Governor of the State, and that said W. Kerr Scott as Governor of said State, and said Thad Euro as Secretary of State, subscribed their names thereto; that the said Great Seal of the State of North Carolina was affixed thereto by virtue of a resolution of the Council of State and by the Governor of said State, and the said instrument is the act and deed of the State of North Carolina.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal on this the 29th day of September, 1950.

/s/ Claire E. Nichols
Notary Public

My Commission expires Jan. 8, 1951.

3

Pender

A-9

THAD EURE
SECRETARY OF STATE

OCT 7 11 57 AM 1938

FILED

STATE OF NORTH CAROLINA
COUNTY OF PENDER

THIS RELEASE DEED, made this the 25th day of May, 1938, by The State of North Carolina, (for and on behalf of the North Carolina Wildlife Resources Commission, successor in interest to the State Board of Conservation and Development), party of the first part, to Robert W. Roberts, and Inez Roberts, of Onslow County, North Carolina, parties of the second part.

W I T N E S S E T H :

WHEREAS, the description in the deed from Finley McMillan and wife, Clara McMillan, dated July 1st 1921, to the State of North Carolina (State Board of Conservation and Development) and recorded in the Public Registry of Pender County, North Carolina, in Book of Deeds, #229 at page # 387 et seq., contains the property hereinafter described; and

WHEREAS, it now appears from abstracts of title, surveys and other investigations that the true owners of the hereinafter described lands are the parties of the second part, and that the said Finley McMillan and wife were not vested with title therein; and

WHEREAS, the North Carolina Wildlife Resources Commission, successor in interest to the State Board of Conservation and Development, has adopted a resolution recommending and requesting the execution of this conveyance by the Governor and Secretary of State for the purpose of removing the cloud on the title to said property brought about by the locus in quo being erroneously contained in the description in the deed from the said Finley McMillan to the party of the first part; and

WHEREAS, the Governor and Council of State have adopted a proper resolution authorizing the Governor and Secretary of State to execute this conveyance.

NOW, THEREFORE, the party of the first part, for and in consideration of the sum of One Dollar and other valuable considerations to it in hand paid by the said parties of the second part, receipt of which is hereby acknowledged, has released and quitclaimed and by these presents does release and quitclaim unto the parties of the second part and to their heirs and assigns all of its right, title and interest in and to the following described tract of land, situated, lying and being in Holly Township, Pender County, North Carolina, bounded and described as follows:

BEGINNING at the Northwest corner of the land described in a grant to H. E. Griffin recorded in Book 60, page 383, Registry of Pender County, said stake being a corner of the North Carolina Wildlife Resources Commission, and being in or near the Northern edge of Rosen Bar Ridge; running thence with the Western line of the land described in the aforesaid grant South 1/4 deg. 45' West 1500 feet to a stake in or near the Southern edge of Rosen Bar Ridge, a corner of said grant; and running thence around Rosen Bar Ridge, approximately with the edge of the bay, the following courses and distances; South 75 deg. 2' 33" West 730.3 feet; South 66 deg. 41' 33" West 816.9 feet; North 52 deg. 55' 57" West 443.4 feet; North 52 deg. 47' 57" West 360.8 feet; South 86 deg. 40' 3" West 300.2 feet; North 25 deg. 38' 57" West 561.2 feet; North 3 deg. 3' 57" West 175.5 feet; North 63 deg. 41' 33" East 349.1 feet; North 38 deg. 54' 33" East 605.8 feet North 37 deg. 52' 27" West 129.4 feet; North 71 deg. 4' 27" West 262.3 feet; North 1/4 deg. 9' 27" West 159.6 feet; North 98 deg. 23' 33" East 321.6 feet; North 28 deg. 31' 27" West 139.1 feet; North 61 deg. 17' 33" East 299 feet; South 76 deg. 59' 27" East 290.6 feet; South 47 deg. 59' 27" East 176.6 feet; South 66 deg. 25' 27" East 166.3 feet; South 19 deg. 45' 12" East 412.5 feet; South 45 deg. 28' 12" East 432.7 feet; South 74 deg. 19' 12" East 457.5 feet; South 17 deg. 51' 12" East 24.4 feet; North 81 deg. 8' 48" East 227.9 feet; North 1 deg. 53' 48" East 685.5 feet; South 73 deg. 13' 42" East 462 feet; and North 84 deg. 9' 18" East 207.6 feet to the beginning, containing 99.03 acres, as shown by survey and maps of Wildlife Resources Commission in Map Book # 3 at page # 81 of the Registry of Pender County.

As a part of consideration for the execution of this conveyance, parties of the second part agree that the State of North Carolina (North Carolina Wildlife Resources Commission), its successors and assigns shall have full title, easement and right-of-way to and for any roads now used by the party of the first part.

beginning from A1-41

NORTH CAROLINA

WAKE COUNTY

I, Claire E. Nichols, a Notary Public in and for said County and State, do hereby certify that on this 29th day of September, 1950, personally came before me W. Kerr Scott, Governor of the State of North Carolina, and Thad Eure, Secretary of State of North Carolina, who being by me duly sworn, says each for himself that he knows the Great Seal of the State of North Carolina, and that the seal affixed to the foregoing instrument is the Great Seal of the State, and that the name of the State of North Carolina was subscribed thereby by W. Kerr Scott, Governor of the State, and that said W. Kerr Scott as Governor of said State, and said Thad Eure as Secretary of State, subscribed their names thereto; that the said Great Seal of the State of North Carolina was affixed thereto by virtue of a resolution of the Council of State and by the Governor of said State, and the said instrument is the act and deed of the State of North Carolina.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial Seal on this the 29th day of September, 1950.

/s/ Claire Eastman Nichols
Notary Public

My Commission expires January 6, 1951

TO HAVE AND TO HOLD said lands fully released from any right, title and interest which the party of the first part may have therein, except as to the roads heretofore mentioned, as fully as if said lands had not been contained in the conveyance from the said Finley McMillen and wife to the said party of the first part.

IN TESTIMONY WHEREOF, these presents have been executed in the name of the State of North Carolina by his Excellency, W. Kerr Scott, Governor of the State of North Carolina, attested by Thad Eure, Secretary of State of the State of North Carolina, and the Great Seal of the State of North Carolina has been hereto affixed in the manner provided by the laws of the State and by authority of a resolution of the Council of State.

STATE OF NORTH CAROLINA

By /s/ W. Kerr Scott
Governor

ATTEST:

/s/ Thad Eure
Secretary of State

Approved as to form and legality
this 22 day of May, 1950

/s/ E. J. Rhodes
Assistant Attorney General

4

STATE OF NORTH CAROLINA

DEED

COUNTY OF PENDER

THIS DEED made this 13 day of September 1962, by and between the STATE OF NORTH CAROLINA, party of the first part, and JAMES D. DIXON and wife, ALICE DIXON, of Pender County, North Carolina, parties of the second part, ^{New Hanover}

WITNESSETH:

THAT WHEREAS, the North Carolina Wildlife Resources Commission has authorized and approved the conveyance of the land hereinafter described; and

WHEREAS, the Governor and Council of State of North Carolina at a meeting held in the City of Raleigh on the 13 day of September 1962 approved this conveyance and directed execution of the instrument,

NOW, THEREFORE, for and in consideration of the sum of \$10.00 and other valuable consideration, paid by the parties of the second part to the party of the first part, the receipt of which is hereby acknowledged, the party of the first part has bargained and sold and by these presents does hereby bargain, sell and convey to the parties of the second part, their heirs and assigns, all those certain tracts or parcels of land situate, lying and being in Topsail Township, Pender County, North Carolina, and more particularly described as follows, to wit:

FIRST TRACT:

BEGINNING at a point at the east end of Jordan's Ridge; thence North 45 degrees 15 minutes West 3714.4 feet; thence North 02 degrees 30 minutes 38 seconds East 259.1 feet; thence North 63 degrees 05 minutes 38 seconds East 1315.38 feet; thence North 18 degrees 53 minutes 38 seconds East 833.58 feet to a point, said point lying and being the following courses and distances from the center of Merritt's Creek bridge on N. C. Highway 210: BEGINNING

at the center of said bridge and running with said Highway No. 210 South 25 degrees 45 minutes East 594.0 feet, South 34 degrees 40 minutes East 2100.0 feet, South 19 degrees 45 minutes East 2300.0 feet, South 30 degrees 10 minutes East 200.0 feet; thence leaving said highway and following an old tram road the following courses and distances across land of the M. S. and M. Lumber Company; North 77 degrees 05 minutes East 476.6 feet, North 60 degrees 52 minutes East 485.5 feet, North 76 degrees 30 minutes East 239.7 feet, North 89 degrees 40 minutes East 1155.5 feet, North 82 degrees 28 minutes East 488.0 feet, North 44 degrees 52 minutes East 1104.7 feet, North 73 degrees 40 minutes East 1102.2 feet, South 82 degrees 33 minutes East 75.7 feet, South 57 degrees 26 minutes East 124.3 feet, South 45 degrees 15 minutes East 113.2 feet, South 47 degrees 30 minutes East 340.0 feet, South 68 degrees 30 minutes East 290.0 feet, North 87 degrees 26 minutes East 151.7 feet, South 79 degrees 00 minutes East 849.0 feet, North/88 degrees 10 minutes East 216.7 feet, North 72 degrees 00 minutes East 758.0 feet, North 65 degrees 52 minutes East 528.0 feet, North 53 degrees 25 minutes East 293.3 feet, North 35 degrees 20 minutes East 247.0 feet, North 23 degrees 40 minutes East 261.0 feet, North 31 degrees 30 minutes East 300.3 feet, North 6 degrees 00 minutes East 182.1 feet, North 20 degrees 05 minutes East 327.6 feet, North 32 degrees 22 minutes East 296.0 feet, North 44 degrees 05 minutes East 243.5 feet, North 86 degrees 44 minutes East 382.3 feet, South 83 degrees 55 minutes East 160.6 feet, South 78 degrees 05 minutes East 500.7 feet, South 66 degrees 50 minutes East 225.3 feet, North 85 degrees 00 minutes East 333.0 feet to a branch, the boundary line between the aforesaid M. S. and M. Lumber Company land and the land of the estate of O. F. Watkins; thence, North 85 degrees 00 minutes East 141.4 feet, North 78 degrees 40 minutes East 548.4 feet, South 85 degrees 00 minutes East 676.3 feet, North 70 degrees 15 minutes East 485.7 feet, North 60 degrees 30 minutes East 332.0 feet, North 66 degrees 33 minutes East 500.0 feet, North 63 degrees 25 minutes East 244.3 feet, North 35 degrees 00 minutes East 324.0 feet, North 57 degrees 30 minutes East 500.0 feet, North 72 degrees 00 minutes East 619.3 feet, North 18 degrees 15 minutes 38 seconds East 196.2 feet to the aforesaid point; thence North 5 degrees 56 minutes 22 seconds West 2047.32 feet; thence North 79 degrees 23 minutes 18 seconds East 194.04 feet; thence North 3 degrees 32 minutes 38 seconds East 1475.76 feet; thence North 64 degrees 19 minutes 23 seconds East 541.86 feet; thence North 36 degrees 13 minutes 23 seconds East 417.12 feet; thence North 77 degrees 24 minutes 23 seconds East 713.46 feet; thence South 67 degrees 23 minutes 07 seconds East 510.18 feet; thence South 82 degrees 18 minutes 37 seconds East 316.80 feet; thence South 74 degrees 23 minutes 37 seconds East 337.92 feet; thence North 82 degrees 24 minutes 23 seconds East 293.70 feet; thence South 85 degrees 15 minutes 37 seconds East 667.26 feet; thence South 58 degrees 48 minutes 07 seconds East 328.68 feet; thence South 47 degrees 12 minutes 23 seconds West 543.84 feet; thence South 68 degrees 25 minutes West 276.0 feet; thence South 5 degrees 55 minutes East 415.0 feet; thence South 24 degrees 00 minutes West 744.0 feet; thence South 35 degrees 52 minutes West 937.0 feet; thence South 51 degrees 48 minutes East 420.5 feet; thence South 71 degrees 05 minutes West 873.4 feet; thence South 34 degrees 05

minutes West 439.5 feet; thence South 45 degrees 00 minutes East 357.0 feet; thence South 26 degrees 22 minutes East 687.0 feet; thence North 83 degrees 48 minutes West 285.5 feet to a point; thence North 34 degrees 54 minutes West 636.0 feet; thence South 64 degrees 46 minutes West 266.5 feet; thence South 19 degrees 27 minutes East 1112.5 feet; thence South 18 degrees 20 minutes West 718.6 feet; thence South 49 degrees 10 minutes West 306.0 feet; thence South 2 degrees 58 minutes West 642.5 feet; thence South 27 degrees 53 minutes West 376.4 feet; thence South 50 degrees 55 minutes West 479.0 feet; thence South 46 degrees 05 minutes East 322.7 feet; thence South 11 degrees 45 minutes West 272.8 feet; thence South 73 degrees 23 minutes East 543.0 feet; thence South 62 degrees 07 minutes West 318.0 feet; thence South 15 degrees 08 minutes East 297.0 feet to the point of BEGINNING and containing 417 acres, more or less.

Being the same as Tract "A" on the Composite Map prepared by Lindsey B. Hopkins, December 12, 1961 for James D. Dixon and wife, Alice Dixon vs. North Carolina Wildlife Resources Commission and the State of North Carolina, filed with the Superior Court of Pender County, excepting, however, the 7 acres, more or less, conveyed by deed of even date herewith from James D. Dixon and wife, Alice Dixon, to the North Carolina Wildlife Resources Commission.

SECOND TRACT:

BEGINNING at the corner of the N. C. Wildlife Resources Commission, said corner being in Blank's Branch, and running North 35 degrees 03 minutes 18 seconds East 451.4 feet; thence South 87 degrees 18 minutes 42 seconds East 601.3 feet; thence North 02 degrees 30 minutes 38 seconds East 360.0 feet to a point in the first line of the above mentioned 417 acre tract; thence with the said first line South 45 degrees 15 minutes East 483.0 feet; thence South 64 degrees 05 minutes West 1573.0 feet to a concrete monument, a corner of the land of M. S. and M. Lumber Company; thence North 12 degrees 58 minutes 48 seconds East 285.8 feet; thence North 68 degrees 21 minutes 42 seconds East 147.2 feet to the point of BEGINNING and containing 7 acres, more or less.

TO HAVE AND TO HOLD the aforesaid tracts or parcels of land, together with all privileges and appurtenances thereunto belonging, or in any wise appertaining, to the parties of the second part, their heirs and assigns, forever.

IN TESTIMONY WHEREOF, the State of North Carolina has caused this deed to be executed in its name by Terry Sanford, Governor, attested by Thad

Eure, Secretary of State, and the Great Seal of the State of North Carolina hereunto affixed, by virtue of the power and authority aforesaid.

STATE OF NORTH CAROLINA

BY: *s/ Jerry Sanford*
Governor

ATTEST:

s/ Chad Eure
Secretary of State

APPROVED FOR DISPOSITION:

s/ Hugh Cannon
Director of Administration

APPROVED AS TO FORM:

T. W. BRUTON
Attorney General

BY: *s/ Parks H. Scandola*
Real Property Attorney

NORTH CAROLINA

WAKE COUNTY

I, Claire Eastman Nickels, a Notary Public in and for said County and State, do hereby certify that Terry Sanford, Governor of the State of North Carolina, and Thad Eure, Secretary of State of North Carolina, personally came before me this day and being by me duly sworn says each for himself that he knows the Great Seal of the State of North Carolina and that the seal affixed to the foregoing instrument is the Great Seal of the State; that Terry Sanford, Governor of said State, and Thad Eure, as Secretary of State, subscribed their names thereto; that the said Great Seal of the State of North Carolina was affixed thereto by virtue of a resolution of the Council of State and by the Governor of said State, and the said instrument is the act and deed of the State of North Carolina.

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal on this the 18 day of September 19 62.

Claire Eastman Nickels
Notary Public

My Commission expires:

1-8-63

FILED

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STATE OF NORTH CAROLINA

COUNTY OF PENDER

THAD EURY
SECRETARY OF STATE
NORTH CAROLINA

WARRANTY DEED

THIS DEED, made this 11th day of June, 1965, by and between CATHERINE NIXON KING, Widow, of the County of Pender, State of North Carolina, GRANTOR; and NORTH CAROLINA WILDLIFE RESOURCES COMMISSION, GRANTEE.

WITNESSETH:

That the said Grantor, for and in consideration of the sum of One Dollar (\$1.00) and other valuable considerations to her in hand paid by the said Grantee, the receipt whereof is hereby acknowledged, has given, granted, bargained and sold, aliened and conveyed, and by these presents does hereby give, grant, bargain and sell, alien, convey and confirm unto the said Grantee, and to its successors and assigns forever, all of that certain lot of land, situated, lying and being in Topsail Township, Pender County, North Carolina, and being more particularly described as follows:

BEGINNING at a stone marked J. C. S. in the Eastward edge of the old Wilmington-New Bern Road, Junius C. Smith's Northeast corner in his back line and running thence in a Northeastward direction with the Eastward edge of said road to a point where the Eastward edge of said road crosses the Eastward right-of-way line of U. S. Highway #17, running thence and with the Eastward right-of-way line of U. S. Highway #17 in a Southwestward direction to a stone in said line marked J. C. S. in Junius C. Smith's Eastward line; thence with said Junius C. Smith's Eastward line in a Northwestwardly direction to the Point of Beginning, containing approximately fifteen (15) acres.

TO HAVE AND TO HOLD the above granted and described premises, together with all and singular, the rights, privileges, easements, tenements, and appurtenances thereunto belonging or in anywise appertaining unto the said Grantee, its successors and assigns, in fee simple, forever;

AND the said Grantor, for her heirs and assigns, does hereby covenant to and with the said Grantee, its successors and assigns, that she is seized in fee of the above granted and described premises; that she has good right to sell and convey the same in fee simple; that the same is free and clear from any and all encumbrances; and that she will and her heirs and assigns shall warrant and defend the title to the same against the lawful claims and demands

of any and all persons whomsoever.

IN TESTIMONY WHEREOF, the said Grantor has hereunto set her hand and seal, this the 11th day of June, 1965.

Catherine Nixon King (SEAL)
Catherine Nixon King

STATE OF NORTH CAROLINA *
*
COUNTY OF PENDER New Hanover

I, Mary DeRocco, a Notary Public in and for the State and County aforesaid, do hereby certify that on this day personally came before me CATHERINE NIXON KING, Widow, and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and official seal, this the 11th day of June, 1965.

Mary DeRocco
Notary Public

My commission expires: April 7, 1967



STATE OF NORTH CAROLINA - Pender County
The foregoing certificate of Mary DeRocco
a Notary Public of New Hanover County,
under his official seal is adjudged to be correct. Let
the said instrument and the certificates be registered.
This, the 9th day of June, 1965
Catherine M. Mason
Resident CLERK OF SUPERIOR COURT

Recorded in Book 401,
page 63 Pender Court.

NORTH CAROLINA
PENDER COUNTY

FILED

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THAD. EURE
SECRETARY OF STATE
NORTH CAROLINA

This Deed, Made this 9th day of July, 1965, by Junius C. Smith and wife, Octavia Smith, of New Hanover County, North Carolina, of the first part, to State of North Carolina, of the second part;

W I T N E S S E T H:

That said parties of the first part in consideration of ~~ONE THOUSAND EIGHT HUNDRED NINE & 50/100 (\$1,809.50)~~ *One Thousand Eight Hundred Twenty Six and 50/100 (\$1,826.50)* DOLLARS, to them paid by the party of the second part, the receipt of which is hereby acknowledged, have bargained and sold, and by these presents do grant, bargain, sell and convey to said party of the second part, its successor and assigns, a certain tract or parcel of land in Topsail Township, Pender County, North Carolina, Northwest of U. S. Highway #17 and adjacent to and Southeast of the old Wilmington to New Bern Road and being more fully described as follows:

BEGINNING at a lightwood stake located at the point where the Southwestern line of Dr. Junius C. Smith's crosses a Southeastern line of N. C. Wildlife Commission, said point of crossing is N 33-22 W 1191.0 feet from a stone marked "JCS" located in Dr. Smith's line on the Southeast edge of U. S. Highway #17 at a point that is S 54-48 W 53.1 feet from a U. S. Coast and Geodetic bench marker numbered 115; running thence from said BEGINNING lightwood stake, so located, with Dr. Smith's Southwestern line, N 33-22 W 878.5 feet to a stone marked "JCS" in the center of the old Wilmington to New Bern Road; thence with said road the following courses and distances from point to point in or on the Southeast edge of the roadway: N 56-50 E 460.0 feet; N 68-00 E 1190.0 feet; N 72-10 E 528.4 feet; and N 80-49 E 510.4 feet to a stone marked "JCS" on the Southeast edge of the roadway; thence with Dr. Smith's Northeastern line, S 35-14 E 817.2 feet to a lightwood stake at the point where said line crosses another line of N. C. Wildlife Commission, said point of crossing is S 68-51 W 391.6 feet from a 1-1/2 inch pipe at ground level that marks a corner of N. C. Wildlife Commission lands at the point where said land touches the New Bern Branch of ACL RR's right-of-way; thence with said Wildlife's line, S 68-51 W 1950.5 feet to a 3-inch pipe; thence with their next line, S 65-42 W 733.9 feet to the point of BEGINNING, containing 56.2 Acres, more or less, and is as surveyed by Walton & Walton, Registered Land Surveyors, Burgaw, N. C., in June, 1965.

The above described tract of land is a portion of Dr. J. C. Smith's land as surveyed and mapped, in March, 1945, by W. K. Allen, C. E., and being a portion of that tract of land conveyed by Canal Wood Corporation to Junius C. Smith and wife, Octavia Smith, by a deed dated 9 March 1945 and duly recorded in Book 193 at Page 474 of the Pender County Registry.

Also any other lands in which the parties of the first part have any interest lying within the confines of the Holly Shelter Wildlife Management Area as shown on a map thereof duly recorded in Map Book 8, Page 24, Pender County Registry.

TO HAVE AND TO HOLD the aforesaid tract or parcel of land, and all privileges and appurtenances thereto belonging, to the said party of the second part and its successors and assigns, to their only use and behoof forever.

IN TESTIMONY WHEREOF, the said parties of the first part have hereunto set their hands and seals, the day and year first above written.



Junius C. Smith (SEAL)

Octavia Smith (SEAL)

NORTH CAROLINA

NEW HANOVER COUNTY

I, Annette C. Williamson, Notary Public, do hereby certify that Dr. Junius C. Smith and wife, Octavia Smith, personally appeared before me this day and acknowledged the due execution of the foregoing deed of conveyance.

Witness my hand and notarial seal this 9th day of July, 1965.

Annette C. Williamson
Notary Public

My Commission Expires:

2-14-67

STATE OF NORTH CAROLINA - Pender County
The foregoing certificate of Annette C. Williamson,
a Notary Public of New Hanover County,
under his official seal is adjudged to be correct. Let
the said instrument and the certificates be registered.
This, the 4th day of August 1965
Wesley Lewis, Deputy
CLERK OF SUPERIOR COURT

*Recorded in Book 401,
page 106 - Pender County
8/4/65*

PENDER COUNTY NC

11/16/2004

\$4600.00



Real Estate
Excise Tax

FILED

BK2522PG053

04 NOV 16 PM 12:18

JOYCE M. SWICEGOOD
REGISTER OF DEEDS
PENDER COUNTY, NC

FILED

FEB 23 2005

SECRETARY OF STATE

FIN #

3350-86-8949-0000 4-Other
nc per Jerry

DATE

11-16-04 INT
Excise Tax: \$4,600.00 ✓

Recorded and Verified
Joyce M. Swicegood
Register of Deeds
Pender County, NC

STATE OF NORTH CAROLINA
COUNTY OF PENDER

SPECIAL WARRANTY DEED

THIS DEED, made this 4th day of November, 2004
by and between **THE NATURE CONSERVANCY**, a nonprofit corporation of the
District of Columbia (hereinafter called "Grantor") with a local address of One
University Place, Suite 290, 4705 University Drive, Durham, North Carolina
27707; and the **STATE OF NORTH CAROLINA**, a body politic (hereinafter
called "Grantee") with a mailing address of NC State Property Office, 1321 Mail
Service Center, Raleigh, North Carolina 27699;

WITNESSETH:

THAT the said Grantor, in consideration of the sum of TEN DOLLARS
(\$10.00) and other good and valuable consideration paid to it, receipt of which is
hereby acknowledged, has bargained and sold, and by these presents does
hereby grant, bargain, sell and convey unto the said Grantee, its successors and
assigns, the following described tracts or parcels of land located in the County of
Pender, State of North Carolina and being more particularly described as follows:

See EXHIBIT "A" attached hereto and incorporated herein.

TO HAVE AND TO HOLD said above described tracts or parcels of land,
together with all and singular, the rights, privileges, easements, tenements and
appurtenances thereunto belonging, or in anywise appertaining unto the said
Grantee, in fee simple.

THE GRANTOR COVENANTS with the Grantee, that Grantor has done
nothing to impair such title as Grantor received, and Grantor will warrant and
defend the title against the lawful claims of all persons claiming by, under or
through Grantor, subject to the matters herein stated:

1. Utility easements and rights of way crossing the property;
2. Zoning laws, local ordinances and land use regulations affecting the
property;

3. Any state of facts which a current survey or an inspection of the property would reveal, including, but not limited to, the location of boundary lines, improvements and encroachments, if any;

4. Declaration of Covenants and Restrictions by and between the Grantor and the State of North Carolina acting through the North Carolina Clean Water Management Trust Fund, dated July 23, 2003 and recorded August 1, 2003 in Book 2182 at Page 54 of the Pender County Registry; and

5. Deed for Highway Right of Way from the Grantor to the "Department of Transportation, an agency of the State of North Carolina", dated February 9, 2004, and recorded in Book 2338, Page 305 of the Pender County Registry.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its corporate name by its duly authorized officer the day and year first above written.

THE NATURE CONSERVANCY

By: Katherine D. Skinner
Name: Katherine D. Skinner
Its Vice President

STATE OF NORTH CAROLINA

COUNTY OF DURHAM

I, Carrie E. Banks, the undersigned Notary Public in and for the County and State aforesaid, do hereby certify that Katherine D. Skinner personally came before me this day and acknowledged that she is the Vice President of THE NATURE CONSERVANCY, a nonprofit D.C. corporation, and that by authority duly given and as the act of such entity, she signed the foregoing instrument in its name on its behalf as its act and deed.

Witness my hand and official seal or stamp this 4th day of November, 2004.

Carrie E. Banks
NOTARY PUBLIC

My Commission expires: 2-19-08
(Notary Seal)



NORTH CAROLINA - PENDER COUNTY: The foregoing (or annexed) certificate of Carrie E. Banks, is certified to be correct. This 16 day of Nov., A.D. 2004
JOYCE M. SWICEGOOD - Pender County Register of Deeds
By: Joyce M. Swicegood Deputy Assistant
Register of Deeds

EXHIBIT "A"

**STATE OF NORTH CAROLINA
COUNTY OF PENDER
HOLLY TOWNSHIP**

PARCEL I: BEING ALL of PARCEL I of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 2,007.32 net acres more or less, reference to which map is hereby made for a more particular description; being a portion of Parcels C and D of the Third Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

PARCEL II: BEING ALL of PARCEL II of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 10,516.61 net acres more or less, reference to which map is hereby made for a more particular description; being a portion of Parcels B, D and all of E of the Third Tract, and all of Parcels A and B of the Fourth Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

SUBJECT TO that certain twenty year Timber Sale Contract dated June 30, 1999 in favor of TIMBERMAX PLANTATIONS, LLC, its successors and assigns, a short form version of which is recorded in Book 1490, Page 240 (NC-50 therein) Pender County Registry, which Timber Sale Contract runs with the land and encumbers a 281.70 acre portion of Parcel II above described, which portion is more particularly shown on a Final Plat of the Holly Shelter Tract made by Robert A. Warner and Associates recorded in Map Book 34, Page 95, Pender County Registry, reference to which map is hereby made for a more particular description. This Timber Sale Contract includes among other things, provisions which vest title to standing timber in TIMBERMAX PLANTATIONS, LLC, its successors and assigns, and which allows such third party entity to access, cut and remove said timber. Said portion of Tract is also subject to a certain Timber Management Agreement dated June 30, 1999 by and between TimberMax Plantations, LLC and Sustainable Forest Technologies wherein the latter has agreed to manage said property as timberlands. Grantee, by acceptance of this deed, and any successors or assigns of Grantee, by acceptance of title, agrees to respect and shall not interfere with such contractual agreements. SUBJECT ALSO to rights of others, including TIMBERMAX PLANTATIONS, LLC, its successors and assigns, and Sustainable Forest Technologies, its successors and assigns, in and to a certain non-exclusive, private access easement, 60 feet in width, from the State maintained road across the said Parcel II running to the said 281.70 acre portion, as said easement is shown on an Easement Plat Of Holly Shelter Tract, made by Robert A. Warner and Associates, Inc., and recorded in Map Book 34, Page 94, Pender County Registry. Such rights of ingress and egress were intended by the parties to survive and continue notwithstanding any sale of the underlying land. PROVIDED HOWEVER, that all said above stated reservations, agreements by Grantee and matters conveyed "subject to", as contained in this paragraph, shall continue for only so long as the Timber Sale Contract referenced above shall remain in force, but no longer; and in furtherance thereof, Grantor conveys to Grantee all its right, title and interest in and to any reversionary rights thereof.

PARCEL III: BEING ALL of PARCEL III of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489),

BK 2522 PG 056

Sheets 1 through 5, Pender County Registry, shown thereon containing 983.17 net acres more or less, reference to which map is hereby made for a more particular description; being a portion of the Second Tract and portions of Parcels A and B of the Third Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

PARCEL IV: BEING ALL of PARCEL IV of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 90.92 acres more or less, reference to which map is hereby made for a more particular description; being a portion of the Parcels A and B of the Third Tract and part of the Second Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

PARCEL V: BEING ALL of PARCEL V of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 77.25 net acres more or less, reference to which map is hereby made for a more particular description; being the Fifth Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

PARCEL VII: BEING ALL of PARCEL VII of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 74.46 net acres more or less, reference to which map is hereby made for a more particular description; being a portion of Parcel C of the Third Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

PARCEL VIII: BEING ALL of PARCEL VIII of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 61.31 net acres more or less, reference to which map is hereby made for a more particular description; being a portion of Parcel C of the Third Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

To: Lawyers Title Insurance Corporation (herein the "Title Company")

STATE OF NORTH CAROLINA
COUNTY OF PENDER

LIEN WAIVER AFFIDAVIT AND AGREEMENT

On this 10th day of November, 2004, before me personally appeared "Owner" of Property; by and through its authorized officer, to me personally known, who, being duly sworn on his/her/their oath(s), did say as follows:

That this affidavit is given for the purpose of obtaining title insurance on Property on which there has been no recent improvements.

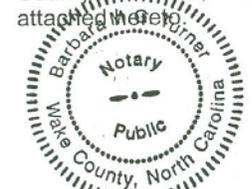
That no improvements or repairs have been made on said property during the one hundred twenty (120) days immediately preceding this date; that there are no outstanding bills incurred for labor employed and materials used in making any repairs or improvements on said premises, and that there are no unpaid bills or liens against said property for sewage, street improvements, etc.; except: NONE.

That no claims have been made, nor is any suit now pending on behalf of any contractor, subcontractor, laborer, or materialman; except: NONE.

* Note there is in effect a Contract For Service by and between the Owner and Comprehensive Forestry Services, Inc. ("Contractor") executed by Owner on December 16, 2003, for the prescribed burning of approximately 1,800 acres of the "Bear Garden", "Patterson" and "Sandy Run" tracts by Contractor, by March 31, 2005, for an estimated price of \$36,000.00. The Owner shall work with the Contractor to complete the work set forth in this contract and the Owner shall be responsible for all payments due the Contractor under the terms of the contract. Upon request of the State of North Carolina, Owner will cancel the contract with two weeks written notice to Contractor. The State of North Carolina has given its permission to Owner and Contractor to enter the Property to complete the Contractor's duties set forth in the contract. The contract, as it relates to the Property, may not be extended or amended without the consent of Owner.

The parties hereto, hereby request the Title Company to issue its policy or policies of title insurance upon said Property without exception therein as to any possible unfiled mechanics' or materialmen's liens, and in consideration thereof, and as an inducement therefore, said affiants do hereby, jointly and severally agree to indemnify and hold said Title Company harmless of and from any and all loss, cost, damage and expenses of every kind, including attorney's fees, which said Title Company shall or may suffer or incur or become liable for under its said policy or policies now to be issued, or any re-issue, renewal or extension thereof, or new policy at any time issued upon said Property, part thereof or new policy at any time issued upon said real estate, part thereof or interest therein, arising, directly or indirectly out of or on account of any such mechanics' or materialmen's lien or liens or claim or claims or in connection with its enforcement of its rights under this agreement.

The real estate and improvements referred to herein as the "Property" is situated in the County of Pender, State of North Carolina, and more particularly described in EXHIBIT "A" attached hereto.



STATE OF NORTH CAROLINA
COUNTY OF DURHAM

THE NATURE CONSERVANCY
By: [Signature]
Its Assistant Secretary and Senior Attorney

Executed, subscribed, and sworn to and before me the 10th day of November, 2004.

Barbara M. G. Turner
NOTARY PUBLIC

My Commission expires: August 11, 2007

EXHIBIT "A"

STATE OF NORTH CAROLINA COUNTY OF PENDER HOLLY TOWNSHIP

PARCEL I: BEING ALL of PARCEL I of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 2,007.32 net acres more or less, reference to which map is hereby made for a more particular description; being a portion of Parcels C and D of the Third Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

PARCEL II: BEING ALL of PARCEL II of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 10,516.61 net acres more or less, reference to which map is hereby made for a more particular description; being a portion of Parcels B, D and all of E of the Third Tract, and all of Parcels A and B of the Fourth Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

SUBJECT TO that certain twenty year Timber Sale Contract dated June 30, 1999 in favor of TIMBERMAX PLANTATIONS, LLC, its successors and assigns, a short form version of which is recorded in Book 1490, Page 240 (NC-50 therein) Pender County Registry, which Timber Sale Contract runs with the land and encumbers a 281.70 acre portion of Parcel II above described, which portion is more particularly shown on a Final Plat of the Holly Shelter Tract made by Robert A. Warner and Associates recorded in Map Book 34, Page 95, Pender County Registry, reference to which map is hereby made for a more particular description. This Timber Sale Contract includes among other things, provisions which vest title to standing timber in TIMBERMAX PLANTATIONS, LLC, its successors and assigns, and which allows such third party entity to access, cut and remove said timber. Said portion of Tract is also subject to a certain Timber Management Agreement dated June 30, 1999 by and between TimberMax Plantations, LLC and Sustainable Forest Technologies wherein the latter has agreed to manage said property as timberlands. Grantee, by acceptance of this deed, and any successors or assigns of Grantee, by acceptance of title, agrees to respect and shall not interfere with such contractual agreements. SUBJECT ALSO to rights of others, including TIMBERMAX PLANTATIONS, LLC, its successors and assigns, and Sustainable Forest Technologies, its successors and assigns, in and to a certain non-exclusive, private access easement, 60 feet in width, from the State maintained road across the said Parcel II running to the said 281.70 acre portion, as said easement is shown on an Easement Plat Of Holly Shelter Tract, made by Robert A. Warner and Associates, Inc., and recorded in Map Book 34, Page 94, Pender County Registry. Such rights of ingress and egress were intended by the parties to survive and continue notwithstanding any sale of the underlying land. PROVIDED HOWEVER, that all said above stated reservations, agreements by Grantee and matters conveyed "subject to", as contained in this paragraph, shall continue for only so long as the Timber Sale Contract referenced above shall remain in force, but no longer; and in furtherance thereof, Grantor conveys to Grantee all its right, title and interest in and to any reversionary rights thereof.

PARCEL III: BEING ALL of PARCEL III of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 983.17 net acres more or less, reference to which map is hereby made for a more particular description; being a portion of the Second Tract and portions of Parcels A and B of the Third Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

PARCEL IV: BEING ALL of PARCEL IV of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 90.92 acres more or less, reference to which map is hereby made for a more particular description; being a portion of the Parcels A and B of the Third Tract and part of the Second Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

PARCEL V: BEING ALL of PARCEL V of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 77.25 net acres more or less, reference to which map is hereby made for a more particular description; being the Fifth Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

PARCEL VII: BEING ALL of PARCEL VII of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 74.46 net acres more or less, reference to which map is hereby made for a more particular description; being a portion of Parcel C of the Third Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

PARCEL VIII: BEING ALL of PARCEL VIII of the BEAR GARDEN TRACTS, as the same is shown on a map thereof recorded in Map Book 36, Page 78 (Slide 489), Sheets 1 through 5, Pender County Registry, shown thereon containing 61.31 net acres more or less, reference to which map is hereby made for a more particular description; being a portion of Parcel C of the Third Tract in a deed from SP Forests L.L.C. to The Nature Conservancy recorded in Book 1881, Page 118, Pender County Registry.

Holly Shelter

THAD EURE
SECRETARY OF STATE

OCT 7 9 14 AM 1939

FILED

NORTH CAROLINA
PENDER COUNTY

THIS DEED, Made this 2nd day of November, 1939,
By E. F. Middleton and wife, Cecelia R. Middleton, of New Hanover
County, State of North Carolina, of the first part, to the
DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NORTH
CAROLINA, of the second part,

WITNESSETH: That said parties of the first part
in consideration of One Hundred (\$100.00) Dollars and other
valuable considerations to them paid by the party of the second
part, the receipt of which is hereby acknowledged, have bargained
and sold, and by these presents do grant, bargain, sell and convey
to said party of the second part and its successors and assigns
those certain tracts or parcels of land lying and being in Holly
Township, Pender County, North Carolina, adjoining the lands of
West Virginia Pulp & Paper Company, N. C. Department of Conservatio
and Development, George W. Meeks, Blackburn, Stella Webb, Nathan
Marshburn and others, situated on the Eastern Bank of the North
East Cape Fear River and on both sides of the Holly Shelter Road
and about sixteen miles (travelling distance) Eastwardly from
Burgaw, N. C.; and bounded as follows:

FIRST TRACT: BEGINNING at Exeter, Old Town, Sandhill
the Beginning corner of the Lewis Skibow patent, in a small sink
in the Bank of the North East Cape Fear River, on the East Bank
of said River, also known as the R. T. Williams corner and for-
merly known as the Mosley and Williams corner by the North East
Cape Fear River, now being the upper corner of the E. F. Middleton
whole tract on the North East Cape Fear River, and the lower
corner on the River of the Crocker and Allen 5 1/2 acre tract at
Sand Hill Cove, conveyed to them by J.S. Humphrey and others
on May 17, 1926, by deed recorded in Book 163, page 304, Registry
of Pender County;

and running thence from said Beginning point
with the J. S. and R. F. Humphrey line North 51° 26' East 500 feet
to a concrete monument in the Eastern edge of the Holly Shelter
Public Road:



-/-

Thence with the West Virginia Pulp and Paper Company line North $81^{\circ} 26'$ East 4210.04 feet to a concrete monument, said Paper Company's corner;

Thence with another of the West Virginia Pulp and Paper Company lines South $83^{\circ} 42'$ East 3490.00 feet to a pipe in the line of said Paper Company, a corner of the U. C. Department of Conservation and Development;

Thence South $9^{\circ} 21'$ West 3626.00 feet to a pipe in edge of bay;

Thence South $45^{\circ} 39'$ East 1551 feet to a pipe;

Thence South $14^{\circ} 21'$ West 6930.00 feet to a pipe in Beasley Set ridge;

Thence North $46^{\circ} 14'$ West 2092.89 feet to a pipe with two pine pointers;

Thence South $31^{\circ} 20'$ West 831 feet to a pipe with eight pine pointers on Thunder Island;

Thence South $81^{\circ} 20'$ West 2488.93 feet to a pipe with pine pointers;

Thence North $21^{\circ} 31'$ East 632.95 feet to a stump with pine pointers;

Thence North $14^{\circ} 12'$ East 2646.18 feet to a pipe with Maple and gum pointers, said stake being Stella Webb's corner at the run of Jumping Run Branch;

Thence up the run of Jumping Run Branch to a pipe on the Easternmost point of said Branch, said pipe being Stella Webb's corner (said pipe may be located, and the courses of said Branch and the distance along the run of said Branch between said pipe with maple and gum pointers and said pipe corner may be determined by the following traverse line; running from said stake with maple and gum pointers North $23^{\circ} 15'$ East 256.20 feet; thence South $63^{\circ} 50'$ East 237.75 feet to a point 191 feet Northwardly from the run of Jumping Run Branch; thence South $71^{\circ} 03'$ East 294.79 feet to a point 223 feet Northwardly from the run of said Branch; thence South $76^{\circ} 45'$ East 495.68 feet to a point 145 feet Northwardly from the run of said Branch; thence South $82^{\circ} 45'$ East 308.30 feet to a point 153 feet Northwardly from the run of said Branch; thence South $70^{\circ} 45'$ East 176 feet to the run of said Branch; thence same course 263.35 feet; thence North $46^{\circ} 48'$ East 117.40 feet; thence North $17^{\circ} 31'$ West crossing the Easternmost prong of Jumping Run Branch 93.27 feet; thence South $82^{\circ} 29'$ West 142 feet to said pipe corner on the Easternmost point of Jumping Run Branch);

Thence North $17^{\circ} 29'$ West 1759.00 feet to a stake with two pointers, Stella Webb's corner;

Thence North $75^{\circ} 32'$ West 2087.58 feet to a stake with two pointers, Stella Webb's corner;

Thence South $2^{\circ} 02'$ East 1600.00 feet to a pipe at the run of Jumping Run Branch, Stella Webb's corner;

Thence down the run of said Branch to a pipe at the Western edge of the Holly Shelter Public Road, said Pipe being located at the run of Jumping Run Branch and near the end of the Bridge across said Branch (the courses of said Branch and the distance along the run of said Branch between said pipe corner and said pipe near the end of said Bridge may be determined by running the following traverse line; running from said pipe corner South $9^{\circ} 15'$ West 192.10 feet; thence North $88^{\circ} 45'$ West 202 feet to a point 273 feet Southwardly from the run of Jumping Run Branch; thence North $62^{\circ} 45'$ West 205.58 feet to a point 241 feet Southwardly from the run of said Branch; thence North $63^{\circ} 0'$ West 365.46 feet to a point 155 feet Southwardly from the run of said Branch; thence South $64^{\circ} 15'$ West 367.43 feet to a point 229 feet Southwardly from the run of said Branch; thence South $64^{\circ} 45'$ West 259.52 feet to a point 148 feet Southwardly from the run of said Branch; thence South $35^{\circ} 45'$ West 470.77 feet; thence South $73^{\circ} 45'$ West 356.35 feet to a point 211 feet Southwardly from the run of said Branch; thence North $85^{\circ} 15'$ West 530.10 feet; thence North $14^{\circ} 15'$ East 254.20 feet to said pipe at the end of said Bridge and at the Western edge of said Holly Shelter Public Road);

Thence South $13^{\circ} 50'$ West 50.00 feet to a pipe;

Thence North $59^{\circ} 10'$ West 200 feet to a pipe;

Thence North $34^{\circ} 45'$ West 331 feet to a pipe;

Thence North $16^{\circ} 34'$ West 327.52 feet to a pipe;

Thence North $85^{\circ} 33'$ West 385.44 feet to a pipe;

Thence South $19^{\circ} 31'$ West 584.45 feet to a pipe;

Thence with the old John W. Meeks line North $80^{\circ} 26'$ West 3950.89 feet to a black gum and pipe at the high water mark on the Eastern Bank of the North East Cape Fear River, the old John W. Meeks corner;

Thence up the Eastern Bank of the North East Cape Fear River with the high water mark of said River, according to a traverse line, the following courses and distances: North $9^{\circ} 34'$ East 17.00 feet; South $80^{\circ} 05'$ East 32.0 feet; South $83^{\circ} 33'$ East 27.0 feet; North $23^{\circ} 19'$ East 162.33 feet; North $35^{\circ} 37'$ East 439.75 feet; North $42^{\circ} 20'$ East 579.30 feet; North $56^{\circ} 30'$ East 230.24 feet; North $49^{\circ} 05'$ East 261.95 feet; North $72^{\circ} 15'$ East 423.38 feet; North $68^{\circ} 19'$ East 336.0 feet; North $67^{\circ} 16'$ East 282.34 feet; North $66^{\circ} 51'$ East 522.32 feet; North $61^{\circ} 50'$ East 487.08 feet; North $53^{\circ} 40'$ East 403.20 feet; North $56^{\circ} 08'$ East 302.00 feet; (the termination of this line is at the highwater mark on the South side of Jumping Run Branch at the mouth of said Branch); North $45^{\circ} 54'$ East 138.65 feet (the termination of this line is at the highwater mark of the North side of Jumping Run Branch at the mouth of said Branch); North $56^{\circ} 09'$ East 212.80 feet; North $44^{\circ} 28'$ East 422.75 feet; North $45^{\circ} 24'$ East 365.35 feet; North $42^{\circ} 25'$ East 302 feet; North $50^{\circ} 43'$ East 536.30 feet; North $37^{\circ} 36'$

East 421.00 feet; North 50° 36' East 237.90 feet; North 52° 12' East 351.00 feet; North 24° 27' East 49.40 feet to the point of Beginning.

EXCEPTING FROM THE OPERATION OF THIS DEED the following tracts lying within the above boundaries:

(1) BEGINNING at an engine bed constructed of brick and cement, which is located upon that tract of land containing 1/2 acres described in a deed from G. W. Meeks and others to the Union Shingle Company, dated July 12, 1905, and recorded in Book 94, page 536, Registry of Pender County, said engine bed having been constructed by one of the various Companies who have owned said tract, said Engine Bed being about 100 feet from the Eastern Bank of the North East Cape Fear River, and running thence from said Beginning point North 47° 08' East 255.20 feet to a pipe; thence South 78° 02' East 705 feet to a pipe at the Western edge of said Holly Shelter Public Road, said pipe being located South 19° 50' West 1367.70 feet from concrete monument on the East side of the Holly Shelter Public Road, said monument being the second corner in the above described tract of land; thence with the Western edge of said Road the following courses and distances: South 16° 06' West 519.50 feet; South 8° 08' West 940.87 feet; South 6° 44' West 1521.00 feet to a pipe at the Western edge of said Public Road; thence leaving said Road North 82° 50' West 1048.00 feet to a pipe; thence North 22° 44' East 564.00 feet to a pipe; thence North 45° 13' East 426.60 feet to a pipe; thence North 11° 02' East 605.90 feet to a pipe; thence North 14° 14' West 227.40 feet to a pipe; thence North 14° 08' West 95.00 feet to a pipe; thence North 6° 05' West 331.3 feet to a pipe; thence North 4° 56' East 451.0 feet to a pipe; thence North 10° 55' East 306.0 feet to the point of Beginning. Said tract being the tract of land on which C. J. Featherston and J. C. Featherston now reside.

(2) Known as the Meeks Grave Yard and lying on the East side of the Holly Shelter Public Road and BEGINNING at a pipe (said pipe being located by running the following lines from the Southernmost corner on the West side of the Holly Shelter Road of the First Tract excepted herein: South 8° 45' West 407.15 feet; and South 49° 50' East 160.50 feet), and running thence South 70° 30' East 208.71 feet to a pipe; thence South 19° 30' West 208.71 feet to a pipe; thence North 70° 30' West 208.71 feet to a pipe; thence North 19° 30' East 208.71 feet to the Beginning.

SECOND TRACT: Known as the C. P. Moore tract of land and BEGINNING at an iron pipe in a stump hole, E. T. Blackburn and Southern Box & Lumber Company corner, and known as the yellow pine corner, and running thence with E. T. Blackburn's line North 7° 45' West 1915 feet to a pipe with pointers, E. T. Blackburn and N. C. Department of Conservation and Development corner; thence with N. C. Department of Conservation and Development line North 71° 54' East 3490.74 feet to a pipe, N. C. Department of Conservation and Development corner; thence with the N. C. Department of Conservation and Development line and the line of George W. Meeks South 32° 45' West 3750.00 feet to a steering wheel, G. W. Meeks' corner in Southern Box and Lumber Company line; thence with the Southern Box and Lumber Company line North 75° 45' West 1086.49 feet to the point of Beginning.

The two tracts of land hereby conveyed contain a net acreage of 1786.365 acres.

It is the intention of the parties of the first part to convey hereby all lands conveyed to E. F. Middleton by C. J. Featherston and others by deed dated September 15, 1932, and recorded in Book 221, page 9, Registry of Pender County.

TO HAVE AND TO HOLD the aforesaid tracts or parcels of land, and all privileges and appurtenances thereto belonging to the said DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NORTH CAROLINA, and its successors and assigns, to their only use and behoof forever, subject however to the following limitation conditions, exceptions and encumbrances:

(1) The individual rights of N. J. Crocker and wife, Hila R. Crocker, to hunt and fish on all of the lands herein described as provided in deed to George Allen, dated June 4, 1930, and recorded in Book 177, page 513, of the Registry of Pender County, said hunting and fishing rights expiring on June 4, 1945 under the terms of said deed.

(2) The timber, timber rights and other rights and privileges conveyed by that certain Timber Deed from C. J. Featherston and others to Atlas Plywood Corporation, by deed dated March 11, 1935, and recorded in Book 180, page 499, of the Registry of Pender County.

(3) The Grantor, E. F. Middleton, reserves for himself and his heirs and assigns the right to use without hindrance or interference 2 acres of land on the bank of the North East River at a place to be designated by the said E. F. Middleton or his heirs or assigns, for a period of 5 years and to be used for the purpose of loading and unloading materials of all kinds on barges, and also the right to construct a dock on said premises, and also the right of ingress and egress to and from said 2 acre landing during said 5 year period; and the said period of 5 years herein provided shall commence on the date of this deed.

And the said parties of the first part for themselves and their heirs, executors, and administrators, covenant with said party of the second part and its successors and assigns, that they are seized of said premises in fee, and have right to convey in fee simple; that the same are free and clear from all encumbrances, and that they do hereby forever warrant and will forever defend the said title to the same against the claims of all persons whomsoever, except for the conditions, limitations, exceptions and encumbrances hereinbefore stated.

IN TESTIMONY WHEREOF, The said parties of the first part have hereunto set their hands and seals, the day and year first above written.

E. F. Middleton (SEAL)
x Cecelia R. Middleton (SEAL)

NORTH CAROLINA
NEW HANOVER COUNTY

I, Hoy Roe Parker, notary public, do hereby certify that E. F. Middleton and wife, Cecelia R. Middleton personally appeared before me this day and acknowledged the due execution of the annexed Deed of Conveyance; and the said Cecelia R. Middleton, being by me privately examined, separate and apart from her said husband, touching her voluntary execution of the same do state that she signed the same freely and voluntarily, without fear or compulsion of her said husband, or any other person, and that she doth still voluntarily assent thereto.

Witness my hand and notarial seal, this 7th day of November, 1939.

Hoy Roe Parker
NOTARY PUBLIC

My commission expires the 10th day of September, 1940.

STATE OF NORTH CAROLINA - Randle Co

The foregoing certificate of Hoy Roe Parker
a Notary Public of New Hanover County, under his official seal is adjudged to be correct. Let the said instrument and certificate be registered.

This, the 7 day of Nov., 1939
Joseph J. Moore
Clerk of Superior Court

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NORTH CAROLINA
FENDER COUNTY

RECORDED
14 AM 1958

THIS DEED, made this 7th day of December, 1940, by
Finley McMillan and wife, Clara McMillan, of New Hanover County,
State of North Carolina, of the first part, to THE DEPARTMENT OF
CONSERVATION AND DEVELOPMENT OF THE STATE OF NORTH CAROLINA, of
the second part,

WITNESSETH: That said parties of the first part,
in consideration of SEVEN THOUSAND FIVE HUNDRED (\$7,500.00) DOLLARS
to them paid by the party of the second part, the receipt of which
is hereby acknowledged, have bargained and sold, and by these
presently do grant, bargain, sell and convey to the said party of
the second part and its successors and assigns, all that certain
lot, parcel, or tract of land, together and being in Holly Township,
Fender County, North Carolina, and bounded and described as
follows:

BEGINNING at an iron pipe at the mouth of Juniper
Branch where said Juniper Branch empties into the run of Trumpeter
Swamp, and running thence up the run of Trumpeter Swamp the follow-
ing courses and distances: South 17° 50' 42" East 451.60 feet;
South 32° 20' 42" East 715.8 feet; South 12° 39' 42" East 268.8
feet; South 27° 54' 12" East 715 feet; South 40° 34' 12" East
188.6 feet; South 62° 53' 12" East 512.4 feet; South 25° 21' 27"
East 471 feet; South 64° 24' 57" East 715.7 feet; South 68° 11' 27"
East 408.4 feet; South 67° 38' 42" East 521.6 feet; South 38° 7' 42"
East 94 feet to a pine stump with two planters, Thomas Orrell's and
Finley McMillan's corner; South 55° 23' 42" East 393 feet; South
66° 8' 42" East 694 feet; North 88° 10' 18" East 946.6 feet; South
59° 56' 42" East 657 feet; North 71° 30' 18" East 676.7 feet;
North 85° 51' 48" East 1028 feet; South 68° 6' 42" East 218.6 feet
to a holly tree, Jack Crews' and Finley McMillan's corner at the
South side of the run of Trumpeter Swamp; South 86° 46' 42" East
439.3 feet; North 52° 20' 18" East 477.2 feet; North 27° 12' 18"
East 513.7 feet; South 74° 32' 42" East 357 feet; North 21° 48' 18"
East 442.2 feet; South 87° 11' 42" East 268 feet; South 76° 16' 12"
East 337.1 feet to the mouth of Blossom's Branch; North 57° 33' 48"
East 534.5 feet; South 84° 55' 42" East 137 feet; North 50° 52' 13"
East 735.1 feet; North 49° 58' 18" East 910.8 feet; North 12° 59'
18" East 221.55 feet; North 70° 48' 18" East 317.9 feet; North 56° 55' 18"
East 594 feet; South 68° 1' 42" East 777.1 feet; North 87° 49' 48"
East 787.4 feet; South 71° 24' 12" East 437.1 feet; South 77° 32'
East 569.7 feet; South 56° 2' 12" East 838.1 feet; South 21° 36' 12"

East 401 feet; South 57° 30' 12" East 412 feet; North 89° 16' 3"
East 807.3 feet; North 71° 56' 3" East 695.3 feet; North 83° 45'
21" East 846 feet; South 86° 11' 57" East 330.5 feet; North 79°
39' 3" East 104 feet to a lightwood stake with two pointers, A.V.
Spindelator's and Finley McMillan's corner; North 83° 44' 3" East
200.1 feet to a lightwood hub with four pointers at the mouth of
Core's Branch; thence up Core's Branch the following courses and
distances: South 46° 33' 57" East 247.2 feet; South 86° 44' 52"
East 441.5 feet; South 31° 29' 57" East 850.1 feet; South 50° 39'
3" East 35.4 feet; South 33° 42' 57" East 466.7 feet; North 82°
29' 3" East 736.8 feet; South 41° 38' 12" East 339.3 feet; South
75° 19' 42" East 314.8 feet; North 41° 42' 33" East 458 feet to a
lightwood hub at the run of Core's Branch where a road crosses
said Branch; North 84° 41' 13" East 519 feet; South 65° 43' 27"
East 575.5 feet; South 18° 50' 27" East 434 feet; South 45° 42' 27"
East 521.7 feet; South 25° 53' 27" East 375.3 feet; South 7° 59'
3" West 390.2 feet; South 20° 3' 57" East 899.1 feet; South 44°
51' 27" East 728.7 feet to a point at the center of an old tram
road head where same crosses the run of Core's Branch; thence
leaving Core's Branch North 68° 45' 33" East 215 feet to an iron
pipe at the side of an old tram road bed; thence South 76° 47' 27"
East 2600 feet to an iron pipe at the edge of a bay; thence South
1° 21' 27" East 1014.6 feet to an iron pipe at the edge of a bay;
thence South 70° 10' 57" East 1501.4 feet to an iron pipe at the
edge of the bay; thence South 17° 32' 27" East 1100.8 feet to an
iron pipe at the edge of the bay; thence South 43° 41' 33" West
203.4 feet to a lightwood hub at the edge of the bay; thence South
58° 29' 27" East 1380.5 feet to an iron pipe in a small ravine;
thence North 63° 56' 33" East 1278.1 feet to a lightwood stump
with two pine pointers; thence North 68° 19' 33" East 2459.5 feet
to a point in the center of the Wilmington and Newbern branch of
the Atlantic Coast Line Railroad Company Tracks, about 50 feet
Northeastwardly from an old road crossing said tracks; thence up
the center of said Railroad tracks North 43° 54' 3" East 1493.1
feet to a point at the center of said Railroad tracks, said point
being the point at which the old Wilmington and Newbern Highway
crossed said Railroad tracks (now abandoned) and South of the
point where said Railroad tracks cross the run of Sandy Run Branch;
thence leaving said Railroad tracks North 31° 40' 27" West 1191.1
feet to an iron pipe in the run of Sandy Run Branch at an old road
crossing said Branch; thence North 19° 52' 27" West 401.1 feet to
an iron pipe at an old white oak stump; thence North 2° 12' 33"
East 332.3 feet; thence North 21° 35' 42" West 691.4 feet to an
iron pipe by an old pine stump; thence North 10° 24' 42" West
714.2 feet to an iron pipe by an old bay stump; thence North 33°
43' 42" West 519.9 feet to an iron pipe near an old lightwood
knot corner with one pointer; thence South 82° 23' 48" West 172.2
feet to an iron pipe at the edge of bay, with two pine pointers;
thence North 65° 20' 27" West 301.9 feet to an iron pipe near a
lightwood knot corner with two pine pointers; thence North 32°
8' 57" West 591.2 feet to an iron pipe; [thence crossing Wolfe
Ridge North 10° 31' 33" East 1192.8 feet to an iron pipe near a
lightwood top corner with two pine pointers; thence North 38° 36'
27" West 872.7 feet to an iron pipe; thence North 59° 24' 27"
West 1094.3 feet to an iron pipe by a stake in the bay; thence
South 20° 15' 33" West 116.8 feet to an iron pipe; [thence South
26° 45' 3" West 390.5 feet; to an iron pipe near a road; thence
said line continued South 26° 45' 3" West 481.8 feet to an iron
stake by a lightwood hub; thence North 66° 59' 57" West 422.5 feet
to an iron pipe; thence South 79° 52' 3" West 1319.6 feet to an
iron pipe; thence South 62° 37' 3" West 845.3 feet to an iron pipe;
thence South 40° 43' 18" West 300.7 feet to an iron pipe; thence
South 30° 34' 18" West 610.9 feet to an iron pipe; thence North
72° 50' 42" West 385.5 feet to an iron pipe; thence North 32° 48' 42"

West 411.3 feet to an iron pipe; thence South 85° 54' 18" West 1216.3 feet; to an iron pipe; thence North 35° 23' 42" West 489.4 feet to an iron pipe; thence North 25° 13' 42" West 500.8 feet to an iron pipe; thence North 56° 13' 42" West 620 feet to an iron pipe; thence crossing the ridge North 78° 47' 18" East 761 feet to an iron pipe; thence North 58° 6' 18" East 630 feet to an iron pipe; thence North 4° 16' 18" East 309.7 feet to an iron pipe; thence North 16° 7' 42" West 573.3 feet to an iron pipe; thence North 50° 17' 18" East 288.5 feet to an iron pipe; thence South 75° 57' 42" East 157.5 feet to an iron pipe; thence South 32° 20' 18" West 264.8 feet to an iron pipe; thence South 37° 34' 42" East 925.5 feet to an iron pipe; thence South 1° 19' 42" East 262.2 feet to an iron pipe; thence South 47° 36' 42" East 235 feet to an iron pipe; thence South 27° 12' 42" East 480.2 feet to an iron pipe; thence North 82° 11' 18" East 446.7 feet to an iron pipe; thence North 13° 47' 48" East 267 feet to an iron pipe; thence South 24° 3' 12" East 313.2 feet to an iron pipe; thence North 21° 16' 3" East 410.8 feet to an iron pipe near a spring at the edge of the bay and at the edge of an old road; thence North 2° 59' 3" East 1001 feet to an iron pipe; thence North 43° 22' 3" East 692.4 feet to an iron pipe; thence South 69° 20' 57" East 1074.1 feet to an iron pipe; thence South 69° 43' 57" East 1058.9 feet to an iron pipe in the center of an old tram road bed; thence South 86° 27' 57" East 209.8 feet to an iron pipe; thence again North 20° 15' 33" East 116.8 feet back to the iron pipe at a lightwood stake in the bay on the outside boundary line; thence North 20° 21' 27" West 1093 feet to an iron pipe; thence North 20° 8' 3" East 530.1 feet to an iron pipe in the edge of Rosenear Ridge; thence around the edge of Rosenear Ridge the following courses and distances: North 52° 47' 57" West 360.8 feet; South 86° 40' 3" West 300.2 feet; North 35° 38' 57" West 561.2 feet; North 3° 3' 57" West 175.5 feet; North 63° 41' 33" East 349.1 feet; North 33° 54' 33" East 605.3 feet; North 37° 52' 27" West 129.4 feet; North 71° 4' 27" West 262.3 feet; North 14° 9' 27" West 159.6 feet; North 58° 25' 33" East 322.6 feet; North 28° 31' 27" West 139.1 feet; North 61° 17' 33" East 299 feet; South 76° 59' 27" East 290.6 feet; South 47° 59' 27" East 176.6 feet; South 66° 25' 27" East 166.3 feet; to an iron pipe at the edge of Rosenear Ridge; thence leaving Rosenear Ridge North 9° 38' 48" East 461.8 feet to an iron pipe in the edge of the road on Rosenear Ridge where the road crosses the bay to Reedy Neck Ridge; thence North 25° 23' 48" East 479.5 feet to an iron pipe on said road and on Reedy Neck Ridge; thence North 85° 47' 48" East 318.6 feet to an iron pipe; thence South 64° 50' 12" East 624.6 feet to an iron pipe; thence North 2° 25' 12" West 310 feet to an iron pipe; thence North 17° 32' 42" West 361.2 feet to an iron pipe; thence North 73° 35' 48" East 314.5 feet to an iron pipe; thence South 78° 47' 18" East 414.7 feet to an iron pipe; thence North 86° 55' 48" East 754.5 feet to an iron pipe; thence North 41° 55' 48" East 476.3 feet to an iron pipe; thence North 78° 34' 48" East 845.9 feet to an iron pipe; thence crossing the road leading into Reedy Neck Ridge North 4° 39' 48" East 245.4 feet to an iron pipe near an old light wood know corner; thence North 60° 35' 12" West 735.5 feet to an iron pipe; thence North 5° 52' 12" West 635.2 feet to an iron pipe; thence North 75° 5' 48" East 173.1 feet to an iron pipe; thence North 7° 10' 42" West 304.75 feet to an iron pipe; South 72° 7' 48" West 313.25 feet to an iron pipe; thence North 32° 50' 42" West 364.55 feet to an iron pipe; thence North 17° 3' 42" West 273.25 feet to an iron pipe; thence North 37° 24' 18" East 479.2 feet to an iron pipe; thence North 37° 33' 42" West 200 feet to an iron pipe; thence South 73° 58' 48" West 246.15 feet to an iron pipe; thence North 7° 35' 52" West 202 feet to an iron pipe; thence North 79° 22' 8" East 399.8 feet to an iron pipe; thence North 73° 54' 8" East 100.1 feet to an iron pipe; thence South 87° 20' 12" East 554.25 feet to an iron pipe; thence North 15° 21' 48"

thence North 41° 40' 48" East 416.15 feet to an iron pipe; thence South 66° 45' 48" West 781.9 feet to an iron pipe; thence South 73° 43' 48" West 444.2 feet to an iron pipe; thence North 39° 50' 12" West 250.65 feet to an iron pipe; thence South 73° 20' 12" West 401.35 feet to an iron pipe; thence North 45° 41' 12" West 1407.55 feet to an iron pipe; thence North 73° 20' 12" East 1023.25 feet to an iron pipe near an old corner; thence South 64° 4' 42" West 906.35 feet to an iron pipe; thence North 9° 17' 18" East 2165.95 feet to an iron pipe; thence North 33° 53' 18" East 376 feet to an iron pipe; thence North 45° 51' 48" East 341.35 feet to an iron pipe; thence North 51° 21' 12" West 167.85 feet to an iron pipe; thence South 63° 13' 18" West 1707.5 feet to an iron pipe; thence South 71° 37' 18" West 802.8 feet to an iron pipe; thence South 21° 45' 38" West 321.6 feet to an iron pipe; thence South 56° 49' 18" West 1610.2 feet to an iron pipe; thence South 68° 46' 35" West 1031 feet to an iron pipe; thence South 76° 22' 38" West 772.5 feet to an iron pipe; thence South 40° 13' 30" West 399 feet to an iron pipe; thence South 66° 31' 38" West 403.6 feet to an iron pipe; thence South 40° 4' 18" West 485.2 feet to an iron pipe; thence South 53° 10' 48" West 1500.6 feet to an iron pipe; thence South 65° 44' 28" West 1400.65 feet to an iron pipe; thence South 89° 35' 43" West 1512 feet to an iron pipe; thence South 89° 32' 28" West 794.3 feet to an iron pipe; thence South 89° 31' 28" West 1687.65 feet to an iron pipe; thence North 89° 58' 22" West 1524.7 feet to an iron pipe; thence South 53° 10' 28" West 1654.45 feet to an iron pipe; thence South 73° 45' 58" West 595 feet to an iron pipe; thence South 68° 17' 43" West 888.7 feet to an iron pipe; thence South 67° 19' 43" West 812.7 feet to an iron pipe; thence South 86° 24' 58" West 2963.46 feet to an iron pipe; thence North 79° 47' 47" West 435.78 feet to an iron pipe; thence North 58° 15' 47" West 780.2 feet to an iron pipe; thence North 76° 3' 17" West 1236.24 feet to an iron pipe; thence North 10° 20' 13" East 834.85 feet to an iron pipe; thence North 4° 22' 13" East 1706.66 feet to an iron pipe; thence North 60° 40' 47" West 609.98 feet to an iron pipe; thence North 1° 57' 47" West 1811.7 feet to an iron pipe; thence North 47° 12' 23" East 543.7 feet to an iron pipe on a Ridge at the edge of the Swamp of Catskin Branch; thence along the edge of said Ridge the following courses and distances: North 58° 48' 7" West 328.9 feet; North 85° 15' 37" West 687.1 feet; South 82° 24' 23" West 293.8 feet; North 74° 23' 33" West 337.9 feet; North 82° 18' 37" West 316.47 feet; North 67° 23' 1" West 510.22 feet; South 77° 24' 23" West 713.7 feet; South 30° 13' 22" West 416.9 feet; South 64° 19' 23" West 542 feet to an iron pipe near a sawdust pile; thence leaving the Swamp of Catskin Branch South 3° 32' 38" West 1476.4 feet to an iron pipe in the fork of Letsy Branch; thence South 79° 23' 18" West 194.02 feet to an iron pipe; thence South 5° 56' 22" East 2043.10 feet to an iron pipe with one pine pointer; thence South 12° 53' 33" West 635.2 feet to an iron pipe with two pine and two gum pointers; thence South 63° 5' 38" West 1305.20 feet to an iron pipe; thence South 2° 30' 35" West 619 feet to an iron pipe at an old large cypress corner with two maple corners; thence North 87° 16' 42" West 601.4 feet to an iron pipe with two gum pointers; thence South 73° 3' 12" West 451.5 feet to an iron pipe; thence crossing Blank's Branch South 88° 21' 48" West 147.1 feet to an iron pipe; thence South 12° 53' 48" West 286 feet to an iron pipe near a stone corner marked "IB"; thence South 23° 6' 18" West 1535.5 feet to an iron pipe near a stone corner marked "IE" with two pine pointers; thence North 31° 14' 42" West 1283.6 feet to an iron pipe; thence North 79° 13' 42" West 205 feet to an iron pipe at a stone marked "TE" with two pointers; thence South 33° 25' 12" East 1547.9 feet to an iron pipe; thence South 52° 47' 42" East 226.7 feet to an iron pipe near a large cypress stump with two pointers at the run of Juniper Branch; thence down the run of Juniper Branch the following courses and distances: South 74° 52' 18" West 389.6 feet

North 89° 10' 10" West 343.3 feet; South 50° 21' 10" West 336 feet;
 South 84° 19' 10" West 460 feet; South 47° 22' 10" West 316.5 feet;
 West 228.2 feet; South 89° 10' 10" West 367.4 feet;
 South 50° 21' 10" West 336 feet; and South 84° 19' 10" West 460 feet;
 and the whole of Section 33, containing 8,327.18 acres.

At all points in the above description where
 iron pipes are outlined, iron pipes marked "NO" will
 be set in place as proof.

It is understood and agreed between the parties
 hereto, that the said Finley McMillan and wife, Clara McMillan, for
 themselves and their heirs and assigns, hereby reserve the right
 to cut and remove all the timber standing, lying and being within
 the area hereinabove described, which shall measure, when cut,
 not less than eight (8) inches in diameter, eight (8) inches from
 the ground, provided that same is cut and removed on or before
 April 1, 1945.

TO HAVE AND TO HOLD the aforesaid tract or parcel
 of land, and all privileges and appurtenances thereto belonging
 to the said DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE
 STATE OF NORTH CAROLINA, and its successors and assigns, to their
 only use and behoof in fee simple forever.

And the parties of the first part, for themselves,
 their heirs, executors and administrators, covenant with said
 party of the second part and its successors and assigns, that they
 are seized of said premises in fee, and have right to convey in
 fee simple; that the same are free and clear from all encumbrances,
 and that the do hereto forever warrant and will forever defend
 the said title to the same against the claims of all persons
 whomsoever.

IN TESTIMONY WHEREOF, the said parties of the first
 part have hereunto set their hands and seals, the day and year
 first above written.

Finley McMillan (SEAL).

Clara McMillan (SEAL).

STATE OF NORTH CAROLINA
COUNTY OF NEW HANOVER

I, Catherine C. Brown, Notary Public,
do hereby certify that Parley McMillan and wife, Clara McMillan,
personally appeared before me this day and acknowledged the due
execution of the foregoing deed of conveyance; and the said
Clara McMillan, being by me privately examined, separate and apart
from her said husband, touching her voluntary execution of the
same, doth state that she signed the same freely and voluntarily
without fear or compulsion of her said husband, or any other
person, and that she doth still voluntarily assent thereto.

Witness my hand and notarial seal, this 27 day
of December, 1940.

Catherine C. Brown
(Notary Public).

My commission expires: June 8 - 1941.

STATE OF NORTH CAROLINA - Pender County
The foregoing certificate of Catherine C. Brown
a Notary Public of New Hanover County, under his official
seal is adjudged to be correct. Let the said instrument and the
certificates be registered.
This, the 10 day of January, 1941
Joseph L. Hester
Clerk of Superior Court

FILED
SEP 30 2006
SECRETARY OF STATE

FILED

06 JUN -6 PM 1:41

JOYCE M. SWICEGOOD
REGISTER OF DEEDS
PENDER COUNTY, NC

BK 2974 PG 317

Recorded and Verified
Joyce M. Swicegood
Register of Deeds
Pender County, NC

PIN # 3350-55-7977-0000
DATE 6-6-06 INT KB

RAW



BIBERSTEIN & NUNALEE
ATTORNEYS AT LAW
BURGAW, NORTH CAROLINA

Excise Tax \$ - Exempt

Parcel Identifier No. _____

+ 3350-55-7977-0000

Mail after recording to: _____

THIS INSTRUMENT WAS DRAFTED BY: Biberstein and Nunalee, Attorneys at Law, P.O. Box 428, Burgaw, NC 28425. The attorney preparing this instrument has made no record search or title examination as to the property herein described, unless the same is shown by his written and signed certificate.

GENERAL WARRANTY DEED

THIS DEED made this 2nd day of June, 2006 by and between:

GRANTOR: North Carolina Coastal Land Trust, a non-profit North Carolina corporation

GRANTEE: State of North Carolina

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH:

That the Grantor, for a valuable consideration paid by the grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, and convey unto the grantee, the below described tract or parcel of land in Burgaw Township, Pender County, North Carolina and being more particularly described as follows:

6

Being all of that tract containing 99.76 acres more or less as shown on a map entitled "Survey for NC Coastal Land Trust" as shown on a map recorded in Map Book 38, Page 129 of the Pender County Registry, reference to which is hereby made for a more complete and accurate description.

Subject to those certain Declarations and Restrictions attached hereto as Exhibit A, which shall be binding upon any owner of said lands and shall run with the land.

TO HAVE AND TO HOLD the aforesaid tracts or parcels of land and all privileges and appurtenances thereunto belonging to the said Grantee his heirs and assigns in fee simple.

And the Grantor covenants with the Grantee, that the Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever except for the exceptions hereinafter stated. Title to the property hereinabove described is subject to the following exceptions:

1. Ad valorem taxes for 2006.
2. Routine utility easements and highway rights of way.
3. Subject to the terms and conditions of that certain Conservation Easement recorded in Book 2585 at Page 249 Pender County Registry.
3. Subject to restrictions in Exhibit A attached.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, the day and year first above written.

North Carolina Coastal Land Trust

BY: 
President

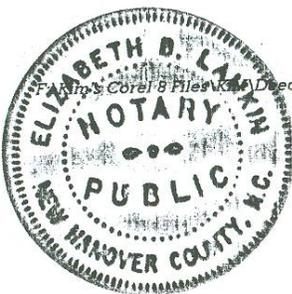
NORTH CAROLINA
New Hanover COUNTY

I, Elizabeth B. Lankin, a Notary Public of the County and State aforesaid, certify that David Huffine personally came before me this day and acknowledged that he is President of the North Carolina Coastal Land Trust, a non-profit North Carolina corporation and that he as President, being authorized to do so, executed the foregoing on behalf of the corporation.

Witness my hand and official stamp or seal, this 2 day of June, 2006.

Elizabeth B. Lankin
Notary Public

My Commission Expires: 12/8/2010



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Exhibit A

DECLARATIONS AND RESTRICTIONS

The State of North Carolina has received funding from the N.C. Ecosystem Enhancement Program for acquisition of the Property as conveyed and described in the attached General Warranty Deed. In consideration of this funding, the N.C. Ecosystem Enhancement Program has required that these Declarations and Restrictions be inserted in this deed, and the State 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, 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 is subject to the restrictions as recited below 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.

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

1. 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.
2. 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.
3. Industrial, Agricultural, Residential and Commercial Uses. All are prohibited in the Restricted Area.

4. New Construction. There shall be no building, facility, mobile home, antenna, utility pole, tower, or other structure constructed or placed in the Restricted Area.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. Subdivision and Conveyance. No further subdivision, partitioning, or dividing of the Restricted Area is allowed.
11. 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 not set forth herein.

NORTH CAROLINA
PENDER COUNTY

THAD EURE
SECRETARY OF STATE

OCT 7 9 10 AM 1938

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KNOW ALL MEN BY THESE PRESENTS that we, Finley McMillan and wife, Clara McMillan, of New Hanover County, State of North Carolina, for divers good causes and considerations us thereunto moving and more particularly for Ten (\$10.00) Dollars, received of the DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NORTH CAROLINA, have remised, released and forever quitclaimed, and by these presents do for ourselves and our heirs, executors and administrators, justly and absolutely remise, release and forever quitclaim unto the said DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NORTH CAROLINA and to its successors and assigns, all the right, title, property, interest and estate (except the timber rights hereinafter excepted), that we Finley McMillan and wife, Clara McMillan have or ought to have in and to all those pieces, parcels or tracts of land lying and being in Topsail Township Pender County, North Carolina, bounded and described as follows:

FIRST TRACT: BEGINNING at an iron pipe in the edge of Rosenear Ridge, a corner of the lands of the DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NORTH CAROLINA, and being the Southernmost corner in common between the lands of said DEPARTMENT and this tract; and running thence around the edge of Rosenear Ridge and with the lines of the lands of said DEPARTMENT OF CONSERVATION AND DEVELOPMENT the following courses and distances: North 52° 47' 57" West 360.8 feet; South 86° 40' 3" West 300.2 feet; North 35° 38' 57" West 581.2 feet; North 3° 3' 57" West 175.5 feet; North 63° 41' 33" East 349.1 feet; North 38° 54' 33" East 605.8 feet; North 37° 52' 27" West 129.4 feet; North 71° 4' 27" West 262.3 feet; North 14° 9' 27" West 159.6 feet; North 58° 23' 33" East 312.6 feet; North 28° 31' 27" West 139.1 feet; North 61° 17' 33" East 299 feet; South 76° 59' 27" East 290.6 feet; South 47° 59' 27" East 176.6 feet; South 66° 25' 27" East 166.3 feet to an iron pipe at the edge of Rosenear Ridge; thence leaving the lands of said DEPARTMENT OF CONSERVATION AND DEVELOPMENT South 19° 45' 12" East 412.5 feet to a stake; thence South 45° 28' 12" East 432.7 feet to a stake; thence South 74° 19' 12" East 457.5 feet to a stake; thence South 17° 51' 12" East 84.4 feet to a stake; thence North 81° 8' 48" East 227.9 feet to a stake; thence North 1° 53' 48" East 685.5 feet to a stake; thence South 73° 13' 42" East 401.0 feet to a stake; thence North 84° 9' 18" East 405.6 feet to a stake; thence South 26° 45' 42" East 1295.1 feet to a stake; thence South 15° 42" East 355.7 feet to a stake; thence South 23° 58' 18" West 457.3 feet to a stake; thence North 65° 25' 42" West 1080.8 feet to a stake; thence South 75° 2' 33" West 825.3 feet to a stake; thence South 66° 41' 33" West 816.9 feet to a stake; thence North 52° 56' 57" West 443.4 feet to the point of Beginning, known as Rosenear Ridge Tract.

SECOND TRACT: Bounded on all sides by the lands of the DEPARTMENT OF CONSERVATION AND DEVELOPMENT, and BEGINNING at an iron pipe, a corner of said DEPARTMENT'S land (said iron pipe is located with respect to the Beginning corner of the First Tract above described by running the following courses and distances from the Beginning corner of said First Tract: South 20° 8' 3" West 530.1 feet; South 21° 27' East 1093.0 feet; South 20° 15' 33" West 116.8 feet); thence South 26° 45' 42" West 390.5 feet to an iron pipe near a road; thence said line continued South 26° 45' 42" West 481 feet to an iron stake by a lightwood hub; thence North 66° 59' 57" West

422.5 feet to an iron pipe; thence South 79° 52' 3" West 1319.6 feet to an iron pipe; thence South 62° 37' 3" West 845.3 feet to an iron pipe; thence North 1° 52' 3" East 496 feet to a stake, near a spring at the edge of the Bay and at the edge of an old road; thence North 2° 59' 3" East 1001 feet to an iron pipe; thence North 43° 22' 3" East 692.4 feet to an iron pipe; thence South 69° 20' 57" East 1074.1 feet to an iron pipe; thence South 69° 43' 57" East 1058.9 feet to an iron pipe in the center of an old tram road bed; thence South 86° 27' 57" East 289.8 feet to the point of Beginning.

THIRD TRACT: BEGINNING at an iron pipe near a Spring at the edge of the Bay and at the edge of an old road (said beginning corner being the sixth corner from the Beginning corner of the Second Tract above described); and running thence South 1° 52' 3" West 496 feet to an iron pipe; thence South 40° 43' 18" West 300.7 feet to an iron pipe; thence South 30° 34' 18" West 610.9 feet to an iron pipe; thence North 72° 50' 42" West 385.5 feet to an iron pipe; thence North 32° 48' 42" West 411.8 feet to an iron pipe; thence South 85° 54' 18" West 1249.3 feet to an iron pipe; thence North 35° 22' 42" West 489.4 feet to an iron pipe; thence North 25° 13' 42" West 500.8 feet to an iron pipe; thence North 66° 13' 42" West 620 feet to an iron pipe; thence crossing the ridge North 78° 47' 18" East 761 feet to an iron pipe; thence North 58° 6' 18" East 630 feet to an iron pipe; thence North 4° 16' 18" East 309.7 feet to an iron pipe; thence North 16° 7' 42" West 573.3 feet to an iron pipe; thence North 50° 17' 18" East 288.5 feet to an iron pipe; thence South 75° 57' 42" East 182.5 feet to an iron pipe; thence South 32° 20' 18" West 254.2 feet to an iron pipe; thence South 37° 38' 42" East 925.5 feet to an iron pipe; thence South 1° 19' 42" East 262.2 feet to an iron pipe; thence South 47° 36' 42" East 235 feet to an iron pipe; thence South 27° 12' 42" East 480.2 feet to an iron pipe; thence North 82° 11' 18" East 446.7 feet to an iron pipe; thence North 16° 47' 48" East 267 feet to an iron pipe; thence South 24° 3' 12" East 313.2 feet to an iron pipe; thence North 81° 16' 3" East 410.8 feet to the point of Beginning.

TO HAVE AND TO HOLD the above released premises unto it, the DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NORTH CAROLINA, its successors and assigns, to its and their only proper use and behoof forever; so that neither we, nor either of us, nor any other person in our name and behalf shall or will hereafter claim or demand any right or title to the premises, or any part thereof by virtue of any claim or right now existing in us; but they and every of them shall, by these presents be excluded and forever barred.

BUT EXCEPTING, However, from this conveyance and reserving unto ourselves the following rights and interests: (1) The right of the said Finley McMillan and wife, Clara McMillan and their heirs and assigns to cut and remove all of the timber standing, lying and being within the area hereinabove described, which shall measure when cut, not less than eight (8) inches in diameter, eight (8) inches from the ground, provided the same is cut and removed on or before April 8, 1945.

IN TESTIMONY WHEREOF, the said Finley McMillan and wife, Clara McMillan, have hereunto set their hands and seals this the 31 day of July, 1941.

Finley McMillan (SEAL)
Clara McMillan (SEAL)

NORTH CAROLINA
NEW HANOVER COUNTY

I Margaret Smith (now) Margaret Burkheimer, Notary Public do hereby certify that Finley McMillan and wife, Clara McMillan personally appeared before me this day and acknowledged the due execution of the foregoing deed of conveyance; and the said Clara McMillan, being by me privately examined, separate and apart from her said husband, touching her voluntary execution of the same, doth state that she signed the same freely and voluntarily, without fear or compulsion of her said husband, or any other person, and that she doth still voluntarily assent thereto.

Witness my hand and notarial seal, this 31 day of July, 1941.

Margaret Smith (now) Margaret Burkheimer
(Notary Public)

My commission expires the 5 day of Feb, 1943.

My Commission Expires February 5, 1943

STATE OF NORTH CAROLINA - Pender County

The foregoing certificate of Margaret Smith
a Notary Public of New Hanover County, under his official
seal is adjudged to be correct. Let the said instrument and the
certificates be registered.

This, the 9 day of Aug, 1934
Des. alt. Moore

THAD EURE
SECRETARY OF STATE

OCT 7 9 12 AM 1958

FILED

NORTH CAROLINA
PENDER COUNTY

THIS DEED, Made this 7th day of June, 1940, by
J. C. Featherston and wife, M. E. Featherston, of Pender County,
State of North Carolina, of the first part, to THE DEPARTMENT OF
CONSERVATION AND DEVELOPMENT OF THE STATE OF NORTH CAROLINA, of
the second part,

WITNESSETH: That said parties of the first part
in consideration of FIFTEEN HUNDRED (\$1,500.00) DOLLARS to them
paid by the party of the second part, the receipt of which is
hereby acknowledged, have bargained and sold, and by these presents
do grant, bargain, sell and convey to the said party of the second
part and its successors and assigns, all that certain piece, parcel,
or tract of land lying and being in Holly Township, Pender County,
State of North Carolina; located on the Shaw Highway about 1500 feet
southeast of Sand Hill Cove on the North East Cape Fear River and
bounded as follows:

Bounded on the North, East and West by the N. C.
Department of Conservation and Development; on the South by C. J.
Featherston and Lettie K. Featherston.

BEGINNING at an iron stake in the edge of the Shaw
Highway, the Northeast corner of this tract of land, and runs with
said Highway South 16 degrees 6 minutes West 518.50 feet to an iron
stake in edge of said Highway; thence South 8 degrees 8 minutes
West 940.87 feet to an iron stake in edge of said Highway; thence
leaving said Highway with the line of C. J. Featherston North 68
degrees 6 minutes West 632.70 feet to an iron stake in an old tram
road; thence with the old tram road North 14 degrees 8 minutes
West 85.00 feet; thence North 6 degrees 5 minutes West 331.30 feet
to an iron stake; thence North 4 degrees 56 minutes East 451.00
feet to an iron stake; thence North 10 degrees 55 minutes East
306.00 feet to an iron stake; thence North 47 degrees 2 minutes
East 255.20 feet to an iron stake; thence South 76 degrees 2 minutes
East 705.00 feet to the Beginning, and containing 25.05 acres.

TO HAVE AND TO HOLD the aforesaid tract or parcel
of land, and all privileges and appurtenances thereto belonging
to the said DEPARTMENT OF CONSERVATION AND DEVELOPMENT of the State

of North Carolina, and its successors and assigns, to their only use and behoof in fee simple forever; subject however to the following limitation, condition, exception and encumbrance:

The individual rights of N. J. Crocker and wife, Milla W. Crocker, to hunt and fish on the land herein described as provided in Deed to George Allen, dated June 4, 1930, and recorded in Book 177, page 518, of the Registry of Pender County, said hunting and fishing rights expiring on June 4, 1945 under the terms of said deed.

And the parties of the first part for themselves and their heirs, executors and administrators, covenant with said party of the second part and its successors and assigns, that they are seized of said premises in fee, and have right to convey in fee simple; that the same are free and clear from all encumbrances, and that they do hereby forever warrant and will forever defend the said title to the same against the claims of all persons whomsoever, except for the condition, limitation, exception and encumbrance hereinbefore stated.

IN TESTIMONY WHEREOF, the said parties of the first part have hereunto set their hands and seals, the day and year first above written.

J. C. Featherston (SEAL)
Wife
M. E. Featherston (SEAL)
Mail.

NORTH CAROLINA
PENDER COUNTY

I, C. G. Bryan, notary public, do hereby certify that J. C. Featherston and wife, M. E. Featherston personally appeared before me this day and acknowledged the due execution of the foregoing deed of conveyance; and the said M. E. Featherston, being by me privately examined, doth state that she signed the same freely and voluntarily, without fear or compulsion

from her said husband or any other person, and that she doth still voluntarily assent thereto.

Witness my hand and notarial seal, this 19 day of June, 1940.

B. B. Bryan
NOTARY PUBLIC

My commission expires the 6 day of Sept, 1941.

STATE OF NORTH CAROLINA - Pender County
The foregoing certificate of B. B. Bryan
& Notary Public of Pender County, under his official seal is adjudged to be correct. Let the said instrument and the certificates be registered.

This, the 19 day of June, 1940

Olivia Batts
Clerk of Superior Court

Approved as to form
J. W. Brutes
Asst. Atty. General
June 17, 1940

STATE OF NORTH CAROLINA - Pender County.

The foregoing certificate of Mrs. Etta Barnhill a Notary Public of Bladen County, under his official seal is adjudged to be correct. Let the said instrument and the certificates be registered.

This, the 26 day of Aug., 1939.

Joseph I. Moore
Clerk of Superior Court

Filed for record on the 26 day of August, 1939 at 9 o'clock A. M.

[Signature]
Register of Deeds.

THIS DEED OF CONVEYANCE made this the 30th day of August, 1939, by the STATE BOARD OF EDUCATION, a corporation created by Section Five Thousand Three Hundred and Ninety-Four (5394) of the Consolidated Statutes of North Carolina, of the first part, hereinafter called the Grantor, to the DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NORTH CAROLINA, of the second part, hereinafter called the Grantee;

W I T N E S S E T H:

THAT WHEREAS, Chapter Two Hundred and Thirty-Two (232) of the Public Laws of North Carolina, Session of 1939, authorizes and empowers the Grantor, in its discretion, to transfer and convey to the Grantee the lands hereinafter described and referred to for the purposes hereinafter set forth, the said lands now being owned and/or claimed by the Grantor;

NOW, THEREFORE, PURSUANT TO AND IN CONSIDERATION OF the provisions of said Act of the General Assembly, and exercising the discretion, power and authority thereby granted, the Grantor hereby transfers and conveys to the Grantee, its successors, and assigns, subject to the conditions, reservations and exceptions hereinafter set forth, all of that certain swamp land or lands now owned by the Grantor in Lenoir and Onslow Counties, North Carolina, and known as Holly Shelter Pocosin or Holly Shelter Swamp, including, but not limited to, the lands referred to in State Grant No. 353, made by Daniel Wheaton on January 20, 1795, and recorded in the Registry of New Hanover County, North Carolina, in Book 1, page 90, and likewise including, but not limited to, the lands referred to in State Grant No. 354, made to Starling Wheaton in January, 1795, and recorded in the Registry of New Hanover County, North Carolina, in Book 1, page 91, together with any and all other lands in said Swamp or Pocosin owned by the Grantor or to which it is legally or equitably entitled.

TO HAVE AND TO HOLD the same, with all the rights, privileges and appurtenances thereto in anywise appertaining or belonging, to it the said Grantee, its successors and assigns forever as fully and amply as the Grantor is authorized and empowered to convey the same by the Act of the General Assembly aforesaid, for the purpose of development, supervision and administration as a game refuge, or game preserve, and as a public hunting ground, in accordance with the provisions of the laws of North Carolina relating to game refuges, game preserves and public hunting grounds, subject nevertheless to the following:

That the Grantor hereby reserves the right to cut and remove from said lands within five years from the date hereof any and all merchantable timber that may now, or within said period, stand or be thereon, and it hereby excepts from this conveyance any and all such timber as it may cut and remove therefrom during said period.

That this deed and conveyance is made upon the express condition that the said lands shall be developed, used, and maintained by the Grantee as a game refuge, game preserve, and as a public hunting ground, and if the same should ever hereafter cease to be so used and maintained, then and in that event this deed shall immediately become and be null and void and said lands shall forthwith revert to the Grantor and it may reenter and repossess the said lands the same as though this deed had never been made.

IN WITNESS WHEREOF, the State Board of Education, Grantor as aforesaid, by resolution duly adopted, and under and by virtue of and pursuant to and in exercise of the discretion, power and authority granted by said Chapter Two

Hundred and Thirty-two (132) of the Public Laws of North Carolina, Session of 1939, has caused this deed to be executed in its name and behalf by Clyde R. Hoey, Governor of the State of North Carolina, and ex officio its President, and attested by Clyde A. Erwin, Superintendent of Public Instruction of the State of North Carolina and ex officio its Secretary, this the day and year first above written.

(Great Seal of North Carolina)

THE STATE BOARD OF EDUCATION OF NORTH CAROLINA

BY Clyde R. Hoey
GOVERNOR OF NORTH CAROLINA AND
EX OFFICIO PRESIDENT OF SAID BOARD.

Clyde A. Erwin
SUPERINTENDENT OF PUBLIC INSTRUCTION
OF NORTH CAROLINA AND EX OFFICIO
SECRETARY OF SAID BOARD.

(Seal of State Board of Education)

NORTH CAROLINA }
WAKE COUNTY }

ACKNOWLEDGMENT

This the 30th day of August, 1939, personally came before me, L. N. Jobs, a Notary Public in and for said County and State, Clyde A. Erwin, Superintendent of Public Instruction of the State Board of Education of North Carolina, with whom I am well acquainted, who, being by me first duly sworn according to law, deposed and said that he knows the common seal of the State Board of Education of North Carolina, and is acquainted with Clyde R. Hoey, who is the Governor of North Carolina and ex officio the President of said State Board of Education of North Carolina, and that he, Clyde A. Erwin, is the Superintendent of Public Instruction of the State of North Carolina and ex officio the Secretary of said State Board of Education of North Carolina, and that he saw the said Governor and President sign the foregoing and annexed deed, and that he, the said deponent, Superintendent and Secretary as aforesaid, affixed said seal to said deed and signed his name in attestation of the execution thereof in the presence of said Governor and President, all by virtue of the resolution and of the power and authority referred to therein, and that the said deed in the act and deed of said State Board of Education of North Carolina.

Witness my hand and notarial seal, this the date aforesaid.

NOTARY PUBLIC, WAKE COUNTY, N. C.
My Commission Expires 1/4/1941.

L. N. Jobs
NOTARY PUBLIC.

NORTH CAROLINA }
FENDER COUNTY }

IN THE SUPERIOR COURT.

The foregoing and annexed certificate of L. N. Jobs a Notary Public in and for the State of North Carolina and County of Wake, is adjudged to be correct. Therefore, let the foregoing and annexed deed be registered with said certificate.

Witness my hand, this the 7 day of Sept., 1939.

Joseph J. Moore
CLERK OF SUPERIOR COURT.

Filed for record on the 7 day of September, 1939 at 9 o'clock A. M.

[Signature]
Register of Deeds.

STATE OF NORTH CAROLINA

COUNTY OF PENDER

THIS DEED made and entered into this the 9 day of MARCH, 1960, by and between J. A. Shingleton and wife, Irene C. Shingleton, parties of the first part and the State of North Carolina, its successors and assigns, parties of the second part;

W I T N E S S E T H:

That the parties of the first part, for and in consideration of ONE HUNDRED (\$100.00) DOLLARS and other valuable considerations to them in hand paid, the receipt of which is hereby acknowledged, have bargained, sold and conveyed and by these presents do hereby bargain, sell and convey unto the parties of the second part the following described tract of land lying and being in Pender County, North Carolina, adjoining the lands formerly owned by John P. Moore, the run of of Trumpeter Swamp and others in Topsail Township, Pender County, North Carolina and bounded as follows:

BEGINNING at a blazed pine on the edge of Trumpeter Swamp, John P. Moore's corner; thence running South 40 degrees West 48 poles to a long leaf pine, another of John P. Moore's corners; thence North 57 degrees West 120 poles to a pine Nixon's corner; thence North 57 degrees West with line of John P. Moore to the run of Trumpeter Swamp; thence up and with the run of said Trumpeter Swamp in a generally northeasterly then easterly direction to the north east prong of said Trumpeter Swamp; thence with the run of the north east prong of said Trumpeter Swamp in an easterly direction to the Beginning, containing 92 acres, more or less. See Book 110, Page 379.

Said land having been conveyed to J. A. Shingleton by L. R. Bradshaw, Commissioner, by deed duly recorded in Book 328, Page 234 and following of the Register of Deeds Office in Pender County, North Carolina.

DO HAVE AND TO HOLD the above described lands together with all privileges and appurtenances thereunto belonging or in anywise appertaining to the said parties of the second part in fee simple forever.

IN TESTIMONY WHEREOF, the parties of the first part have hereunto set their hands and seals the year and date first above written.

J. A. Shingleton (SEAL)
Irene C. Shingleton (SEAL)

Lethwood Hughes
Witness



FILED
SEP 15 3 00 PM 1960
THAD EURE
SECRETARY OF STATE
NORTH CAROLINA

STATE OF NORTH CAROLINA
COUNTY OF PENDER

I, Raymond E. Hughes, a Notary Public in and
for the aforesaid County and State do hereby certify that J. G.
Shingleton, and wife, Leona S.
Shingleton personally appeared before me and acknowledged
the due execution of the foregoing instrument for the purpose therein ex-
pressed. This the 10th day of March, 1960

Raymond E. Hughes
NOTARY PUBLIC

My commission expires: Sept 11-1960

STATE OF NORTH CAROLINA - Pender County
The foregoing certificate of Raymond E. Hughes
a Notary Public of Pender County
under his official seal is adjudged to be correct. Let
the said instrument and the certificates be registered.
This, the 16 day of July, 1960
W. B. Murphy
CLERK OF SUPERIOR COURT

Approved for Acquisition:

W. B. Murphy
Director of Administration

Approved as to form:

THOMAS WADE BRITTON
Attorney General

By Paul H. Steinham
Real Property Attorney

X.H. Co

Rec. 1.75
C.S.C. 25
2.00

Filed for registration on the 16 Day of
August 1960 At 3 O'clock P.M.
and registered in the office of the Register of Deeds
for Pender County in Book No. 362 Page 527
H. C. Walker
E. H. Register of Deeds for
PENDER COUNTY

Tax office
(E.P.)

1-008.031



B3938 P0115 06-23-2011 12:29:09.000
Faye Teachey Prevatte PROP
Pender County, NC Register of Deeds page 1 of 3

Faye Teachey Prevatte Register of Deeds
06-23-2011 12:29:09.000 Pender County, NC
NC REVENUE STAMP: \$192.00 (#27639)

3370-20-1632-0000
6-23-11 JH

FILED
APR 13 2012
SECRETARY OF STATE

The attorney preparing this instrument has made no record search or title examination as to the property herein described, unless the same is shown by his written and signed certificate.

Excise Tax \$192.00 Recording: Time, Book and Page
Tax Parcel Identifier No.: 3370-20-1632-0000
Return to:

Prepared by: Eiberstein & Nunalee, Attorneys at Law, P. O. Box 428, Burgaw, NC 28425.

Brief Desc. for the Index 62 acres Bear Garden Rd.

THIS PROPERTY IS OR IS NOT THE GRANTOR'S PRINCIPAL RESIDENCE.

NORTH CAROLINA GENERAL WARRANTY DEED

THIS DEED made this 23rd day of June, 2011 by and between:

GRANTOR	GRANTEE
James Z. Godwin, II and wife, Elizabeth A. Godwin 1207 Castle Hayne Rd. Wilmington, NC 28401	State Of North Carolina c/o State Property Office 1321 Mail Service Center Raleigh, NC 27699-1321

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple, all that certain lot or parcel of land situated in Holly Township, Pender County, North Carolina and more particularly described as follows:

See Attached Exhibit A

The property hereinabove described was acquired by Grantor by instrument recorded in Book 3512, Page 271.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.



B3938 P0117

06-23-2011
12:29:09.000

Pender County, NC Register of

Faye Teachey Prevatte PROP
Deeds page 3 of 3

Lying and being in Holly Township, Pender County, North Carolina:

A certain tract of land conveyed to Alexander Williams on April 1, 1876 in Book C, Page 46, Pender County Registry and described as follows:

Lying and being in Buckhorn Branch adjoining the lands of James B. Williams, bounded as follows: **BEGINNING** at a stooping spruce pine on the east side of Buckhorn swamp; running thence South 8 West 112 poles to a stake in the line of the D.W. Williams land; thence North 44 West along said line 233 poles to a stake in said line; thence South 72 ½ East 182 poles to the beginning containing sixty-two (62) acres, more or less.

This being all the land purchased by James P. Newton, Jr. from H.L. Webb Commissioner on November 6, 1972, Deed recorded in Book 454, Page 31 in the Pender County Registry.

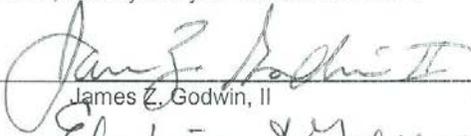
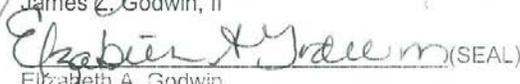
For reference purposes for source of title, see "Tract One" as described in: Book 472, Page 178; Book 516, Page 30; Book 746, Page 71; Book 746, Page 77; and Book 755, Page 105, Pender County Registry. For further reference purposes, see: Map Cabinet 3, Page 64, Map Cabinet 34, Page 95; and Map Cabinet 36, Page 78 (Sheets 1-5), Pender County Registry.

Pender County PIN: 3370-20-1632-000

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever except for the exceptions hereinafter stated. Title to the property hereinabove described is subject to the following exceptions:

1. Restrictions of record.
2. Ad valorem taxes for the year 2011.
3. Routine utility easements and highway rights of way.

IN WITNESS WHEREOF, the Grantor has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers, the day and year first above written.


James Z. Godwin, II (SEAL)

Elizabeth A. Godwin (SEAL)

STATE OF NORTH CAROLINA
COUNTY OF PENDER

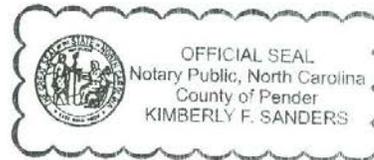
I, Kimberly F. Sanders, a Notary Public in and for the aforesaid County and State, do hereby certify that James Z. Godwin and Elizabeth A. Godwin personally appeared before me this day and acknowledged to me that he/she voluntarily signed the foregoing document for the purpose stated therein.

Witness my hand and notarial seal this the 23rd day of June, 2011.

Kimberly F. Sanders
Notary Public

My Commission Expires: 5/15/15

F:\Kim's Corel 8 Files\KIMDeeds 2011\nc.godwin.wpd



NORTH CAROLINA
PENDER COUNTY

THAD EURE
SECRETARY OF STATE

OCT 7 9 19 AM 1938

FILED

THIS INDENTURE, Made this the 7th day November, 1938 by and between THE NORTH EAST HUNTING CLUB, Of Duplin County, State of North Carolina, of the first part, to THE DEPARTMENT OF CONSERVATION AND DEVELOPMENT OF THE STATE OF NORTH CAROLINA, of the second part,

WITNESSETH: That whereas, on the 17th day of April, 1937, C. J. Featherston and others conveyed to THE NORTH EAST HUNTING CLUB certain hunting and fishing rights on the tract of land hereinafter described, which conveyance is duly recorded in Book 202, page 349 of the Registry of Pender County, reference to which is hereby made for all of the provisions of said instrument; and whereas, the party of the first part has agreed to release and convey unto the party of the second part the said hunting and fishing rights and all other rights and privileges now owned by the party of the first part by virtue of the aforesaid instrument in consideration of \$100.00; and whereas the party of the first part at a regular meeting of its members and by resolution duly adopted authorized and instructed Robert M. Carr and W. G. Wells, President and Secretary, respectively, of the NORTH EAST HUNTING CLUB to execute and deliver to the party of the second part this conveyance and release upon payment of the sum of \$100.00; and whereas, said sum has been duly paid:

NOW, THEREFORE, In consideration of the premises and for the purposes aforesaid, and in further consideration of the sum of One Hundred (\$100.00) Dollars as aforesaid, the party of the first part does hereby remise, release, sell, convey and assign unto the party of the second part, its successors and assigns, all rights and privileges of every kind owned by the said party of the first part

first part by virtue of said instrument dated April 17, 1937, and recorded in Book 202, page 349, Registry of Pender County, with respect to that tract of land described as follows:

In Holly Township, Pender County, North Carolina, being those certain tracts or parcels of land, making one large tract of about 23.72 acres and described as 9 tracts in a certain deed from C. J. Featherston and wife, to J. C. Featherston, dated January 27, 1936, and recorded in Book 205, page 154, of the Registry of Pender County, reference to which is hereby directed for a description by meets and bounds of said tracts.

TO HAVE AND TO HOLD unto the party of the second part, its successors and assigns.

IN WITNESS WHEREOF, the party of the first part has caused these presents to be executed by its President and Secretary, under their seals, the day and year first above written.

NORTH EAST HUNTING CLUB

BY Robert M. Carr (SEAL)
PRESIDENT

W. G. Wells (SEAL)
SECRETARY

NORTH CAROLINA
DUPLIN COUNTY

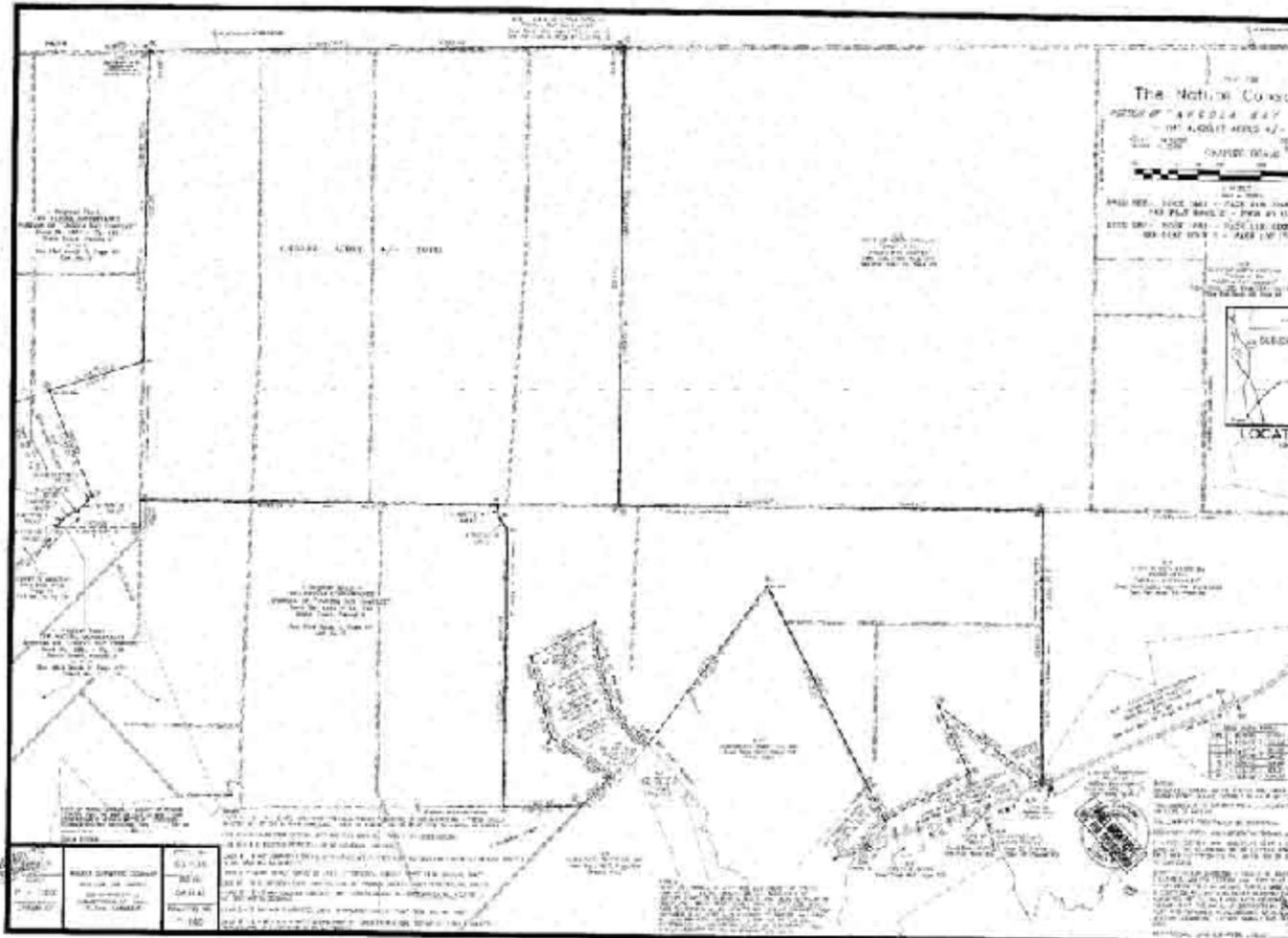
I, O. J. Smith, notary public do hereby certify that Robert M. Carr and W. G. Wells, the President and the Secretary of the NORTH EAST HUNTING CLUB, and known to me as such, personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes therein expressed.

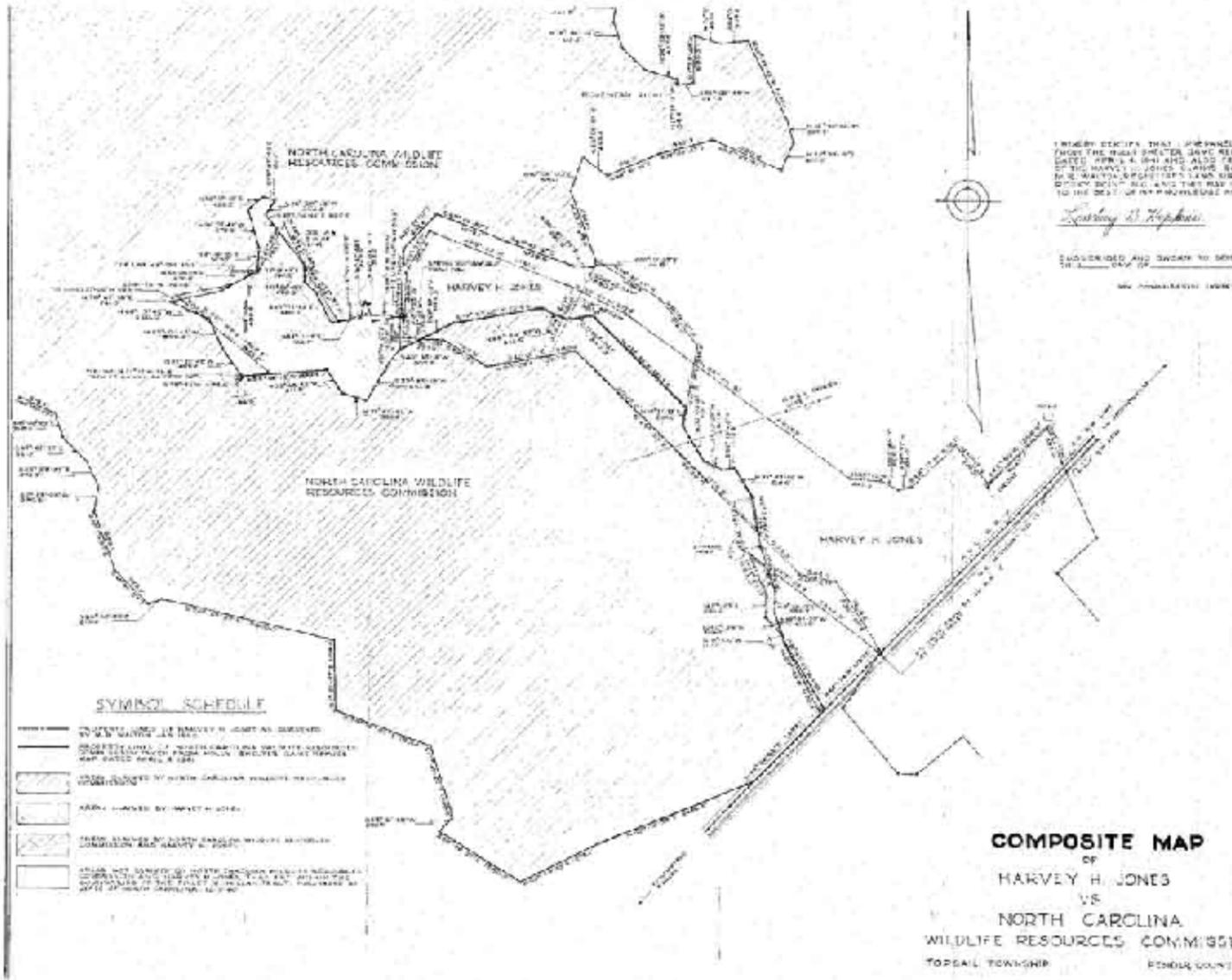
Witness my hand and notarial seal, this the 13 day of November, 1939.

O. J. Smith
NOTARY PUBLIC

My commission expires: 2-6-1941

2.



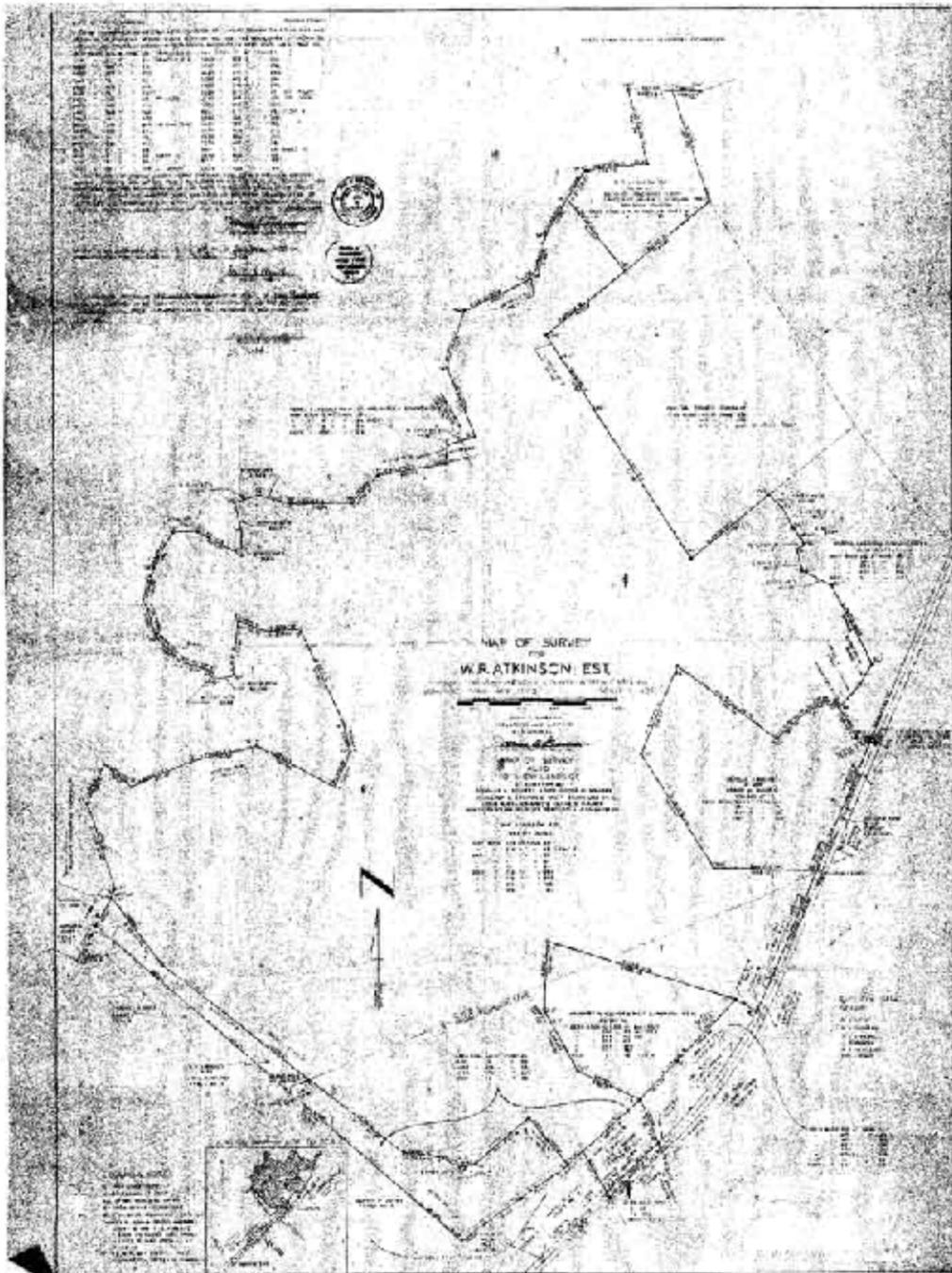


I HEREBY CERTIFY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Lawrence S. Hopper

ENCLOSED AND SWORN TO before me this 1st day of 1951.

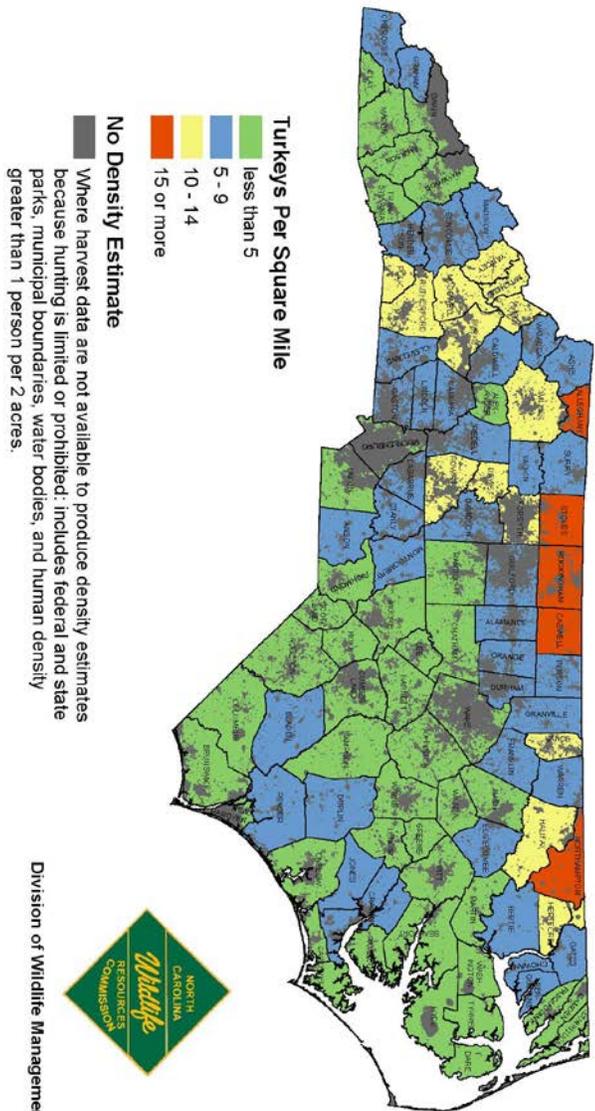
NOTARY PUBLIC



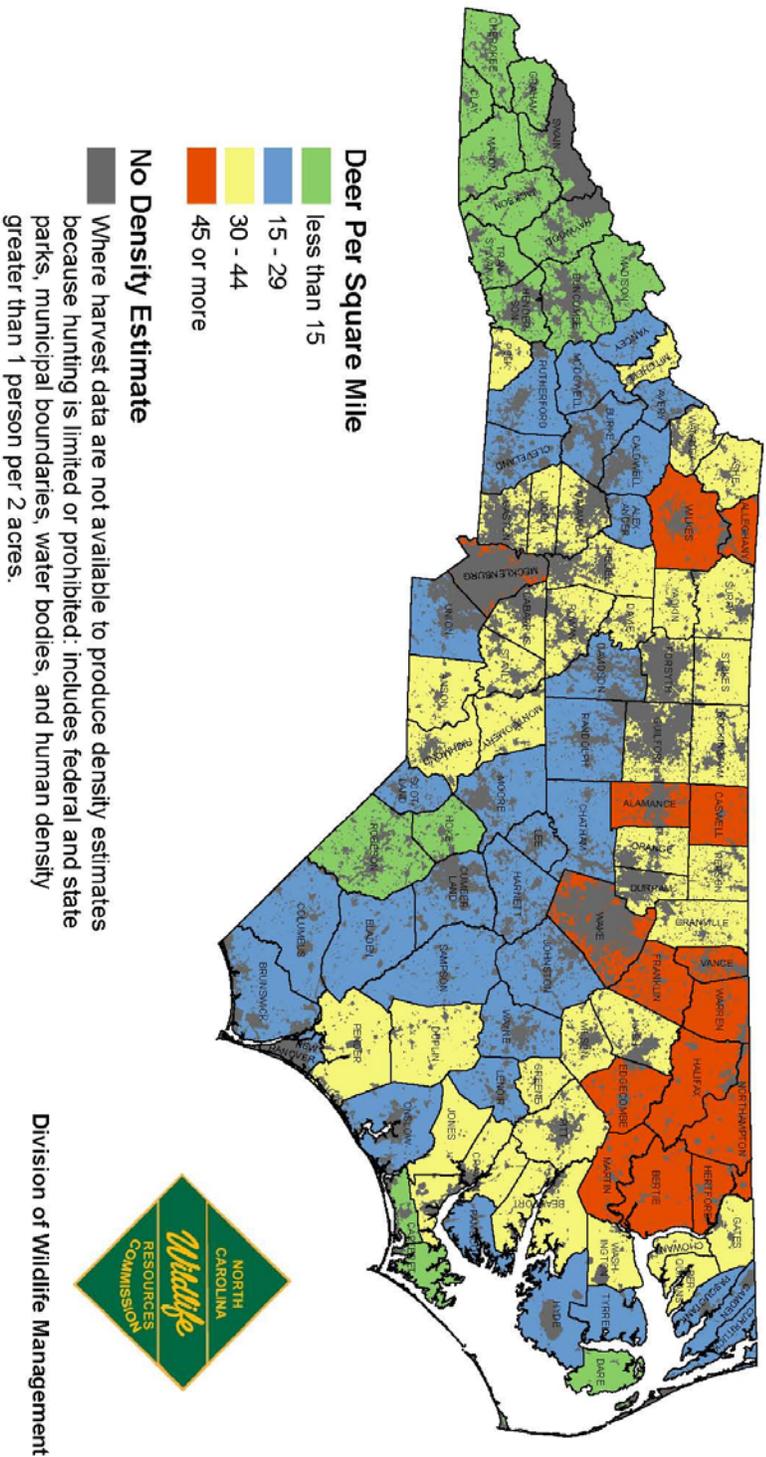
Appendix VI.

Turkey and Deer Density Map

2010 North Carolina Wild Turkey Density Map



2010 North Carolina White-tailed Deer Density Map





2011-12 «Item_Name» Survey --- Respond Immediately

The North Carolina Wildlife Resources Commission requests that you complete this 2-page survey (front/back) and return it using the enclosed postage-paid envelope or submit your response online at www.ncwildlife.org. This survey provides an opportunity for you to let us know about hunting experiences you may or may not have had using the «Item_Name» permit. Your responses are used by the Commission to better manage and improve the quality of permit hunts. **We ask that you respond even if you did not hunt using this permit.**

Appendix VII.

Game Land Permitted Hunter Surveys

«CustomerID»
 «First_Name» «Middle_Name» «Last_Name» «Suffix»
 «Address_1»
 «Address_2»
 «City», «State» «Zip» «Zip4»

Permit Number: «PermitID»

**Submit your response online at
www.ncwildlife.org**

1. Did you hunt during at least one day using the «Item_Name» (Item # «Item_Number») permit?

Yes

No **Indicate the reason(s) you did not hunt and return the survey in the postage-paid envelope:**

all that apply

- Not enough bears or bear sign
- Weather was poor for bear hunting
- My hunting partner(s) could not go
- I had already harvested a bear
- I hunted somewhere else during the day(s) I had a

permit for

- I could not afford to make the trip(s)
- Work or family obligations or health problems
- Other (please specify): _____

2. Please indicate which hunt(s) listed below you hunted using the permit. List the number of days and total number of hours hunted. **(Check the box if you did not hunt during a particular hunt choice date)**

Hunt Choice and Date	Number of Days Hunted	Total Number of Hours Hunted	Did Not Hunt
«HuntChoice_1»			<input type="checkbox"/>
«HuntChoice_2»			<input type="checkbox"/>
«HuntChoice_3»			<input type="checkbox"/>
«HuntChoice_4»			<input type="checkbox"/>
«HuntChoice_5»			<input type="checkbox"/>

3. Please indicate the hunt during which you *personally* harvested a bear and the sex of the harvested bear. (**one for each hunt choice date listed**)

<u>Hunt Choice and Date</u>	Sex of Harvested Bear		
	Male	Female	Did Not Harvest a Bear
« <u>HuntChoice_1</u> »	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
« <u>HuntChoice_2</u> »	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
« <u>HuntChoice_3</u> »	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
« <u>HuntChoice_4</u> »	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
« <u>HuntChoice_5</u> »	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SIDE →

CONTINUE ON REVERSE



2011-12 «Item_Name» Survey - Respond Immediately

The North Carolina Wildlife Resources Commission requests that you complete this 2-page survey (front/back) and return it using the enclosed postage-paid envelope or submit your response online at www.ncwildlife.org. This survey provides an opportunity for you to let us know about hunting experiences you may or may not have had using the «Item_Name» permit. Your responses are used by the Commission to better manage and improve the quality of permit hunts. **We ask that you respond even if you did not hunt using this permit.**

«CustomerID»
 «First_Name» «Middle_Name» «Last_Name» «Suffix»
 «Address_1»
 «Address_2»
 «City», «State» «Zip» «Zip4»

Permit Number: «PermitID»

**Submit your response online at
www.ncwildlife.org**

4. Did you hunt during at least one day using the «Item_Name» (Item # «Item_Number») permit?

Yes

No **Indicate the reason(s) you did not hunt and return the survey in the postage-paid envelope:**

all that apply

- Not enough deer or deer sign
- Weather was poor for deer hunting
- My hunting partner(s) could not go
- I had no more deer tags left or was saving my last
- I hunted somewhere else during the day(s) I had a
- I could not afford to make the trip(s)
- Work or family obligations or health problems
- Other (please specify): _____

deer tag
 permit for

5. What hunting method did you *primarily* use during your hunt(s) using the permit?

- Still
- Dog

6. Please indicate which hunt(s) listed below you hunted using the permit. List the number of days and total number of hours hunted. **(Check the box if you did not hunt during a particular hunt choice date)**

Hunt Choice and Date	Number of Days Hunted	Total Number of Hours Hunted	Did Not Hunt
«HuntChoice_1»			<input type="checkbox"/>
«HuntChoice_2»			<input type="checkbox"/>
«HuntChoice_3»			<input type="checkbox"/>
«HuntChoice_4»			<input type="checkbox"/>
«HuntChoice_5»			<input type="checkbox"/>

7. Please indicate the number of antlered bucks, does, and button bucks you *personally* harvested using the permit during the hunt(s) listed below. **(Check the box if you did not harvest any deer during a particular hunt choice date)**

Hunt Choice and Date	Number of Deer Harvested			Did Not Harvest Any Deer
	Antlered Bucks	Does	Button Bucks	
«HuntChoice_1»				<input type="checkbox"/>
«HuntChoice_2»				<input type="checkbox"/>
«HuntChoice_3»				<input type="checkbox"/>
«HuntChoice_4»				<input type="checkbox"/>
«HuntChoice_5»				<input type="checkbox"/>

CONTINUE ON REVERSE

SIDE →

Permit Number: «PermitID»

8. Please indicate the number of deer you saw using the permit during the hunt(s) listed below. (**Check the box if you did not hunt during a particular hunt choice date**)

Hunt Choice and Date	Number of Deer Seen	Did Not Hunt
«HuntChoice_1»		<input type="checkbox"/>
«HuntChoice_2»		<input type="checkbox"/>
«HuntChoice_3»		<input type="checkbox"/>
«HuntChoice_4»		<input type="checkbox"/>
«HuntChoice_5»		<input type="checkbox"/>

9. Overall, how dissatisfied or satisfied were you with your hunt(s) using this permit? (**one**)

Very Dissatisfied ←————→ Very Satisfied
 1 2 3 4 5

10. Which of the following were important in determining how dissatisfied or satisfied you were with your hunts using this permit? (**all that apply**)

- Accessibility of hunting area
- Quality of deer seen
- Number of deer seen
- Whether or not I harvested deer
- Weather
- Behavior or courtesy of other hunters
- Other (please specify): _____

8. Do you think the number of other hunters during your hunt(s) using the permit was.... (**one for each hunt choice date listed**)

Hunt Choice and Date	Number of Other Hunters			
	Too Few	Just Enough	Too Many	Did Not Hunt
«HuntChoice_1»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
«HuntChoice_2»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
«HuntChoice_3»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
«HuntChoice_4»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

«**HuntChoice_5**»

9. How far did you travel (one way) for a hunt using the permit? (**one**)

- 0 to 60 miles
- 61 to 120 miles
- 121 to 180 miles
- More than 180 miles

If you have any questions regarding this survey, please call us at (888) 248-6834. Thank you for your time and support of our wildlife programs.

STAY INFORMED....

Start receiving e-mails regarding permit hunting opportunities, application and survey reminders, draw status information, and N.C. Wildlife Update.

Sign up at www.ncwildlife.org/enews or give us your e-mail address (print neatly):

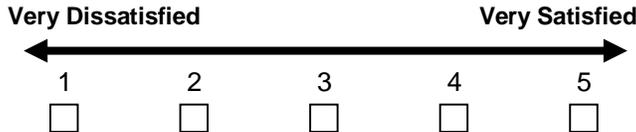
11. What hunting method did you *primarily* use during your hunt(s) using the permit?

- Still
- Dog

12. Please indicate how many bears you saw while still hunting, or struck while hunting with dogs, on the hunt(s) listed below. (**Check the box if you did not hunt during a particular hunt choice date**)

Hunt Choice and Date	Number of Bears Seen or Struck	Did Not Hunt
«HuntChoice_1»		<input type="checkbox"/>
«HuntChoice_2»		<input type="checkbox"/>
«HuntChoice_3»		<input type="checkbox"/>
«HuntChoice_4»		<input type="checkbox"/>
«HuntChoice_5»		<input type="checkbox"/>

13. Overall, how dissatisfied or satisfied were you with your hunt(s) using this permit? (**one**)



14. Which of the following were important in determining how dissatisfied or satisfied you were with your hunts using this permit? (**all that apply**)

- Accessibility of hunting area
- Number of bears seen
- Whether or not I harvested a bear
- Weather
- Behavior or courtesy of other hunters
- Other (please specify): _____

15. Do you think the number of other hunters during your hunt(s) using the permit was.... (**one for each hunt choice date listed**)

<u>Hunt Choice and Date</u>	Number of Other Hunters			Did Not Hunt
	Too Few	Just Enough	Too Many	
«HuntChoice_1»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
«HuntChoice_2»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
«HuntChoice_3»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
«HuntChoice_4»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
«HuntChoice_5»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. How far did you travel (one way) for a hunt using the permit? (**one**)

- 0 to 60 miles
- 61 to 120 miles
- 121 to 180 miles

STAY INFORMED....

Start receiving e-mails regarding permit hunting opportunities, application and survey reminders, draw status information, and N.C. Wildlife Update.

Sign up at www.ncwildlife.org/enews or give us your e-mail address (print neatly):

More than 180 miles

If you have any questions regarding this survey, please call us at (888) 248-6834. Thank you for your time and support of our wildlife programs.



2011-12 «Item_Name» (Item # «Item_Number») Survey

The North Carolina Wildlife Resources Commission requests that you complete this 2-page survey (front/back) and return it using the enclosed postage-paid envelope or submit your response online at www.ncwildlife.org. This survey provides an opportunity for you to let us know about hunting experiences you may or may not have had using the «Item_Name» permit. Your responses are used by the Commission to better manage and improve the quality of permit hunts. **We ask that you respond even if you did not hunt using this permit.**

«CustomerID»
 «First_Name» «Middle_Name» «Last_Name» «Suffix»
 «Address_1»
 «Address_2»
 «City», «State» «Zip» «Zip4»

Permit Number: «PermitID»

**Submit your response online at
www.ncwildlife.org**

17. Did you hunt during at least one day using the «Item_Name» permit?

- Yes
 No **Indicate the reason(s) you did not hunt and return the survey in the postage-paid envelope:**

- all that apply** Not enough turkeys or turkey sign
 Weather was poor for turkey hunting
 My hunting partner(s) could not go
 I had no more turkey tags left or was saving my last turkey tag
 I hunted somewhere else during the day(s) I had a permit for
 I could not afford to make the trip(s)
 Work or family obligations or health problems
 Other (please specify): _____

18. Please indicate which hunt(s) listed below you hunted using the permit. List the number of days and total number of hours hunted. **(Check the box if you did not hunt during a particular hunt choice date)**

Hunt Choice and Date	Number of Days Hunted	Total Number of Hours Hunted	Did Not Hunt
«HuntChoice_1»			<input type="checkbox"/>
«HuntChoice_2»			<input type="checkbox"/>

19. Please indicate the number of turkeys you *personally* harvested using the permit during the hunt(s) listed below. **(Check the box if you did not harvest any turkeys during a particular hunt choice date)**

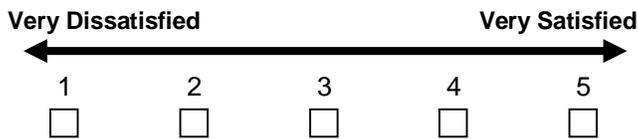
Hunt Choice and Date	Number of Turkeys Harvested		Did Not Harvest any Turkeys
	Beard less than 7 inches	Beard 7 inches or greater	
«HuntChoice_1»			<input type="checkbox"/>
«HuntChoice_2»			<input type="checkbox"/>

CONTINUE ON REVERSE SIDE →
Permit Number: «PermitID»

20. Please indicate the number of gobblers you heard using the permit during the hunt(s) listed below. **(Check the box if you did not hunt during a particular hunt choice date)**

Hunt Choice and Date	Number of Gobblers Heard	Did Not Hunt
«HuntChoice_1»		<input type="checkbox"/>
«HuntChoice_2»		<input type="checkbox"/>

21. Overall, how dissatisfied or satisfied were you with your hunt(s) using this permit? (**one**)



22. Which of the following were important in determining how dissatisfied or satisfied you were with your hunts using this permit? (**all that apply**)

- Accessibility of hunting area
- Quality of turkey habitat
- Number of turkeys seen or heard
- Whether or not I harvested a turkey(s)
- Weather
- Behavior or courtesy of other hunters
- Other (please specify): _____

23. Do you think the number of other hunters during your hunt(s) using the permit was.... (**one for each hunt choice date listed**)

<u>Hunt Choice and Date</u>	<u>Number of Other Hunters</u>			Did Not Hunt
	Too Few	Just Enough	Too Many	
«HuntChoice_1»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
«HuntChoice_2»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

24. How far did you travel (one way) for a hunt using the permit? (**one**)

- 0 to 60 miles
- 61 to 120 miles
- 121 to 180 miles
- More than 180 miles

If you have any questions regarding this survey, please call us at (888) 248-6834. Thank you for your time and support of our wildlife programs.



2011-12 «Item_Name» (Item # «Item_Number») Survey

The North Carolina Wildlife Resources Commission requests that you complete this 2-page survey (front/back) and return it using the enclosed postage-paid envelope or submit your response online at www.ncwildlife.org. This survey provides an opportunity for you to let us know about hunting experiences you may or may not have had using the «Item_Name» permit. Your responses are used by the Commission to better manage and improve the quality of permit hunts. **We ask that you respond even if you did not hunt using this permit.**

«CustomerID»
 «First_Name» «Middle_Name» «Last_Name» «Suffix»
 «Address_1»
 «City», «State» «Zip» «Zip4»

Permit Number: «PermitID»

**Submit your response online at
www.ncwildlife.org**

25. Did you hunt during at least one day using the «Item_Name» permit?

- Yes
 No **Indicate the reason(s) you did not hunt and return the survey in the postage-paid envelope:**

- all that apply**
- Not enough waterfowl
 - Weather was poor for waterfowl hunting
 - Not enough water in impoundment
 - My hunting partner(s) could not go
 - I hunted somewhere else during the day(s) I had a permit for
 - I could not afford to make the trip(s)
 - Work or family obligations or health problems
 - Other (please specify): _____

26. Please indicate which hunt(s) listed below you hunted using the permit. List the number of days and total number of hours hunted. **(Check the box if you did not hunt during a particular hunt choice date)**

Hunt Choice and Date	Number of Days Hunted	Total Number of Hours Hunted	Did Not Hunt
«HuntChoice_1»			<input type="checkbox"/>
«HuntChoice_2»			<input type="checkbox"/>
«HuntChoice_3»			<input type="checkbox"/>
«HuntChoice_4»			<input type="checkbox"/>
«HuntChoice_5»			<input type="checkbox"/>

27. Please indicate the number of each waterfowl species you *personally* harvested using the permit during the hunt(s) listed below. **(Check the box if you did not harvest any waterfowl during a particular hunt choice date)**

Hunt Choice and Date	Number Harvested					Did Not Harvest Any Waterfowl
	Tundra Swan	Ducks	Mergansers	Coots	Canada Geese	

« HuntChoice_1 »							<input type="checkbox"/>
« HuntChoice_2 »							<input type="checkbox"/>
« HuntChoice_3 »							<input type="checkbox"/>
« HuntChoice_4 »							<input type="checkbox"/>
« HuntChoice_5 »							<input type="checkbox"/>

CONTINUE ON REVERSE SIDE →

Permit Number: «**PermitID**»

28. Did you scout any hunt area(s) listed on the permit prior to the hunt date(s)?

Yes

No

5. Using the rating scale shown below, enter one rating in every box for each hunt listed.

<p style="text-align: center;">Rating Scale</p> <p style="text-align: center;">Very Dissatisfied ← → Very Satisfied</p> <p style="text-align: center;">1 2 3 4 5</p> <p style="text-align: center;">Hunt Choice and Date</p>	Rating						
	Accessibility of hunting area	Satisfaction with number of waterfowl seen	Satisfaction with number of waterfowl harvested	Quality of waterfowl habitat	Weather	Behavior or courtesy of other hunters	Overall hunting experience
Rating Example	1	4	2	4	2	3	2
« HuntChoice_1 »							
« HuntChoice_2 »							
« HuntChoice_3 »							
« HuntChoice_4 »							
« HuntChoice_5 »							

6. Do you think the number of other hunters during your hunt(s) using the permit was.... (**one for each hunt choice date listed**)

Hunt Choice and Date	Number of Other Hunters			
	Too Few	Just Enough	Too Many	Did Not Hunt
« HuntChoice_1 »	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
« HuntChoice_2 »	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
« HuntChoice_3 »	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
« HuntChoice_4 »	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
« HuntChoice_5 »	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. How far did you travel (one way) for a hunt using the permit? (**one**)

0 to 60 miles

61 to 120 miles

121 to 180 miles

More than 180 miles

If you have any questions regarding this survey, please call us at (888) 248-6834. Thank you for your time and support of our wildlife programs.

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Appendix VIII.

Game Land Use evaluation Procedure

North Carolina Wildlife Resources Commission Game Lands Use Evaluation Procedure

I. PURPOSE

The North Carolina Wildlife Resources Commission (NCWRC) is the principal advocate for and steward of the wildlife resources of North Carolina and is the primary custodian of numerous tracts of state-owned lands in the Game Lands Program. As the human population of North Carolina continues to grow at a rapid rate, state-owned Game Lands will be subject to increasing pressure to provide public outdoor recreation opportunities. These uses will include traditional activities such as hunting, fishing, trapping, and wildlife viewing, as well as other outdoor recreation pursuits. While hunting, fishing, trapping and wildlife viewing are the primary public uses of state-owned Game Lands, the NCWRC has always allowed and supported other dispersed and non-developed recreational activities. The funding sources of the NCWRC, however, are focused on natural resources management rather than recreational development and there is no on-site staff stationed at each Game Land. Because of this, the NCWRC must exercise care in providing for recreational activities that may not be compatible with the natural resources for which the lands are valued and the primary management objectives of those lands. This document will establish a process to evaluate such activities as they are considered by NCWRC staff, or are requested by the public, on state-owned Game Lands where NCWRC is the primary custodian. These activities will first be evaluated to determine if they are “appropriate” and second to determine whether they are “compatible” with respect to the following management objectives of the Game Lands program:

1. To provide, protect, and actively manage habitats and habitat conditions to benefit aquatic and terrestrial wildlife resources,
2. To provide public opportunities for hunting, fishing, trapping, and wildlife viewing,
3. 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,
4. To provide an optimally sustainable yield of forest products where feasible and appropriate and as directed by wildlife management objectives.

This document provides a statewide framework for determining appropriate uses of NCWRC-owned or controlled Game Land properties (NCWRC Game Lands). In addition, it provides the procedure for determining if appropriate uses are compatible on a particular property.

II. ENABLING LEGISLATION

Statement of Purpose NCGS § 143-239. The purpose of this article is to create a separate State agency to be known as the North Carolina Wildlife Resources Commission, the function, purpose, and duty of which shall be to manage, restore, develop, cultivate,

conserve, protect, and regulate the wildlife resources of the State of North Carolina, and to administer the laws relating to game, game and freshwater fishes, and other wildlife enacted by the General Assembly to the end that there may be provided a sound, constructive, comprehensive, continuing, and economical game, game fish, and wildlife program directed by qualified, competent, and representative citizens, who shall have knowledge of or training in the protection, restoration, proper use and management of wildlife resources. (1947, c. 263, s. 3; 1965, c. 957, s. 13)

III. APPLICATION OF PROCEDURE

This procedure must be considered within the context of the Game Lands Program Mission Statement (GLPMS):

“Consistent with the original establishment legislation for the WRC, 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 lands program consistent with this mission is the feasibility and desirability of multiple uses on lands owned by the state within the 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.”
(From motion made December 5, 2007 by Doug Parsons, Chairman, WRC Use and Lands Committee and unanimously approved).

This procedure applies to all proposed and existing recreational uses of NCWRC Game Lands. It does not apply to the following circumstances:

- A. **Situations where reserved rights or legal mandates provide that certain uses must, or must not, be allowed.** For example, there may be prescriptive purposes or other uses that are specifically required or not allowed in the deed or grant that conveyed the property to the state.
- B. **Property management activities.** Property management activities are specified in Federal Assistance Work Plans for lands NCWRC purchases or manages with federal assistance, and are updated every five years. These plans specify wildlife, fish, and forest management activities that are not subject to this procedure when conducted by NCWRC staff or an approved cooperator.
- C. **Emergencies.** The Director (or a designee) may temporarily suspend, allow or initiate any use of a property if it is determined necessary to immediately act in order to protect the health and safety of the public or any plant, fish or wildlife population.
- D. **Specialized uses.** There are many uses (most of them non-recreational) that require specific authorization from NCWRC in the form of a special use permit, letter of authorization or other permit document. Some of the specialized uses that may be considered include scientific research or collections, educational pursuits, field trial use, use of buildings or other facilities, rights-of-way and other encroachments, telecommunications facilities, military, national defense uses, and public safety training.

Requests for specialized uses are covered by other NCWRC policies, procedures, or rule, and are subject to separate review procedures. (*See NC Administrative Code, Title 15A, Chapter 10, Subchapter 10D - Game Land Regulations, Rule .0102; General Statutes 113-264*).

- E. **Other NCWRC properties.** The NCWRC owns and/or manages lands outside of the Game Land program (e.g., boat ramps and Wildlife Conservation Areas). The use and management of those properties are covered by other NCWRC policies, procedures, or rule and are subject to separate review procedures. (*See NC Administrative Code, Title 15A Chapter 10, Subchapter 10E - Fishing and Boating Access Areas, Rule .0104; NC Administrative Code, Title 15A Chapter 10, Subchapter 10J - Wildlife Conservation Area Regulations, Rule .0102; General Statutes 113-264*).

If a proposed use falls under one of the above five circumstances, it is exempt from review under this procedure. Any other Game Land use requests, whether originating from the public or from NCWRC staff, must be reviewed under this procedure and with consideration of the following guidance:

- **Natural resources-dependent recreational uses** (see definitions below), when compatible with each other, should be considered the priority general public uses of Game Land properties.
- **Other general public uses** that are not natural resources-dependent recreational uses as described herein, and do not contribute to the fulfillment of property purposes or goals or objectives, as described in the GLPMS, are lower priorities for consideration. These uses may conflict with priority general public uses, and may divert property management resources away from priority general public uses or from the responsibility of the NCWRC to protect and manage fish, wildlife, plants and their habitats. Therefore, procedure and practice have a general presumption against allowing such uses on Game Land properties. Regardless of how often they occur or how long they last, appropriateness and compatibility determinations for each use request must be made, as defined in Section V and VI of this procedure.

IV. DEFINITIONS

- A. **Natural resources-dependent recreational use** is a use of a property involving: (1) hunting; (2) fishing; (3) trapping; (4) wildlife or other natural resource observation/ education.
- B. **Property managers** are the officials employed by NCWRC who direct the management of a property, or the authorized representatives of such officials.
- C. **Professional judgment** is a finding, determination or decision that is consistent with the principles of fish and wildlife management and administration, and that makes use of all available science and resources.

V. DETERMINING APPROPRIATE USE

A property use is appropriate if it meets Criterion A *or* if it meets all of Criteria B – F (and G, when applicable).

- A. It is a natural resources-dependent recreational use of a property. These are: (1) hunting; (2) fishing; (3) trapping; (4) wildlife or other natural resource observation/education.
- B. The NCWRC has jurisdiction over the use and, therefore, authority to allow or not allow the use.
- C. The use complies with all laws and regulations (federal, state and local).
- D. The use is consistent with NCWRC policies and objectives.
- E. The use is consistent with public safety. *If the use creates an unreasonable level of risk to visitors or NCWRC staff, or if the use requires NCWRC staff to take unusual safety precautions to assure the safety of the public or other NCWRC staff, the use is not appropriate.*
- F. Proceeds of revenue generating uses, by for-profit entities, will be provided to the NCWRC.
- G. The use was evaluated under previous administrative review, was deemed inappropriate, and conditions have changed that would now make the use appropriate.

Property managers and other NCWRC staff shall consider the above criteria and complete Exhibit 1 (appended to this document) for each use subjected to the appropriateness test. The findings shall be forwarded to Regional Supervisors and through the chain of supervision to the Director (or a designee) for concurrence. This will serve to promote consistency in determining appropriate uses of NCWRC Game Lands.

VI. DETERMINING COMPATIBILITY

Uses that are determined to be appropriate for Game Land properties will then be evaluated for compatibility to determine if the use will be allowed, and under what conditions the use will be allowed on a specified property. Property managers are required to exercise professional judgment in making these determinations. Compatibility determinations are inherently complex and require the property manager to use field experience and knowledge of land management and of the property's resources, particularly its biological resources. When a property manager is exercising professional judgment, the property manager will use available information that may include consulting with others inside and/or outside the NCWRC. At a minimum, the property manager should consider the following questions.

- A. Can the use be accommodated without substantially interfering with or detracting from the fulfillment of Game Lands program management objectives (see page 1, section I)?

- B. Is the use compatible with the physical and natural resource characteristics of the property (e.g., topography, soils, plant communities, endangered species concerns)? *The use is generally incompatible if it has a high probability of causing erosion, or sedimentation, or disturbance of plant or animal resources.*
- C. Is the use compatible with Natural Heritage Articles of Dedication, Clean Water Management Trust Fund (CWMTF) designations, and/or any deed restrictions or other legal limitations placed upon the property, including those specified for land purchased with Pittman-Robertson Wildlife Restoration Act funds?
- D. Is there infrastructure present on the property to support the requested use (e.g., graveled roads, parking areas, facilities)?
- E. Is the requested activity not adequately provided for on other nearby public lands? *If a proposed use is available on other nearby lands, the NCWRC may not feel as strong an obligation to consider that use on Game Lands. Even if a use is not adequately provided for on other nearby public lands, the NCWRC still may not feel such an obligation, but should consider the unique nature of the request.*
- F. Will the use necessitate facility, infrastructure development or maintenance and is this use manageable within available budget and staff? *If a proposed use diverts management efforts away from the proper and reasonable management of a property or natural resources-dependent recreational use, the use is generally incompatible.*
- G. Will the use be manageable in the future within existing resources? *If the use would lead to recurring requests for the same or similar activities that will be difficult to manage in the future, then the use is generally incompatible. If the use can be managed so that impacts to natural and cultural resources are minimal or inconsequential, or if clearly defined limits can be established, then the use may be compatible.*
- H. Is the requesting entity capable of providing any funding, labor, or materials for the development of, and maintenance support for, the activity, if applicable (e.g., trail or road maintenance, rehabilitation to areas that may be damaged by the activity)?
- I. If a use is not compatible as initially proposed, can it be made compatible by implementing stipulations that avoid or minimize potential adverse impacts?

Property managers shall consider the above questions, and any other information or issues deemed necessary to make a determination based on professional judgment, and complete Exhibit 2 (appended to this document) for each property use subjected to a compatibility

determination. The findings shall be forwarded to the Regional Supervisor and through the chain of supervision to the Director (or a designee) for concurrence. This will serve to promote consistency in determining compatible uses of NCWRC Game Lands.

VII. EVALUATION

The Director (or a designee) shall consider each request and the derived appropriateness and compatibility, and then make a determination as to whether the request will be approved or denied. The Director will forward use requests deemed significant in scope to the Commission's Use and Lands Committee, such as those involving: a) rule change, b) revenue generation, c) expenditure of NCWRC funds, or d) substantial alteration to infrastructure or natural resources.

All approved uses will be evaluated periodically by NCWRC field staff to determine whether such activities remain appropriate and compatible. All efforts will be made by field staff to inform participants of approved uses that issues of incompatibility will be grounds for immediate termination of the approved activity.

This is a living document that may be modified and updated as needed.

EXHIBIT 1

APPROPRIATE USE DETERMINATION

Property Name: _____

Requested or Considered Use: _____

DECISION CRITERIA (<i>refer to section V</i>)	YES	NO
A. Is the use a natural resource-dependent recreational use of a property?		
If 'NO' above, then consider the following criteria.		
B. Does the NCWRC have jurisdiction over the use?		
C. Does the use comply with laws and regulations (federal, state or local)?		
D. Is the use consistent with NCWRC policies and objectives?		
E. Is the use consistent with public safety?		
F(i). Is the requesting entity a non-profit? F(ii). If NO to F(i), will any proceeds of the use be provided to the NCWRC? (<i>Describe for-profit entity and supply information on proceeds to be provided to the NCWRC in the Comments section below</i>)		
G. If the use was evaluated under previous administrative review and deemed inappropriate, have circumstances changed that would now make the use appropriate? (<i>leave blank if not applicable</i>)		

To be found appropriate, answers to Criterion A **OR** Criteria B – F (and G, if applicable) must be YES.

Determination (check one below):

_____ Appropriate _____ Not Appropriate

Comments:

Property Manager: _____ Date: _____

Regional Supervisor: _____ Date: _____

EXHIBIT 2
 COMPATIBILITY DETERMINATION
(Use as much space as needed)

Property Name: _____

Requested or Considered Use: _____

DECISION CRITERIA <i>(refer to section VI)</i>	YES	NO	Comments
A. Use will not interfere with or detract from fulfillment of Game Land program management objectives?			
B. Use is compatible with the physical and natural resource characteristics of the property?			
C. Use is compatible with Natural Heritage Articles of Dedication, CWMTF designations, and/or any deed restrictions or other legal limitations placed upon the property? OR (in the absence of the above) do acquisition funding partners otherwise agree to the proposed use?			
D. Infrastructure is present on the property to support the requested use?			
E. Requested activity is not adequately provided for on other nearby public lands?			
F. Use is manageable within available budget & staff?			
G. Will the use be manageable in the future within existing resources?			
H. Is the requesting entity capable of providing any maintenance support for the activity, if applicable?			
I. If the use is not compatible as initially proposed, can it be modified with stipulations that avoid or minimize potential adverse impacts and make the use compatible?			
Other <i>(insert)</i> :			

To be found compatible, answers to ALL of the above questions must be YES.

Determination (Check one below):

_____ Compatible

_____ Not Compatible

Stipulations necessary to ensure compatibility *(e.g., Memorandum of Agreement; performance bond; time, space, or size limitations)*:

Justification/Comments:

Property Manager: _____

Date: _____

Regional Supervisor: _____

Date: _____

Appendix IX.

Phase I and II Land Acquisition Evaluation Forms

**North Carolina Wildlife Resources Commission
Land Acquisition Investigation Form**

-PHASE I: INITIAL INVESTIGATION-

WRC Staff Contact:

Date First Presented to WRC:

Tract Name:

Acreage:

County:

Estimated Value:

Property Owner or Representative:

Phone:

Address:

Status: High Interest Moderate Interest Low Interest No Interest

Grant Potential: NHTF CWMTF

OTHER (explain):

Resources Assessment and Biological Benefits (brief):

Additional Comments:

Program Potential: Game Land Wildlife Conservation Area Fishing Access Area
 None

Potential Source(s) of Stewardship Funds (indicate federal:state match rates):

Relative Priority Evaluation Score (attach worksheet):

Recommendation: Pursue Acquisition Defer Do not Pursue Acquisition

Map Attached: Yes No

**North Carolina Wildlife Resources Commission
Land Acquisition Investigation Form**

-PHASE II: FINAL ACQUISITION DETAILS-

WRC Action/Approval to Pursue (Date):

Acquisition Plan (specify total project cost, each source, and amount of OBLIGATED funds):

Based on Appraisal: Yes No

If Yes, Name of Appraiser:

Date of Appraisal:

Appraisal Handled by State Property Office: Yes No

Acquisition Plan Includes Bargain Sale: Yes No

If Yes, Explain Details:

Source(s) of Stewardship Funds (indicate federal:state match rates):

Five Year Stewardship Costs & Revenue Projection Evaluation (attach worksheet)

Five Year Estimate of Total Stewardship Expenditures:	\$:	<input type="text"/>
Five Year Estimate of Total Projected Revenue:	\$:	<input type="text"/>

Additional Comments:

Appendix X.

Public Comment

Question 1. Which habitats are most important to protect on Holly Shelter Game Land?

Comment	Responses
Pine Savanna	9
Hardwood Bottoms	4
Floodplain Forest	2
Deer and Bear Habitats	6
Wildlife Openings	8
Plantation	1
Small Wetlands	6
Oak Ridges	1
Impoundments	3

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

Comment	Response
White-tailed deer	13
Turkey	10
Quail	9
Black bear	6
Endangered, Threatened, or Rare species (all)	6
Waterfowl	5
Rabbit	2
Fox	2
All Game and Fish	2
Small game	2
Dove	1
Raccoon	1
Fish	1

Question 3. How do you use Holly Shelter Game Land?

Comment	Response
Hunting	26
Wildlife/plant viewing	5
Fishing	5
Running/Training dogs	4
Camping	3
Birding	2
Run/Walk	2
Ecotours	1
Canoe	1
Hike	1
Boating Access	1
Bike Ride	1
Have Not	1
Trapping	1

Question 4. Please explain why you think the current level of access is, or is not, satisfactory on Holly Shelter Game Land?

Comment	Response
Mow Roads	Roads are mowed once per year
Change to 6 day/wk GL	From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.
Current access is quite satisfactory	
Limited access for disabled hunters.	Addressed in plan
Access to Bear Garden unacceptable, Online rules	Addressed in infrastructure section

impossible to follow	
Satisfactory	
Not enough days open in the week, Should be open more	From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.
Everyone that uses the Game Land should have use permit.	This requirement should be explored at the statewide level.
3 day access is a little restrictive for hunting?	From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.
Ok, roads need attention	Roads are mowed once per year
Access is fine, need to restrict target shooting to designated areas, date, time.	Addressed in plan
There is too much land use by people who do not have a use permit.	This requirement should be explored at the statewide level.

<p>Too much none hunting traffic on hunting days, people shooting targets, playing G.O. cash, (very unsafe situation)</p>	<p>Educational Kiosks are under construction process.</p>
<p>More days of access B/C harder to find game/patterning of game, Road access decreased- catching dogs, more access.</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>Ok, roads need attention</p>	<p>Addressed in infrastructure section</p>
<p>Not sure (money, littering)</p>	
<p>Not satisfactory because bicyclists and runners can get in and use the GL when the gates are shut. We hunters/fishers can't plus they don't have to have GL use permit, but aren't they using the GL still?</p>	<p>This requirement should be explored at the statewide level.</p>
<p>That's fine</p>	
<p>Access is good throughout, but the number of deer hunting permits issued for the Bear Garden Tract should be reduced.</p>	<p>Given the size of Bear Garden (7984 acres), the current number of deer hunting permits (60) is adequate.</p>
<p>Very inhospitable unless you have a huge pack of dogs. Almost no access for walk hunters...the area is too wet. Limits on dog hunting, the area is worthless after the 2nd week of general gun</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing</p>

	and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.
I think the current level of access is good. I especially like the gates being locked during non-hunting season to prevent garbage dumping and illegal uses. 3 day a week hunting reduces the pressure on the game and should be used on all game lands.	
Current access is generally fine. The hunters at Shaken Creek (Wallace Hunt Club) would like the bridge over Shaken Creek to Bear Garden rebuilt. This would be nice and more convenient but is not a priority to TNC.	
Access is fine the way it is. No changes need to be made.	
Access is satisfactory in my opinion, although I would like to see ATVs allowed for disabled use.	ATV's access is allowed in disabled hunting areas.
The sections I hunt, Bear Garden & Pender 4, are very satisfactory. Road access is satisfactory. Permit controlled hunting is very satisfactory.	
the roads are fine first couple weeks, then are horrible rest of season	Road improvements are addressed in infrastructure section

Question 5. What suggestions, if any, do you have for changing how Holly Shelter Game Land is managed and maintained?

Comment	Response
Better Food plots, Everyone wears orange and pay GL use Fee	Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals. Game Land use permits for all users should be evaluated on a statewide basis.
When Possible putting more fire into the landscape. More summer "Growing season burns."	Addressed in Habitat section.
Understandable and approachable rules and Regs., Open year round (There's Good Fishing!)	NCWRC is constantly trying to make rule simplification changes. As road improvements are made, certain areas may remain open year-round
More timber Harvest, Burning, with post-burn discing	Addressed in Habitat section.
Need more handicap areas, very limited access. Not enough days open in the week, Should be open more.	Addressed in Infrastructure section. From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.
Food Plots that deer actually eat.	Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals.
Archery only zones, Shaw highway/Ashes Creek or perimeter.	From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting

	<p>pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.comment. Three days dog hunting/three days still hunting. You can comment online or in person at any of the 9 Public Hearings</p>
Need food plots, this will keep wildlife off highway	Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals.
Restrict gun target shooting	Shooting range construction is addressed in Infrastructure Section
Hunters are required to wear blaze orange when hunting. Why is no one else required the same as us on hunt days?	Educational Kiosks are under construction process.
Have everyone who uses GL must buy GL permit same as hunter.	This requirement should be explored at the statewide level.
Road maintenance (donate time to maintain) Increase planted acres, Higher grade food crops-not winter wheat, (Archery only zones, Pender 4) More still hunting opportunity, Possibly a buffer zone. Planted areas in impoundment possible partnership.	Road improvements are discussed in the Infrastructure Section. Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals. From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments,

	<p>currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>Archery only zones to allow viable hunting opportunities during firearms seasons.</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>Continued prescribed burns and road maintenance.</p>	
<p>No or limit dog hunting, More than 3 days/wk hunting or fishing.</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>Sandpits not so sandy</p>	

<p>Growing crops, growing crops</p>	<p>Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals.</p>
<p>Food Plots the animals actually eat.</p>	<p>Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals.</p>
<p>I think there should more still hunting only areas. Limit the use of dogs to the EAST side of Shaw highway only. Open up some more of the Bear garden tract to still hunting, without a permit. Or issue some still hunting only permits.</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>Plant food plots in beans or corn to give deer something to eat besides rye grass & millet!</p>	<p>Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals.</p>
<p>Keep doing what you are doing.</p>	
<p>Make the impoundment on lodge road a draw hunt and plant more of it in something like corn</p>	<p>The creation of a permitted hunt for HSGL impoundments will be investigated.</p>
<p>Do away with dog hunting for deer. That would be the greatest asset to the game land</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand</p>

	<p>increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>-I think the game land is well maintained. It could use some more controlled burning but I understand only so much can be done. -I would find some middle ground where deer dog hunters could use it and other hunters as well without conflict. I would limit to a specific number of days per season for deer dog hunters.</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>do some controlled burns and replanting of quail habitat. as well and some fields for dove shooting. I believe they are maintained well I would also restrict ATV during hunting season.</p>	<p>ATV use on Game Lands is prohibited.</p>
<p>TNC encourages and would like to partner with WRC to get more burning on the ground including: 1) cooperative burns where we share common boundaries, 2) expansion of savannas where shrub encroachment has occurred, 3) expansion of habitat around rare species sites, and most importantly 4) beginning a long-term, strategic fire restoration process to pocosins and pond pine woodlands in order to reduce fuel loads, improve public safety and health and improve habitat.</p>	

<p>The permit system at Bear Garden is working well. I would keep it in place, but with a reduction in the number of deer gun permits.</p>	
<p>Currently I believe it is managed well. I would like to see something other than broomstraw planted in the fields, and the gate on the Shingleton Road/Dead End Dogpen Rd. is quite annoying, especially since it was installed to pacify a poacher. I would also like to see access available from Hoover Rd., as I believe J.A. Drive should be public and connect to the Tram Loop, especially considering that road was maintained by the state for many years.</p>	
<p>Would like to see part of the Holly shelter gamelands set aside for archery only</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>

<p>I personally feel that the waterfowl impoundment located alongside the public boat ramp access should be set to permit only for early season waterfowl as well as late season waterfowl. Having hunted the impoundment myself several times, the number of hunters in the relatively small impoundment is simply dangerous. By restricting the number of hunters on a given date it provides a safer environment for hunting. with that said, the impoundment itself is so small that only a limited number of parties, more than likely three maximum would be able to hunt on a given date. Also i would propose restricting hunters from shooting birds while standing on the dike. hunters will stand on the dike and shoot waterfowl as they approach the impoundment habitat, which causes unsafe conditions</p>	<p>The creation of a permitted hunt for HSGL impoundments will be investigated.</p>
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Question 6. What would encourage you to start using Holly Shelter Game Land, or to continue using it more actively?

Comment	Response
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<p>If this could be a be a bowhunting area only</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>Stop riders who do not wear hunter orange or have to pay GL use permit.</p>	<p>This requirement should be explored at the statewide level.</p>
<p>Establishing a shooting free zone for average recreationists</p>	<p>The creation of a shooting range in HSGL is discussed in the infrastructure Section.</p>
<p>Additional hunting time, Shooting Range</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>Better access to quality still hunting.</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>

Above land use changes.	
Need more open days.	From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.
Stop riders on hunting days that don't have hunter orange on and don't have a use Permit.	This requirement should be explored at the statewide level.
Archery only zones.	From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.
Better food plots planted fields would be a plus. Non hunting traffic.	Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals.
Restricted target shooting will improve user safety.	The creation of a shooting range in HSGL is discussed in the infrastructure Section.
require GL use permit by everyone on who use said GL.	This requirement should be explored at the statewide level.

Do something to control nonhunting traffic hunting on hunting days	
Archery only zone	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
Open the GL more days, and archery only zones.	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
Archery zones, No dog hunting for deer!	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>

<p>For it to be open, Fewer gated roads, No dog hunting.</p>	<p>As road improvements are made, access will be increased.</p>
<p>More deer, more land, better landscaping</p>	<p>Deer management is discussed in the Information needs section. Land acquisition is discussed in the Land Acquisition Section.</p>
<p>Get rid of GPS people and target shooting.</p>	<p>Educational Kiosks are under construction. The creation of a shooting range in HSGL is discussed in the infrastructure Section.</p>
<p>Better food plots, stop riders on hunting days that don't have hunter orange, also geocachers.</p>	<p>Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals.</p>
<p>i feel that more emphasis should be placed on maintaining a smaller amount of impoundment on lodge road for quality not quantity. If even 1/5th of the total impoundment was properly managed and planted with corn and flooded, great permit hunt opportunities could and would result.</p>	<p>Currently, approximately 10 acres are planted annually. The remainder is flooded pocosin.</p>

<p>The establishment of an archery only zone</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>Better food plots & better roads.</p>	<p>Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals. Road improvements are discussed in the Infrastructure Section</p>
<p>More prescribed burning over a wider area.</p>	<p>Prescribed burning is discussed in the Habitat Section</p>
<p>Put some controls on the deer dog hunters and then maybe other hunters could enjoy the game land from October to January 1st. I don't even try to hunt during that period anymore because it is not safe for me or my bird dogs and I don't want to hunt around folks with no manners and hunting ethics.</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>Do away with dog hunting</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little</p>

	<p>support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>
<p>Some archery only zones would be good to establish in places not good for dog hunters</p>	<p>From a biological perspective, we do not think 6 days/week would have negative impacts on wildlife resources. However, additional hunting days may have adverse effects on non-traditional users who have become accustomed to using the game land on non-hunt days. Furthermore, additional hunting pressure will have some negative effects on infrastructure; specifically the road system. Currently, only a few main roads could withstand increased use without improvement. Public comment, based on Public hearing and regulation proposal comments, currently indicates little support for 6 days/week on HSGL. We will continue to monitor public input and if the need arises during the planning horizon, we will initiate the process of a regulation proposal to increase the number of hunting days on HSGL.</p>

<p>I will likely continue to use it, but my biggest fear is that it will become a permit only area like Bear Garden. I truly hope it stays open with it's 3-Day/week restrictions. I also believe that Hunter Orange should be required of anybody on the premises during an open season that requires it, regardless of their activity. I have chastised numerous bird watchers and dog walkers, and even a cyclist for showing up on a hunt day with no hunter orange on. Birdwatchers and other users not wearing orange is a tragic accident waiting to happen, in my opinion. Honestly I don't think dog walking should be allowed, but that's a minor issue. I do believe that the game warden should micro-managed less and allowed to work his area. Currently if I'm in Holly Shelter every Saturday during the gun season for deer I can count on seeing the Game Warden approximately 1 time. This has nothing to do with him, and everything to do with his supervisor controlling where he's allowed to work.</p>	
<p>Allow turkey hunting on Bear Garden.</p>	<p>Turkey hunting is currently allowed on Bear Garden.</p>
<p>Improve habitat management strategies,accessability and food source plantings in the waterfowl impoundments and fields</p>	<p>Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals.</p>

<p>More permits or less permit areas. Possibly open all areas without a permit on Holidays</p>	<p>Given the size of Bear Garden (7984 acres), the current number of deer hunting permits (60) is adequate.</p>
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Question 7. What additional comments do you have about Holly Shelter Game Land?

Comment	Response
Discourage the practice of unmanaged target shooting on the Game Land.	Shooting range construction is addressed in Infrastructure Section
If the GPS hunters are on the Game L and, they should have orange on . I think there should be an assigned shooting range for target shooting.	This requirement should be explored at the statewide level. Shooting range construction is addressed in Infrastructure Section
Archers who hunt with only a bow numbers are growing, some only have public land to hunt, Permits needed for for all GL use.	The potential exists to create archery only buffer zones in populated areas of HSGL.
Everybody should have to pay just like hunters.	This requirement should be explored at the statewide level.
Thank you for your good works	
There is too much target shooting 7 days/week on the GL.	Shooting range construction is addressed in Infrastructure Section
Setup a designated shooting target shooting area for people who want to shoot their guns and are not hunters.	Shooting range construction is addressed in Infrastructure Section
Everybody needs to pay to use it Target shooting area. All users have a GL user Permit, Geocaching on non-hunting days, Non-hunters not wearing blaze orange, non-hunters on non-hunt days.	This requirement should be explored at the statewide level.

<p>I feel that HS is a great example of a longleaf forest habitat</p>	
<p>HS is a great resource which needs protecting.</p>	
<p>Steel hunters shouldn't be able to hunt in blocks dogs are being ran in.</p>	
<p>All people must pay to use it. If you are riding in there must have to pay like hunters.</p>	<p>This requirement should be explored at the statewide level.</p>
<p>As I mentioned in an earlier comment, I believe blaze orange should be required of ANY user of ANY GAME LAND during a season that requires it, and of any user other than a hunter during any season allowing the use of firearms of any type. There are numerous occasions where carelessness on the part of birdwatchers, photographers, dog-walkers, etc... may eventually lead to a tragic accident. It would be wonderful to see the state be proactive in this matter. I would also like to see some limits be placed on when dogs may be trained on gamelands, so they are not being run while the gates are open during the spring turkey season while most mammals are going through the birthing process. Also, it would be nice if neighbors of the gamelands were required to keep their dogs under control and not allowed to let them simply them run on the gamelands year-around. Some regulation of the horse riders would also be beneficial, especially with the delicate ecosystems on Holly Shelter.</p>	<p>Educational Kiosks are under construction.</p>

<p>State government needs to give more money to Wildlife to manage these gamelands right.</p>	
<p>Do away with dogs for deer hunting</p>	
<p>I truly appreciate what the wildlife commission folks do for the sportsman and sportswomen at Holly Shelter and the many other game lands across the state. Thank you for your efforts and what I think is a very good job with funding continuing to be less and less. Thank you for caring about our state's wildlife and protecting it.</p>	
<p>Really enjoy hunting on holy shelter with a group of good guys, but you need to plant some beans or corn to give these deer something to eat besides rye grass & native vegetation. Also last half of gun season the roads were washboards.</p>	<p>Wildlife openings are planted on a rotation to provide forage for a diverse assemblage of animals. Road maintenance is discussed in the Infrastructure Section.</p>

I feel that the first two opening days of dove season need to be changed to permit only. The amount of hunters confined to such a small area is EXTREMELY unsafe. i feel as if it is a matter of time until an injury results unless a permit system is in place that would restrict the number of hunters the two first opening days. I rode down Shaw highway as well as the boat access road and was overwhelmed by the number of sportsmen standing on top of each other.

The need for a permitted dove hunt on HSGL will be explored.

Appendix XI. Final Draft Public Review Comments



North Carolina Department of Environment and Natural Resources

Office of Land and Water Stewardship

Pat McCrory
Governor

Bryan Gossage
Director

Donald R. van der Vaart
Secretary

January 16, 2015

Richard Clark, Management Biologist
Holly Shelter Game Land

RE: Holly Shelter Game Land Management Plan

Dear Mr. Clark:

The North Carolina Natural Heritage Program appreciates the opportunity to review the draft Holly Shelter Game Land Management Plan. We also welcome a continued partnership with the NC Wildlife Resources Commission (WRC) as it moves forward to implement the management plan.

The presence of Dedicated Natural Areas on the game land calls for special management in these areas, and we appreciate the recognition of specific management practices as appropriate or inappropriate for the primary areas. We do note that much of the game land is not dedicated, and as you know contains abundant rare species and exemplary natural communities. The Natural Heritage Program (NHP) appreciates that the identified management strategies for these areas – actions such as the (more frequent) three-year prescribed burn rotation for longleaf pine forests, and rehabilitating plowed fire lines in ecotones -- are favorable to maintaining viability of these species and habitats, and that the goals and measures of success in the plan include maintaining quality habitat across the game land to sustain or restore rare species populations. We also appreciate that game land managers currently ensure that not all of one type of habitat is burned at any one time as well as allow time for recolonization before burning the remainder, and encourage the practice to continue.

NHP staff was pleased to see that the draft plan repeatedly notes the importance of biological inventory and monitoring, and we would be willing to provide species data, and to assist with collecting data for some elements of natural diversity. As noted in earlier comments, we would recommend monitoring the effects of burning for selected species, especially highly endangered species such as *Papaipema eryngii*, *Hemipachnobia subporphyrea*, and *Catocala grisatra*. We would also recommend some form of regular monitoring of rough-leaf loosestrife (*Lysimachia asperulifolia*) and Venus flytrap (*Dionaea muscipula*), both as indicator species for management of savannas and flatwoods, as well as for monitoring evidence of flytrap poaching and decline.

The draft did not include much mention of amphibians and reptiles, and perhaps there is an overall lack of available data. On this note, we would encourage the stated intent to enhance habitat conditions at one borrow pit, and would support further efforts to improve conditions at other borrow ponds. If there were to be a list of Priority species for these habitats, we would recommend that it include Carolina Gopher Frog (*Lithobates capito*) and Chicken Turtle (*Deirochelys reticularia*). There are some plants that occur on the edges of small wetlands, such as small butterwort (*Pinguicula pumila*) and Venus flytrap, that would also be good measures of success for small wetland communities.

NHP staff did note a few discrepancies in the plan, including some target species for the different habitats. Henslow's sparrow (*Ammodramus henslowii*) is mostly in wetter places, so it may not be a good indicator for dry longleaf pine savanna. It was suggested that perhaps it is not necessary to separate the wet and dry longleaf pine savannas. Also, the current status of Henslow's sparrow is Special Concern.

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For loblolly/slash pine plantations, staff recommended against using Cooper's hawk as an indicator species. It was suggested that Bachman's sparrow, with fox squirrel and red-cockaded woodpecker, would be good indicators of success for the loblolly/slash pine plantations in the long-term, as the natural habitat is restored to those sites. Georgia satyr (*Neonympha areolatus*) was suggested as a good savanna indicator, as it is habitat-specific, and not difficult to identify. In regards to floodplain forests, NHP staff would recommend against using Mississippi kite, Eastern woodrat and Northern yellow bat as indicators, as Holly Shelter is outside their known range. For the same reason, Southern bog lemming would not be a good pocosin indicator. Prairie warbler (*Dendroica discolor*) would be a good indicator species for pocosin habitats, if it is a priority species.

The plan did call for investigation of new roads into parts of the game land currently without roads: Access to eastern portion of game land off of Juniper Creek Road; and, Access to western portion of game land off of New Road. The draft indicates the construction challenges these roads would face. It is also important to note the benefit to wildlife of large, unfragmented habitats, and we would ask that these biological considerations are weighed in decision-making.

The draft calls for an inventory of ditches, which would be helpful information. Assessing the hydrology of extensive peatlands has taken on increased importance, in light of recent wildfires in North Carolina. We would recommend keeping the Holly Shelter Game Land pocosin close to natural hydrology; that is likely close to saturated most of the time.

Page 13 should be "Dedicated" not "Designated" nature preserve. In regards to Open Land/Early Successional Habitats, we support the approach that the draft outlines to maintain open habitats, and we would request that care be taken in powerlines so that no plantings of annual and perennial forage occur where rare plant species are present.

We appreciate the ecosystem management approach that the WRC has historically applied to managing the Game Lands and encourage WRC to continue with this management philosophy, especially as natural habitats across North Carolina are degraded, and habitat fragmentation increases. Maintaining high-quality examples of North Carolina's natural ecosystems is important for native wildlife - including rare species - and for the citizens of our state.

Maintaining the integrity of natural areas and connectivity for wildlife within the Game Lands will provide a much greater opportunity for North Carolina's native diversity to remain viable. Thank you for your contribution to the conservation of our natural resources in North Carolina. Please contact me or other NHP staff if you have any questions, or would like additional information.

Sincerely,



Scott Pohlman

Plan response: The NCWRC appreciates the partnership it has with the North Carolina Natural Heritage Program. Suggestions were addressed in Plan.



Steven W. Troxler
Commissioner

**North Carolina Department of Agriculture
and Consumer Services**
N.C. Forest Service



Scott Bissette
Assistant Commissioner

1/16/15

To: NC Wildlife Resources Commission Staff
From: Sean Brogan, NC Forest Service
Director of Forest Management & Development
919-917-5202 sean.brogan@ncagr.gov
Through: David Lane / Scott Bissette
Re: Input on NCWRC Draft Gamelands Management Plans

To Whom it May Concern:

The following input is respectfully submitted for your consideration as it relates to the NCWRC's draft Gamelands Management Plans. These recommendations were offered by our fieldstaff after their review of the documents. Please contact me if you have any questions or if there are any matters where collaboration of our two agencies is warranted.

Best Wishes,

Sean Brogan

Sean Brogan

Recommendation #1:

Several of the Management Plans (ex. Holly Shelter and Suggs Millpond) indicated that acres would be considered “restored” once they had been planted with a certain species (ex. longleaf).

NCFS staff recommend that prior to calling such acreage “restored”, a survival count inspection is conducted to confirm that an acceptable number of trees per acre survived.

Recommendation #2:

The Holly Shelter Plan calls for the creation of four new large burn units (greater than 200 acres) in Pocosin type fuels using grinding or chopping methods.

NCFS staff had some concerns about groundfire in the areas described. In such Pocosin areas, our Agency recommendation would be for such fuels to be evaluated ahead of time through a joint NCWRC – NCFS onsite meeting. NCFS County Rangers would typically be the local NCFS point of contact for such a request.

Recommendation #3:

At least one of the Plans (Suggs Millpond Plan) discussed conducting prescribed burns without installing firelines in ecotones. While the NCFS recognizes the ecological importance of ecotones, staff noted some concerns with prescribed burns that would be allowed to burn into Pocosin fuels rather than be contained by installed firelines.

NCFS staff emphasized the benefits of reviewing each prescribed burn on case-by-case basis, where soils, fuels, weather parameters and other factors were taken into consideration prior to deciding on whether or not to use an ecotone as a firebreak. There may some scenarios where fireline installation is warranted.

Recommendation #4:

Pages 117-124 of the Holly Shelter Plan contains the MOU your Agency has with the DENR / Division of Forest Resources. This MOU is dated 12/18/08 and states it is good for a 5-year period from the date of the last signature (thus, it has expired).

I believe this cited MOU is the most recent agreement between our agencies. We recommend this issue be reviewed, and consideration be given to creating an updated MOU between the NCWRC and NCFS.

Recommendation #5:

In Gamelands where much of the forest management approach is to “let it grow” (ex. bottomland hardwood stands in the Lower Roanoke Plan), it is recommended that annual inspections of the forest be conducted in order to more quickly detect insect / disease outbreaks. NCWRC staff should collaborate with local NCFS staff in the event that such issues arise and forest management technical assistance would be helpful. The NCFS also has Forest Health Specialists and Central Office staff that can provide advanced assistance if required.

Plan response: Response to recommendation #1; Addressed in Plan. Response to recommendation #2; Field Staff have met with NCFS personnel regarding potential prescribed burning operations in pocosin type habitats. Response to recommendation #4; Field Staff provided comments in 2013. Both agencies should work towards an updated MOU.
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FINAL DRAFT COMMENT	PLAN RESPONSE
<p>Whats the chances of Equestrian trails on the Game LANDS , a lot of riders need places to ride pleas consider us</p>	<p>Addressed in plan.</p>
<p>Comments on the Holly Shelter Game Land Draft Management Plan</p> <p>The management plan is overall a very good vision for this important land. It is a very important core area of conservation of natural communities and species and that should remain the most important focus for management decisions. My comments are brief:</p> <ul style="list-style-type: none"> • The plan’s attention to maintaining the natural ecotone between the longleaf savannas and surrounding pond pine communities is to be commended. Hard firelines in these areas should be avoided and instead fire should be allowed, under appropriate conditions, to push into the pocosin area from the ridges. • The stated fire return interval for pine savannas under the plan is 3.0 to 3.5 years. A more appropriate interval is 1.0 to 3.0 years with effort to mix the interval up for sites. • Another positive statement in the plan is that of investigating and considering the hydrological impacts of the ditch and drainage system of Holly Shelter. An infrastructure goal should be to establish a network of controlled risers within the roadside ditch system that would allow better control of the water levels within blocks. This would help in blocks where prescribed burning is planned and in areas at risk of wildfires. All ditches negatively affect the hydrology and care must be taken when clearing out roadside ditches to balance road maintenance with natural hydrology maintenance. • It is commendable that the plan includes large blocks of pocosin to be prescribed burned. Pocosin does burn naturally and did so much more frequently than many believe. Areas close to longleaf ridges perhaps burned every 3-8 years with some sites being dominated by cane (Arundinaria) underneath pond pine. Effort should be made over time to increase the extent and frequency of prescribed fire in pond pine and pocosin communities. The Juniper Road wildfire presents a unique opportunity to burn long-suppressed sites using the burn area as a break. This opportunity will disappear as the Juniper Rd. burn area revegetates. More attention to pocosin burning will lessen the catastrophic effects of future wildfires. • Any new roads should be constructed to minimize hydrological impacts to newly opened areas. They should 	<p>NCWRC appreciates these comments from TNC.</p> <p>Currently WRC is working with NCFS to meet most goals and objectives presented in these comments. This includes a potential pocosin burn during the winter of 2015-16, as well as increased use of aerial ignition which would allow field staff to greatly increase acres burned and the reduce the fire return interval.</p> <p>Initially we would like to evaluate our ability to manipulate water in the pocosin, and eventually, add flashboard risers to this area. This is further explained in the pocosin Habitat Section.</p> <p>New road construction will be heavily scrutinized. Any adopted would serve multiple purposes.</p>

<p>be planned to serve as firebreaks for future prescribed burns.</p> <ul style="list-style-type: none"> The budget page lists only and average of 1,200 acres burn per year. The extent of prescribed burning should be larger with the objective of increasing it over time until all natural communities in the game land experience routine fire at an appropriate interval. This means increasing the frequency on longleaf ridges and reintroducing fire into pocosin communities. Finally, The Nature Conservancy maintains 3 preserves that adjoin Holly Shelter. TNC will cooperate with WRC to conduct joint burning and other management activities that benefit the natural communities. 	
<p>Trapping is not listed as a separate public use activity? However, the game lands mission statement lists trapping as a primary public use. Why has trapping not been included? Please add a section on trapping to follow the game lands mission statement, especially in light of the increasing human population requesting additional use activities. Recreational trapping also helps management deal with increasing problems associated with increasing furbearer populations like beaver that dam waterfowl impoundment structures costing the WRC and taxpayers money.</p>	<p>Take of furbearers, by trapping, is addressed in Information Needs Section. Trapping listed in Public Uses Section</p>
<p>Good Evening,</p> <p>After reading the proposed Game Land Plan for Holly Shelter Game Land I would like to provide the following comments and questions as feedback.</p> <p>Waterfowl Impoundment</p> <p>The Lodge Road Waterfowl Impoundment encompasses approximately 206 acres however, only 15 acres are planted in food for watefowl and wading birds. Considering the likelihood of increasing its size being slim at best I as well as many other hunters would like to at least see the amount of acreage planted increased significantly. Comparing this impoundment to the Catfish Lake Impoundment located in Croatan National Forest may not be the best comparison however I will anyway. The Catfish Lake Impoundment is obviously larger, at 800+/- acres however, a greater percentage of it is planted to benefit the wildlife. I'm no biologist but I would think adding planted acreage to the Lodge Road Waterfowl Impoundment will most definitely increase the appeal to wildlife.</p> <p>Proposed Borrow Pit</p> <p>The one new proposed borrow pit, how large will it be?</p>	<p>Addressed in plan</p>

<p>What will its proximity to the waterfowl impoundment be? I ask these questions because if it was constructed close enough it could offer more waterfowl hunting opportunities.</p> <p>Waterfowl Hunter Survey I really like the idea of the hunter waterfowl survey, I think this would greatly increase the information regarding how many and what species of birds are harvested.</p> <p>Greentree Reservoir</p> <p>Upon wading through and studying aerial images of the Greentree Reservoir it is apparent that it lacks any sort of sizable openings in the canopy. While we know that wood ducks use this area very heavily as a feeding area and a sanctuary during the day after flying off the Lodge Road Impoundment and various swamps on the NE Cape Fear River I feel that it is not advantageous to hunters at all due to the close confines. I would propose that during the drawdown period in spring and summer that some trees be selectively removed. I am in no way advocating that vast areas be cleared but it would be nice if there were some areas that provided larger openings in the canopy. This could influence more migratory waterfowl to use the area. Furthermore the sale of the mostly hardwoods removed could offset a portion of the cost as well.</p> <p>Please feel free to contact me with any questions or comments.</p>	
<p>The HSGL draft is weak with respect to addressing a number of important issues that need to be defined before something worse than target shooting settles in at HSGL or someone gets hurt due the present unsafe situations. The following are a list of items that I feel need to be addressed or defined in a stronger manner.</p> <ol style="list-style-type: none"> 1. What are the qualifications or requirements of a Game Land user as defined by HSGL? 2. What are the acceptable uses of the Game Lands as defined by HSGL? 3. What is the HSGL monetary plan / strategy to help support additional Game Land users such as the Non-Traditional users ? 4. What is the HSGL plan to have all Game Land users share the cost and help pay for HSGL and not just the hunters and trappers? 	<p>Addressed Throughout Plan.</p> <p>Comment 1; No formal qualifications or requirements currently exist on any GL with the exception of a valid hunting, fishing, trapping license and Game Lands Use Permit.</p> <p>Comment 2; Addressed in Public Use Section</p> <p>Comments 3, 4, 7; These are program wide issues not directly covered in this plan. Comments are noted.</p> <p>Comments 5; Safety is always of utmost importance. Signs posted at HSGL entrances suggest that all GL users wear hunter orange while on the Game Land.</p> <p>Comments 6, 8, 9; Target shooting is now prohibited on HSGL. Once the Range is open, all target shooting will be restricted to that site. Geocaching is now restricted to non-hunt days.</p>

5. Safety should be utmost important at HSGL and especially during the hunting season. It is my suggestion that all Game Land users that enter HSGL be required to wear orange !

6. Non-traditional qualified recreational users should not have access to HSGL during the hunting and trapping season dates in order to assure safety and avoid conflict. Please note,I have stopped bird hunting on numerous occasions in HSGL because of heavy target shooting from multiple locations. This unsupervised and unregulated target shooting has created an unsafe situation for all game land users.

7. All qualified Non-traditional game users should be required to obtain a Game Lands License and anyone who enters HSGL should be required to have a Game Lands License.

8. Target shooters should be required to obtain a NC hunting License and a Game Lands License and be required to take and pass the NC Hunter Education Course.

9. Horseback riding comes far closer to being an activity that supports HSGL natural resource management plan than a Geocatcher or a Target Shooter. The Geocatcher rides through HSGL hiding small plastic containers next to the roads which contain a specific GPS location, so that multiple Geocaching parties from all over the USA can travel here and find those very containers and place their identification inside the container. All that is contributed to HSGL is the containers are left behind as litter until the next burn cycle at HSGL . On the other hand ,The Target Shooters have devastated the forest, run the wildlife from its' protective environment, discouraged and blocked HSGL access to the Tradition Users and made HSGL sound like a gigantic cluster of military firing ranges, 7 days a week., They have butchered and killed many of its' trees and left behind an eye sore of garbage and destruction for some else to cleanup and deal with. I invite all of you out to see the results and devastation left behind by these Non-Traditional Target Shooters. At least the objective of the horseback rider is to enjoy the fresh air, the forest and Mother Nature and not purposefully destroy any part of HSGL. This is a far cry from the objective of the Geocachers and the Target Shooters !

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I have been very disappointed this year with HSGL / NC

<p>Wildlife Commission (NCWC) and its' total lack of visibility within the Game Land. I felt that the Licensed Game Land users were left to fend for themselves purposefully with respect to the Target Shooters which have caused devastation to the forest, enormous safety concerns and blocking of HSGL access points to the Game Land. HSGL / NCWC needs' to be more proactive and should of set up enforced rules that best protect and support the HSGL, rather than have to wait for a political correct decision from above or a revision to the HSGL Management Plan. Target shooters should have been addressed and shut down by HSGL starting from day one. Target shooters have made HSGL unsafe and are an insult to the Game Land. The Target Shooters have greatly discouraged the paying hunters and trappers that actually respect and help support HSGL.</p> <p>I hope that my feed back will be taken in a positive manner as it has been intended. Change is very difficult to stomach and sometimes hard to get ones hands around. But, Target Shooting inside HSGL is not a positive change and we all need to address it quickly and as it stands and not try to adopt it or sometime like it, since it will only negatively impact the well being of HSGL.</p>	
<p>This is in response not only to the game lands listed but for all. One thing that seems to be burdened on the sportsman using the game lands is that they are the only ones required to pay a use fee. I do not have problem with that at all but believe that all recreational users of game lands should be required to purchase a "habitat stamp". Sportsman do that through licensing requirements but others (hikers, mountain bikers, campers, horseback riders, etc) are using these lands and are for the most part having the most negative impacts to trails and campsites. With budget cuts not going away, the only way to sustain the quality that users expect is to have those same users pay their fair share to maintain these areas. Western states have already adopted this idea and it seems to be working.</p>	<p>This is a statewide issue not directly covered in this plan. Comment is noted.</p>