

Stones Creek Game Land Management Plan



2016 – 2026

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

Stones Creek Game Land is 3,450 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. Stones Creek Game Land occurs exclusively in Onslow County, NC and lies within the White Oak River basin. Land acquisition began in May of 2003 with the purchase of the 2,400 acre Beck Tract. Land acquisitions continued through 2007. Stones Creek Game Land is managed for its primary users which include hunters, trappers, anglers, and wildlife viewers. Priority species include white-tailed deer, eastern bobwhite quail, wild turkey, and the red-cockaded woodpecker. In addition to the primary users, there are an increasing number of non-traditional users on Stones Creek Game Land which include hikers/walkers, geocachers, horseback riders, researchers, and target shooters, etc. Five primary habitat types occur on Stones Creek Game Land. The largest of which is the plantation habitat which covers nearly 50% (1990 acres) of the 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 sustainable 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 Stones Creek Game Land (SCGL), 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 that a comprehensive management program is administered on SCGL. 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 nearby Holly Shelter Game Land 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 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.

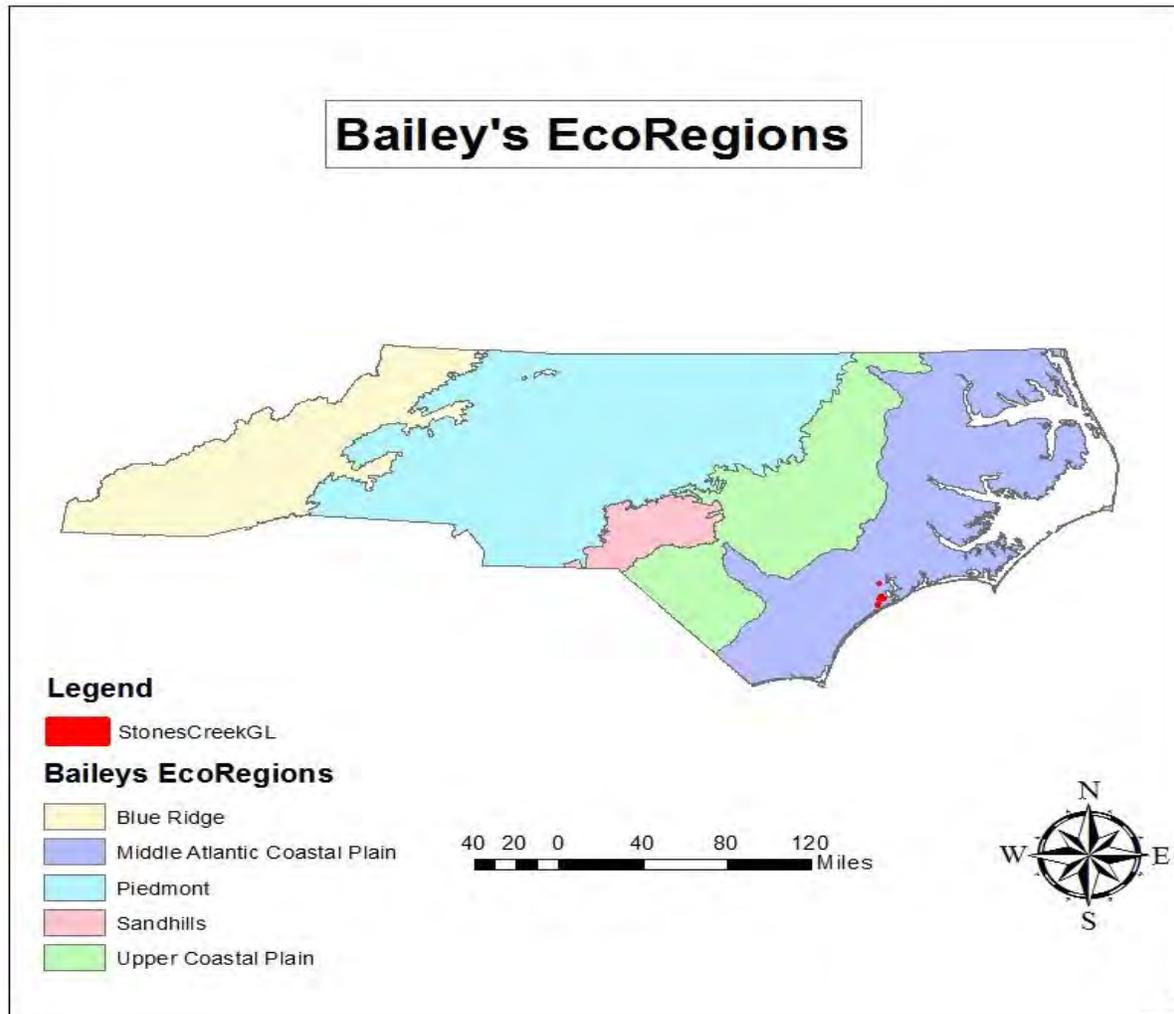
A development team, natural resource stakeholders, and the public have provided input to achieve a “Desired Future Condition” within the 10 year planning horizon. This will be a living document which may be amended as needed.

REGIONAL CONTEXT

Information on Eco-Region

Stones Creek 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: Eco-regional delineations in North Carolina (data source: NC GAP; ecoregions as defined by Bailey (1995))

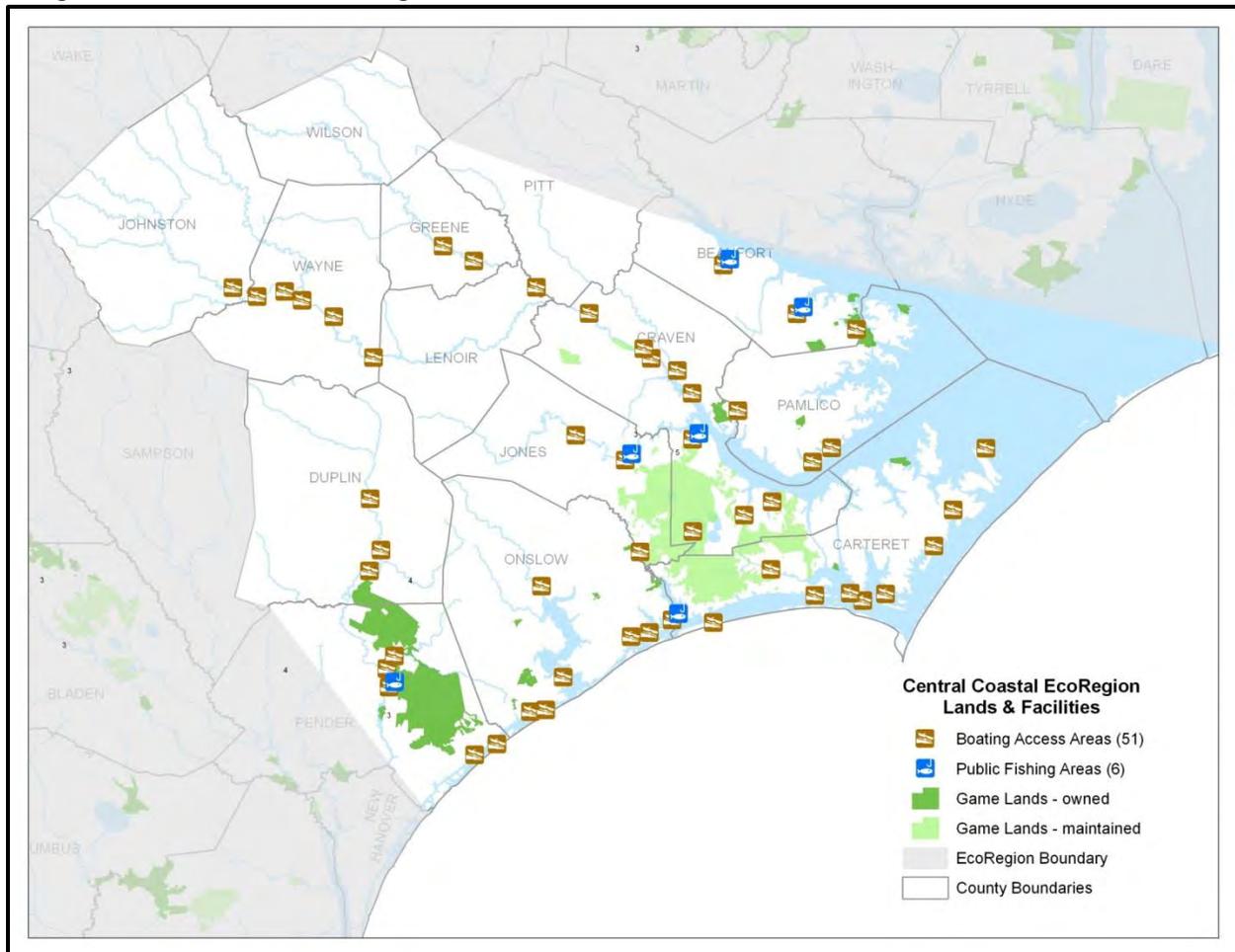


In North Carolina, a huge diversity of fish and wildlife habitats exist across the three distinctive regions of the state: the Coastal Plain, the Piedmont, and the Mountains. These regions fall within larger Eco-Regions that span state borders and link North Carolina to neighboring states. Elevations 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, Stones Creek 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 the management of 116,198 ac. within 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 which are maintained twice/yr. Four depots are located within the Eco-Region; Holly Shelter, Chinquapin, Rhems, and New Bern (*Figure 2*).

Figure 2: Central Coastal EcoRegion.



Role and Importance of Stones Creek Game Land

Stones Creek Game Land serves several important roles within its Eco-Region. By obstructing residential encroachment, SCGL functions as a noise buffer for MCB Camp Lejeune. This land also provides for the preservation and enhancement of several critical habitats; principally early successional habitats and long leaf pine savanna through continued restoration efforts. Ultimately this restoration effort will help to increase RCW numbers to achieve acceptable numbers in the Eastern NC core population. Also, as a role being in the GL Program, this property preserves soil and water integrity, and provides for many outdoor related activities described further in the Public Uses Section.

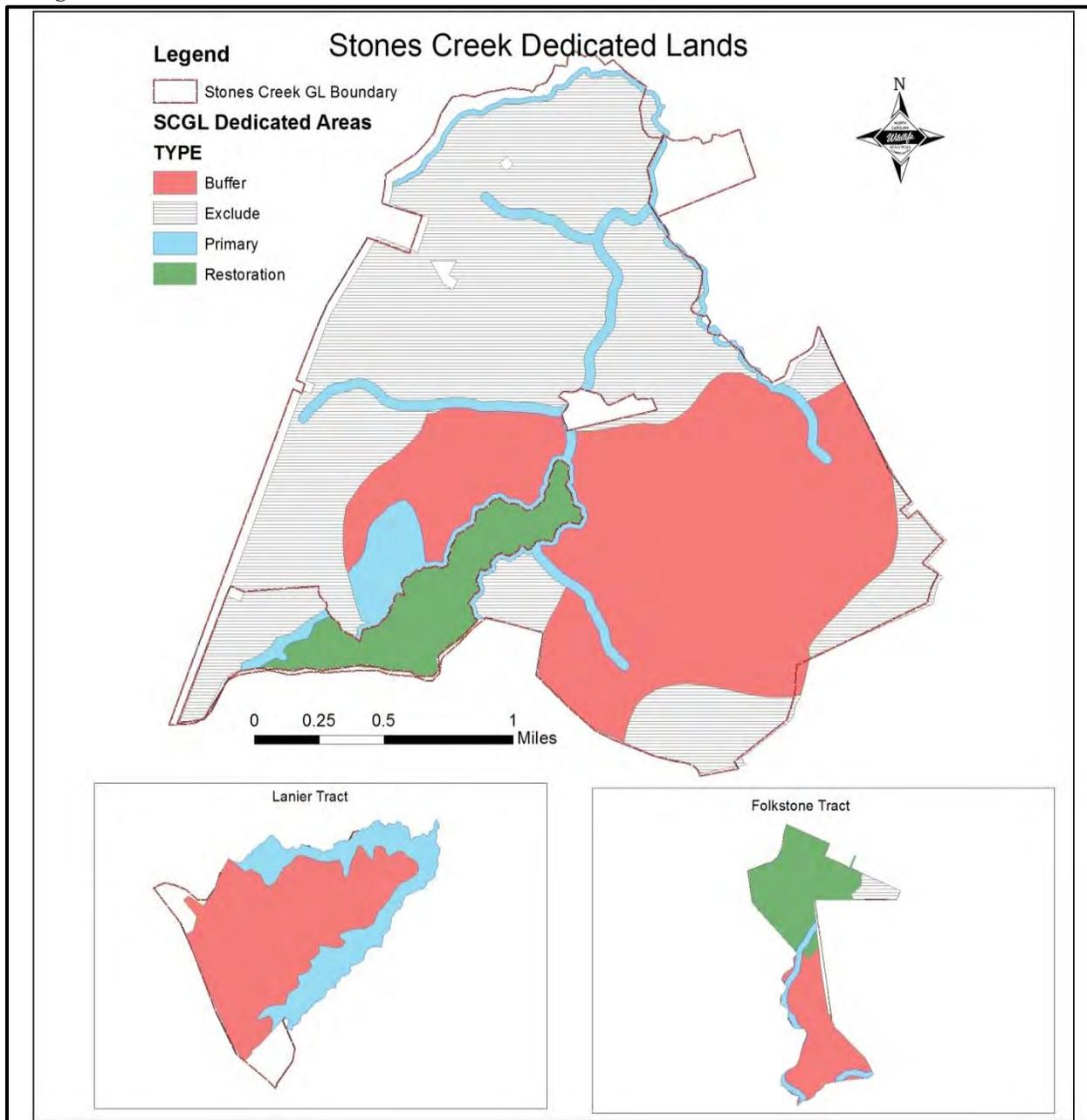
Partnerships and Collaborations

The Game Lands Program is vital to many conservation efforts and partnerships within the Central Coastal Eco-region. Stones Creek's proximity to other protected or managed areas of natural heritage significance, i.e. Marine Corps Base (MCB) Camp Lejeune, and other protected lands such as The Sandy Run Savanna (*Figure 3*) provide for the preservation of land containing, or potentially containing, rare, threatened and endangered plant and animal communities, i. e. red-cockaded woodpeckers and longleaf pine flatwoods and savannas.

We are also fortunate to partner with local and state chapters of our Sportsmen groups; namely Southeast NC Quail Forever and the NC Chapter of The National Wild Turkey Federation. These groups have provided essential funding for the creation and maintenance of early successional and longleaf pine savanna habitats.

NCWRC enjoys a long-standing alliance with the USDA, 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 i.e. SCGL, 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 (*Figure 4* and *Appendix XII*).

Figure 4: Dedicated Lands on Stones Creek Game Land.



Additionally, SCGL is located within the Onslow Bight Conservation Forum Landscape. This Conservation Forum, initiated in 2003 and administered by The Nature Conservancy, is currently served by individuals from 17 partner agencies. These natural resource professionals facilitate land acquisition, project funding, and other conservation related activities within the Onslow Bight Landscape (Figure 5).

Another critical partnership is the NCWRC's relationship with the North Carolina Forest Service. This standing alliance has allowed for the creation of a Memorandum of Understanding

(Appendix III) to address issues regarding levels of response and cooperation between agencies during wildfire events.

Figure 5: Stones Creek Game Land in the Onslow Bight Landscape Boundary.



Adjacent and Use

According to current zoning records, lands in Onslow Co. are listed as residential, rural residential, industrial, agricultural/forested, or conservation/protected lands (figure 6). Populations continue to grow nationwide. Coastal Carolina is no different. Data from the Onslow County Planning and Development Department show the County population has grown 36.5% from 150,355 individuals recorded during the 2000 National Census to 190,187 persons estimated in 2012. The County population is expected to increase to 240,728, another 26.5%, by the year 2025 (Onslow County Planning and Development, 2014). This projected population increase is shown in figure 7, by increased urban development, and will likely have adverse effects on our ability to effectively manage lands enrolled in the Program.

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

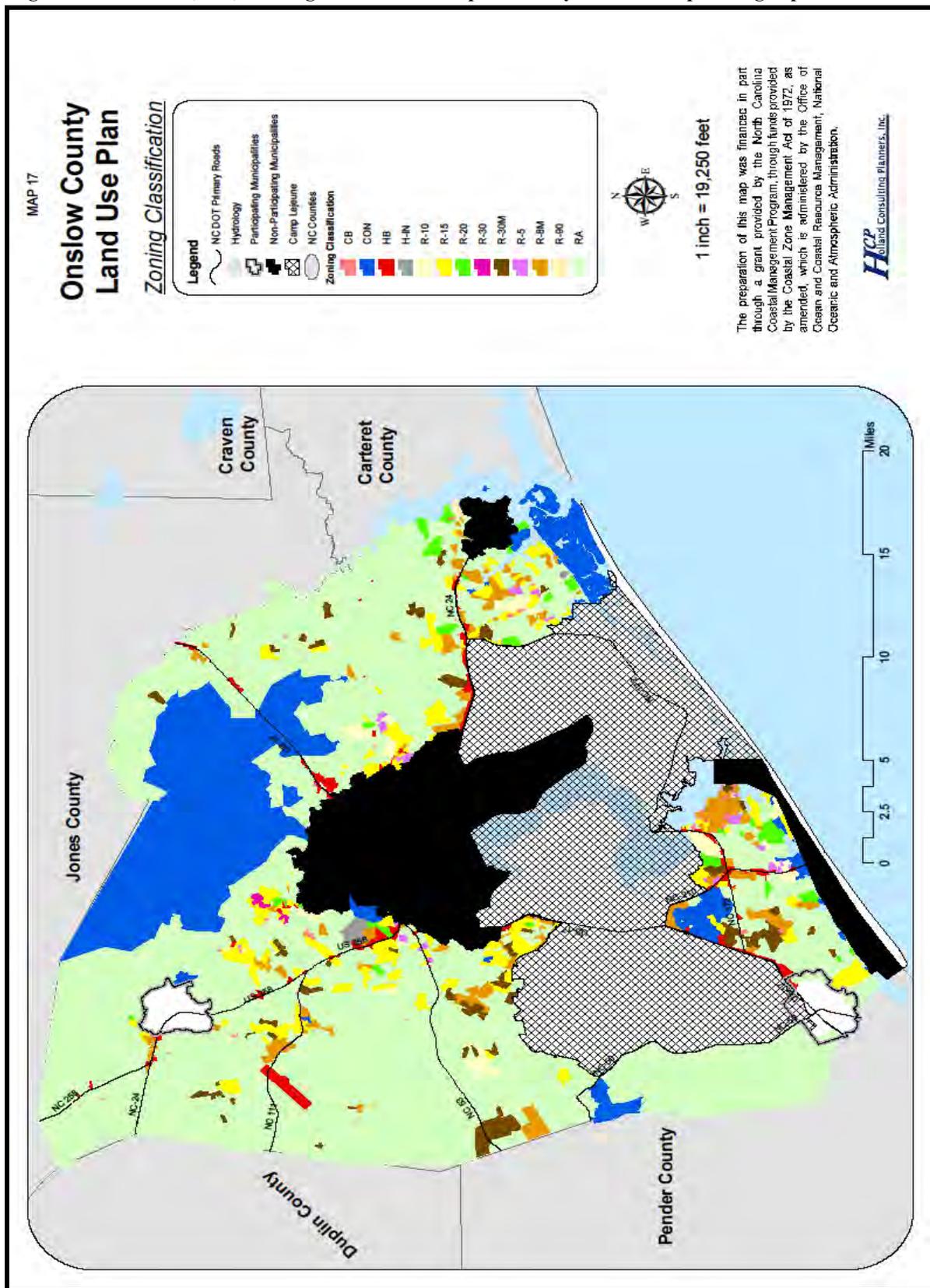
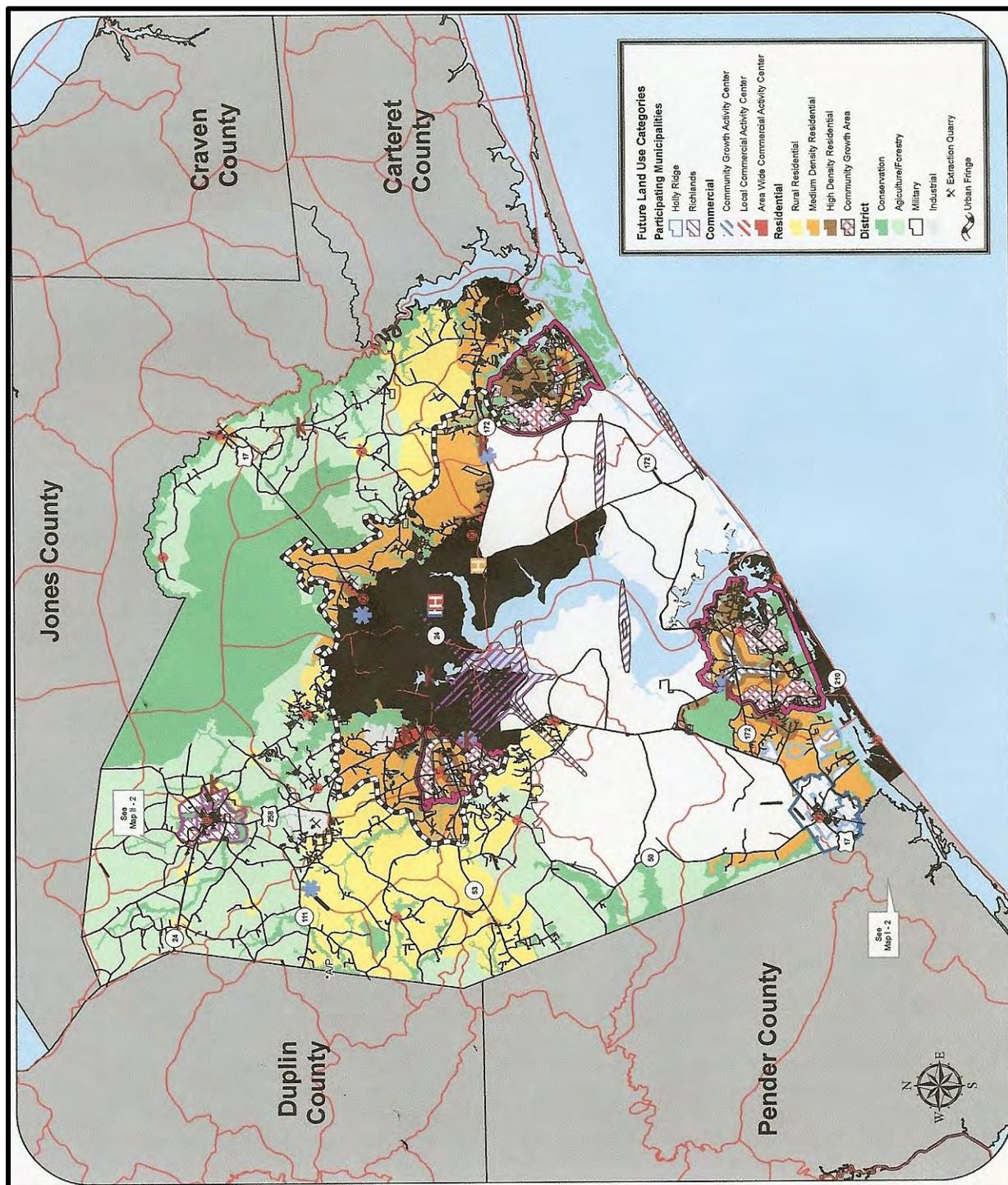


Figure7: Expected Future Land Use. Map provided by Onslow Co. planning department.

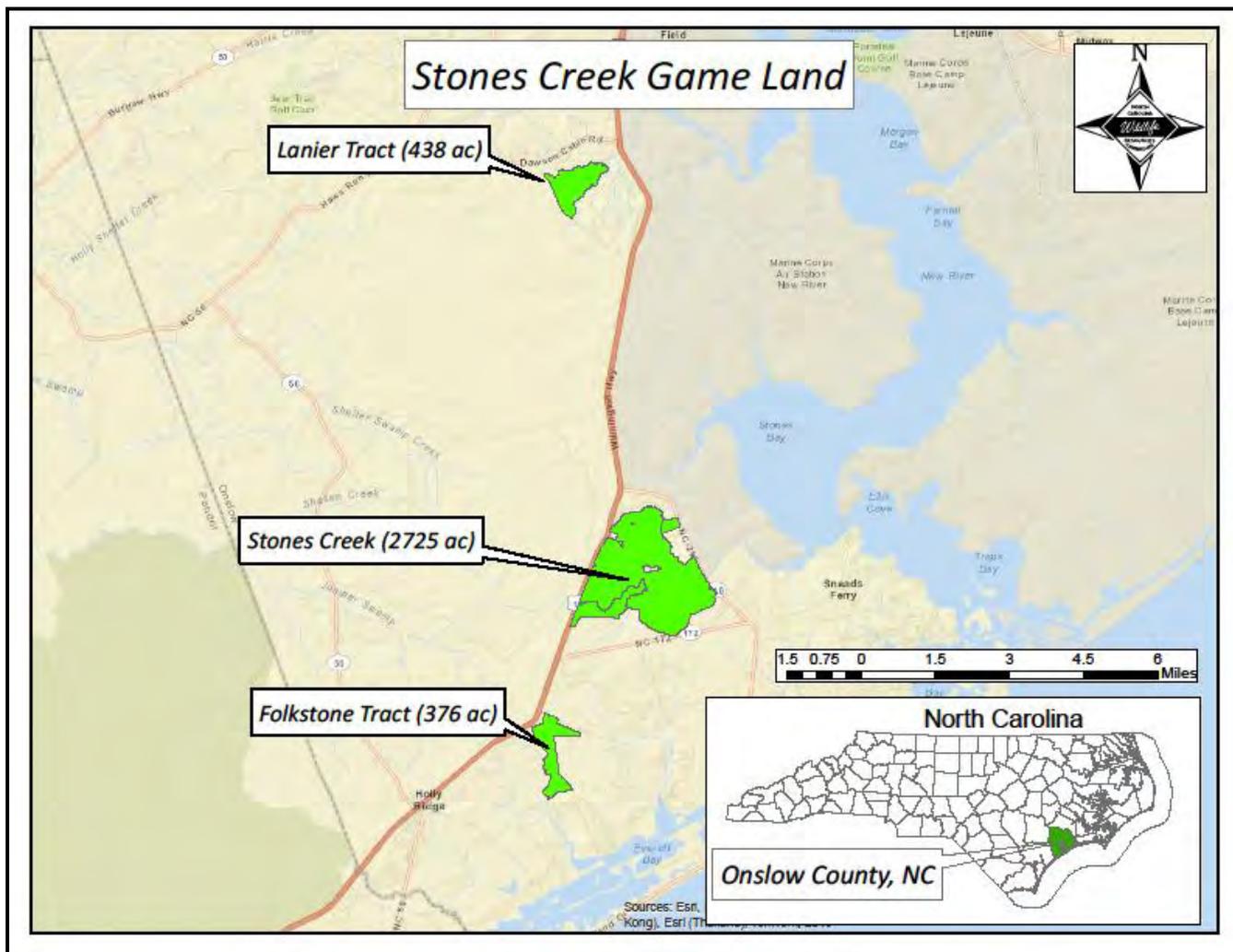


GAME LAND SPECIFIC INFORMATION

Location

Stones Creek Game Land's three distinct tracts; Lanier, Beck, and Folkstone are located wholly in Onslow County, NC (Figure 8). The Game Land was named after Stones Creek which runs game land's interior draining into the New River. The game land is generally adjacent to US Hwy 17 just to the South and West of MCAS New River. All tracts combined total 3,450 acres.

Figure 8: Stones Creek Game Land area map.



Cultural Resources

North Carolina is not only known for its natural history, but also its rich historical/cultural resources. Archaeological sites likely occur on SCGL that could provide tangible evidence of the varied use of the property by the past residents of the area. Because these sites can be easily damaged, unauthorized artifact collecting activities on all state owned property including NCWRC owned lands are prohibited by the Archaeological Resources Protection Act (G.S 70 Article 2) (*Appendix IV*).

Physical Attributes

Climate

SCGL's climate is characterized by hot humid summers with temperatures exceeding 95 degrees with a record high of 104 degrees on 6 June 1990. Winters are moderate, with temperatures rarely going below 20 degrees with a record low of -2 degrees on 25 December 1989. Average first frost is 24 October. Average last frost is 22 April giving approximately 181 growing days. Average precipitation is 56.4 inches/year with a record rainfall of 15.25" in one 24-hour period occurring on 19 September 1955. Snowfall is rare, on the average, less than 3 inches per year with a record of 20 inches on 3 March 1980 (SCONC¹).

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 10 miles per hour (USDA, 1992). Due to SCGL's proximity to the Atlantic Ocean, approximately 3.0 miles from the Game Land's Geographic center, the 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.

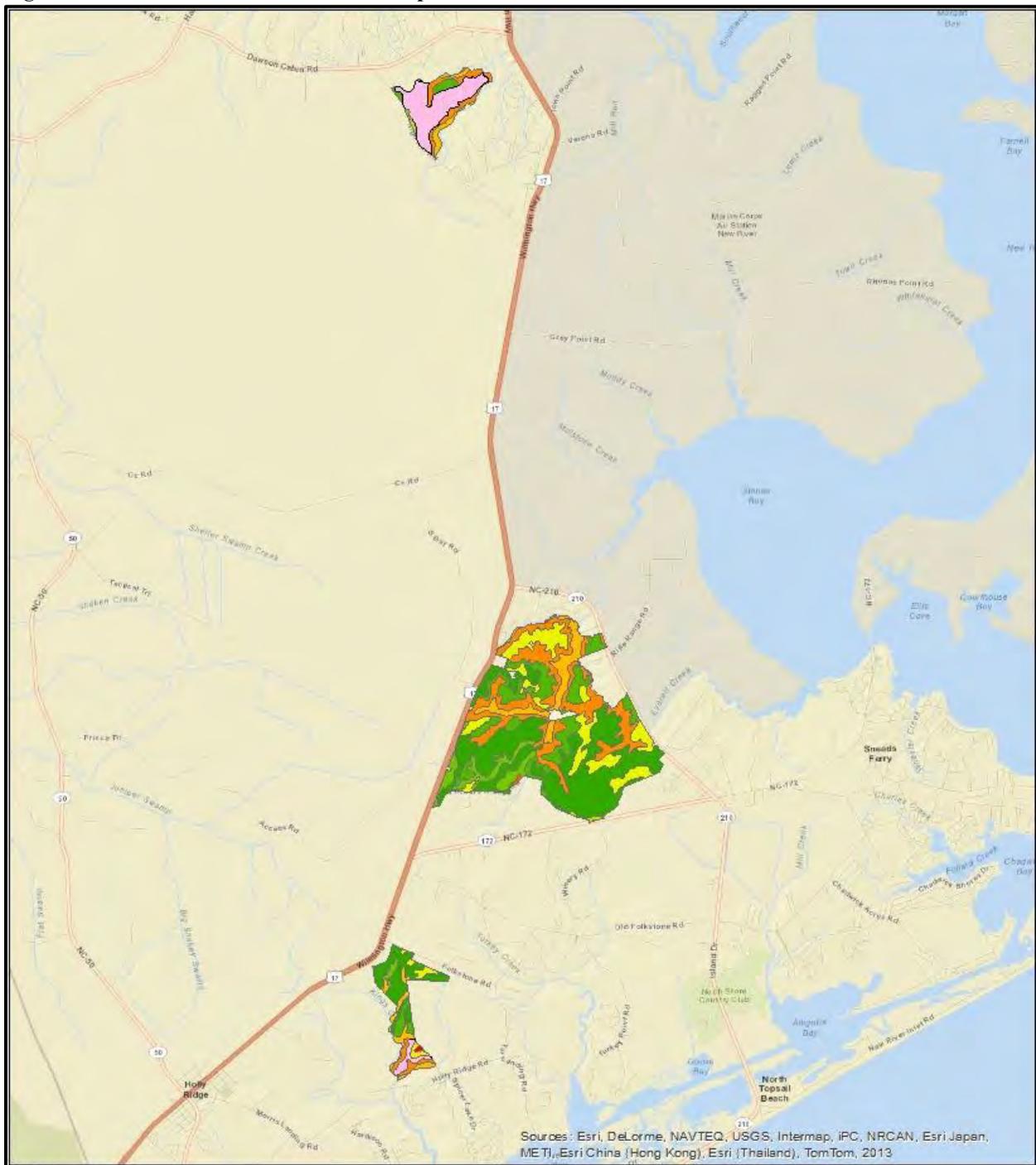
North Carolina is outside the principal tornado area of the United States, but still averages two to three per year. They occur mostly east of the Mountains during early spring (SCONC²).

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 (SCONC²).

Soils

Elevations of Onslow Co., NC range from sea level to approximately 63 feet above sea level (Onslow County, 2013). Twelve soil types occur on SCGL (*Figure 9*). The most abundant soils, 63%, are ones of the Fine Sand varieties. Baymeade, Kureb, Leon, and Murville sands are predominant varieties. Loamy fine sands account for 30% of the soil types present on SCGL. Other soil types present are Goldsboro Fine Sandy Loam ~2% and Muckalee Loam ~8% (USDA, 1992).

Figure 9: Stones Creek Game Land soils map.



Legend

 Baymeade fine sand 462 ac.	 Leon fine sand 1165 ac.	 Norfolk loamy fine sand 290
 Foreston loamy fine sand 15 ac.	 Marvyn loamy fine sand 700 ac.	 Onslow loamy fine sand 4 ac.
 Goldsboro fine sandy loam 13 ac.	 Muckalee loam 280 ac.	 Stallings loamy fine sand 4 ac.
 Kureb fine sand 417 ac.	 Murville fine sand 175 ac.	 Woodington loamy fine sand 3 ac.

Hydrology

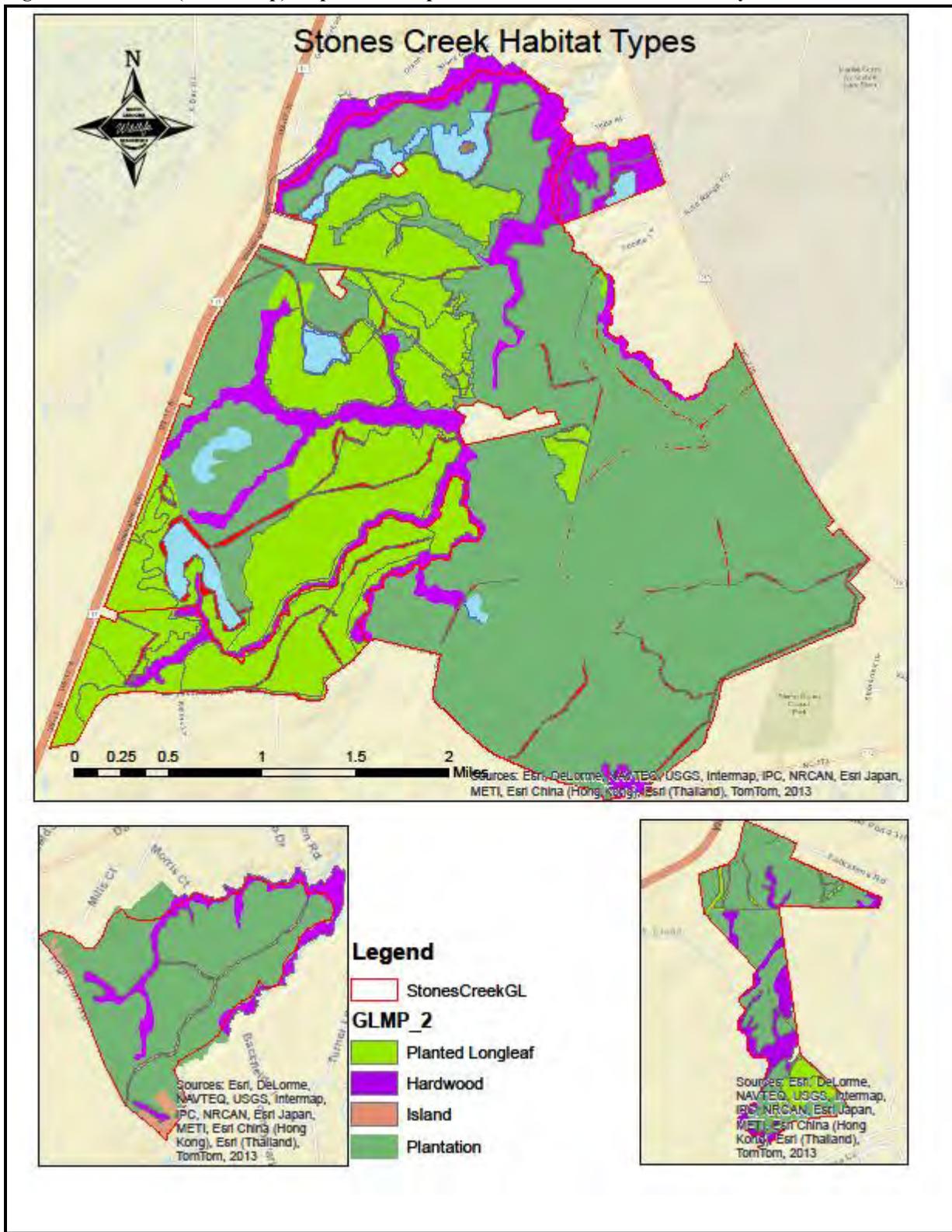
Stones Creek Game Land occurs in the White Oak River Basin, which comprises 1,263 square miles, with 277 stream miles. Four counties, Carteret, Craven, Jones, and Onslow, comprise this river basin. Only 4% of the freshwater streams are impaired, while 10% of the saltwater resources are impaired. Much of the impairment is caused by elevated fecal coliform bacteria levels. The fecal coliform comes from urban storm water runoff, failing septic systems, and agricultural activities. In addition, sediment is a problem which comes from urban storm water runoff and forestry and agricultural activities. (<http://www.water.ncsu.edu/whiteoak.html>)

Groundwater is contained in three aquifers the superficial sand, the Pee Dee, and the Castle Hayne (USDA, 1992). The superficial sand 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, 6/2014)

Habitats

An ongoing forest inventory being conducted by F4 Tech has provided the following land cover types for SCGL, Bare Ground, Mixed Pine-Hardwood, Mixed Hardwood-Pine, Planted Pine, Non-Forested, and Buildings. In an effort to remain consistent with other Game Land Management Plans and the NCWAP, the data were manipulated to rename the cover types as closely as possible to habitat classifications found in the NCWAP, 2005. Predominant habitat types on SCGL include loblolly/slash plantations 1990 ac. or 48.19%, reforested long leaf pine/early successional 770 ac. or 20.47%, hardwood 636 ac. or 15%, and ponds and lakes which account for 108 ac. or 2.60%. The remaining land cover types, roads, bare ground, island, and buildings, account for less than 4% or 124 ac. of the total acres and will not be discussed in the Plan. (*Figure 10*).

Figure 10. Habitat (Stand Map) map. Data compiled from F4 Tech Forest Inventory 2014.



Acquisition History

Initial acquisition began in 2003, with the Beck Tract. Subsequent tracts have been acquired via funding from Clean Water, Natural Heritage, and the U. S. Navy (Table 1). Numerous easements and Right-of-ways exist on SCGL. These documents may be found via the North Carolina State Property Office.

Table 1. Stones Creek Game Land acquisition history.

Grantor/Tract Name	Acq. Date	Acreage (+/-)	Purchase Price	(source of funds)
Barden/Lanier	Jul-05	437.64	2,032,000.00	CWMTE/U.S. Navy
H&M Farms	Jul-05	250.77	1,100,000.00	CWMTE/U.S. Navy
Lou Kassab	Jan-08	55.17	375,000.00	NHTF
TNC (Beck Tract)	May-03	2419.83	3,668,192.00	CWMTE/U.S. Navy/NHTF
TNC (Folkstone)	Aug-05	376.52	922,500	CWMTE

Historical Management and Use

Prior to acquisition by NCWRC, SCGL's forests were planted in slash and loblolly plantation; some of which were clear-cut to allow for residential housing. There are numerous lakes/ponds found within the Game Land which were areas used by NCDOT as borrow pits for road construction and improvement. The land was/is severely fire suppressed. Since acquisition, the NCWRC has worked with Sportsman groups and other Cooperators to initiate a burning regime and create a long leaf pine restoration program on suitable sites. As more acres are added to the prescribed burning program, further timber management and site suitable habitat restoration efforts should be executed.

Purpose of Game Land

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

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 suitable 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 sustainable 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 sustainable 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.

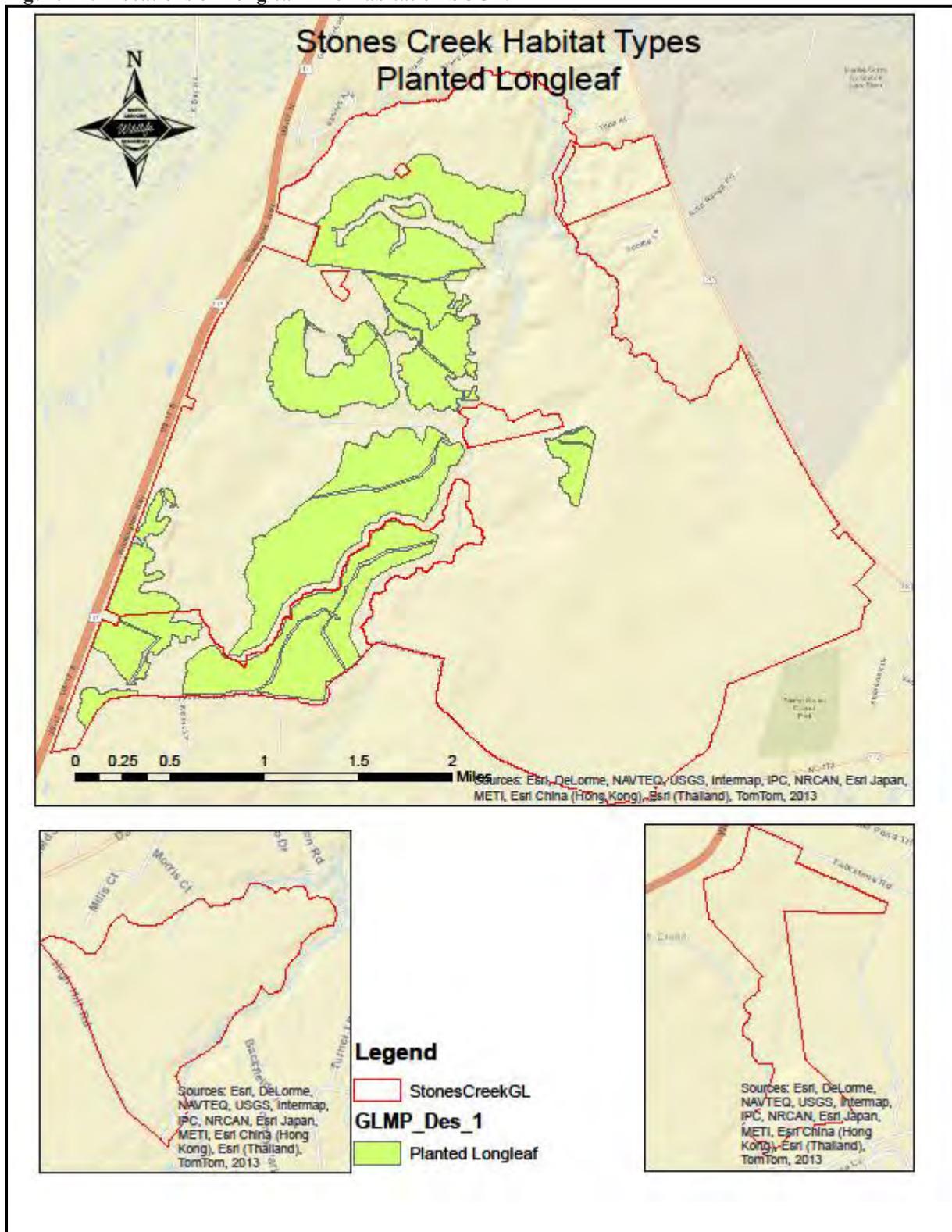
Habitat Communities

Longleaf Pine Savanna

Approximately 18.3% (772 acres) of SCGL consists of longleaf pine savannas (*Figure 11*). Different subtypes often grade into each other or occur as a mosaic on the landscape. The Coastal Fringe Sandhill occurs on the majority of SCGL.

Coastal Fringe Sandhill, dry longleaf, communities typically occur within a few miles of the coast and historically experienced frequent, low intensity fires, except in areas lacking sufficient herbaceous ground cover to carry a fire (Schafale and Weakley 1990). Common characteristics of this community include an open to sparse canopy of longleaf pine, scattered scrub oaks, abundant lichens and bare sand. Frequent fire maintains a canopy dominated by longleaf pine, an open midstory, and a diverse understory dominated by wiregrass or other grass/forb ground cover. With long-term fire suppression, scrub oaks and shrubs increase in dominance, non-pyrophytic litter buildup occurs, and changes in the microenvironment allow for invasion by more mesic species, leading to a reduction in herbaceous diversity.

Figure 11: Locations of Longleaf Pine Habitat on SCGL.



Location and condition of habitat

This cover type is newly established, with approximately 772 acres of longleaf planted on appropriate sites since 2006. The herbaceous composition of these new plantings varies from wiregrass dominated to *Andropogon sp.* and fern species on more disturbed sites. Table 3 shows priority wildlife species associated with longleaf pine 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
	Henslow's sparrow	<i>Ammodramus henslowii</i>	SR	S ₂ B, S ₁ N, G ₄
	Red-cockaded Woodpecker	<i>Picooides borealis</i>	E (E)	S ₂ , G ₃
Game animals	Eastern fox squirrel	<i>Sciurus niger</i>	SR	S ₃ G ₅
	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 proximity of smoke sensitive areas and inherent challenges they present to the application of prescribed fire is the greatest obstacle to effective management of the longleaf savannah on SCGL. Additionally, the lack of permanent fire breaks on some areas of the game land further complicates the already difficult burning conditions.

Another issue with this cover type is the lack of diversity in age classes. Prior to NCWRC acquisition in 2006, the majority of the standing timber on the western side of Stone's Creek was cleared for development. All of the longleaf restoration has taken place since the acquisition. Therefore, over 750 ac of restored longleaf stands are within 3-years of the median age, which equates to one effective age class.

Subsequently, the lack (i.e., <20 acres) of mature Pine Savanna is another challenge affecting this cover type. There are potentially hundreds of acres in the Plantation cover type appropriate for conversion into longleaf savanna. However, maintaining a forest with older age classes across the landscape during the conversion process will pose multiple problems. Loblolly and slash pines are prolific annual seeders and seedlings initiate height growth immediately. They are significant competitors in young longleaf stands and will have to be aggressively dealt with.

Also, future longleaf pine savanna stands will inherit the remnants of raised beds commonly used in pine 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, the hardwood midstory in the mature longleaf stand is a minor problem because of the small acreage and the recent prescribed burning regime.

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

The highest conservation priority in this cover type is to establish and maintain a 3-year burn rotation on all current and planned longleaf savanna. This will minimize the hardwood midstory, reduce hazardous fuel loads, and promote a diverse, pyrophytic groundcover.

Second in priority for 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 and slash pine regeneration.

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.

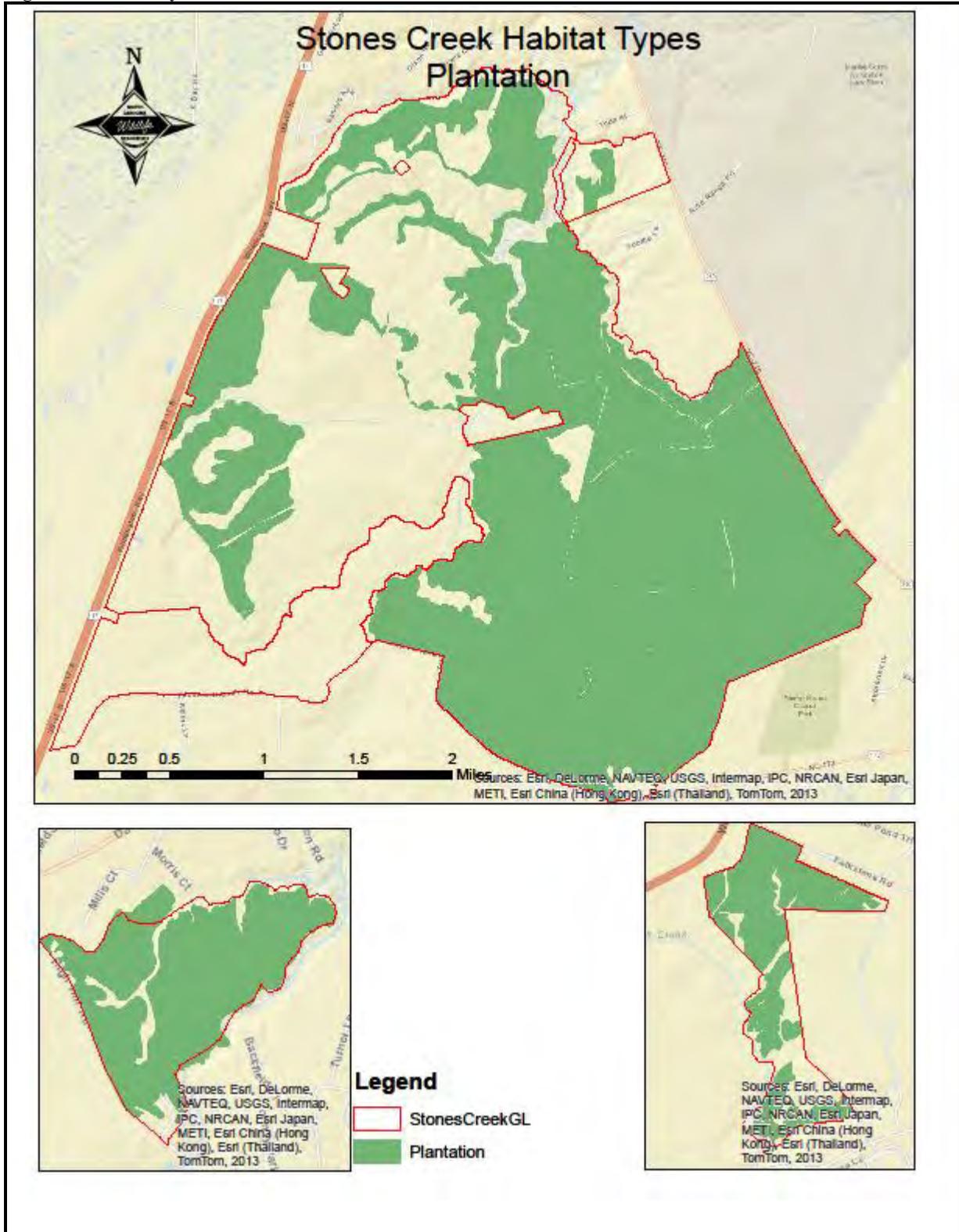
As previously stated, increasing this cover type on the landscape is a high conservation priority. Therefore, our goal for the 10-year planning horizon will be to add 300 acres of Longleaf savanna to SCGL through conversion of loblolly and slash plantation. We will consider an acre converted once longleaf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

Pine Plantation

This cover type consists primarily of loblolly and slash pine plantations and comprises 47 % (1990 acres) of SCGL (*Figure 12*). The understory and midstory in these areas range from dense pocosin shrub (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 pine plantations.

Figure 12: Loblolly/Slash Pine Plantation Locations on SCGL.



Location and current condition of habitat

This habitat is found evenly distributed between all three tracts. Prior to WRC acquisition, 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	Cooper's hawk	<i>Accipiter Cooperi</i>	SC	S ₃ S ₄ B, S ₄ N, G ₅
	Red-cockaded woodpecker	<i>Picoides borealis</i>	E (E)	S ₂ , G ₃
Game	Eastern fox squirrel	<i>Sciurus 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 unaltered conditions, 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. 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.

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.

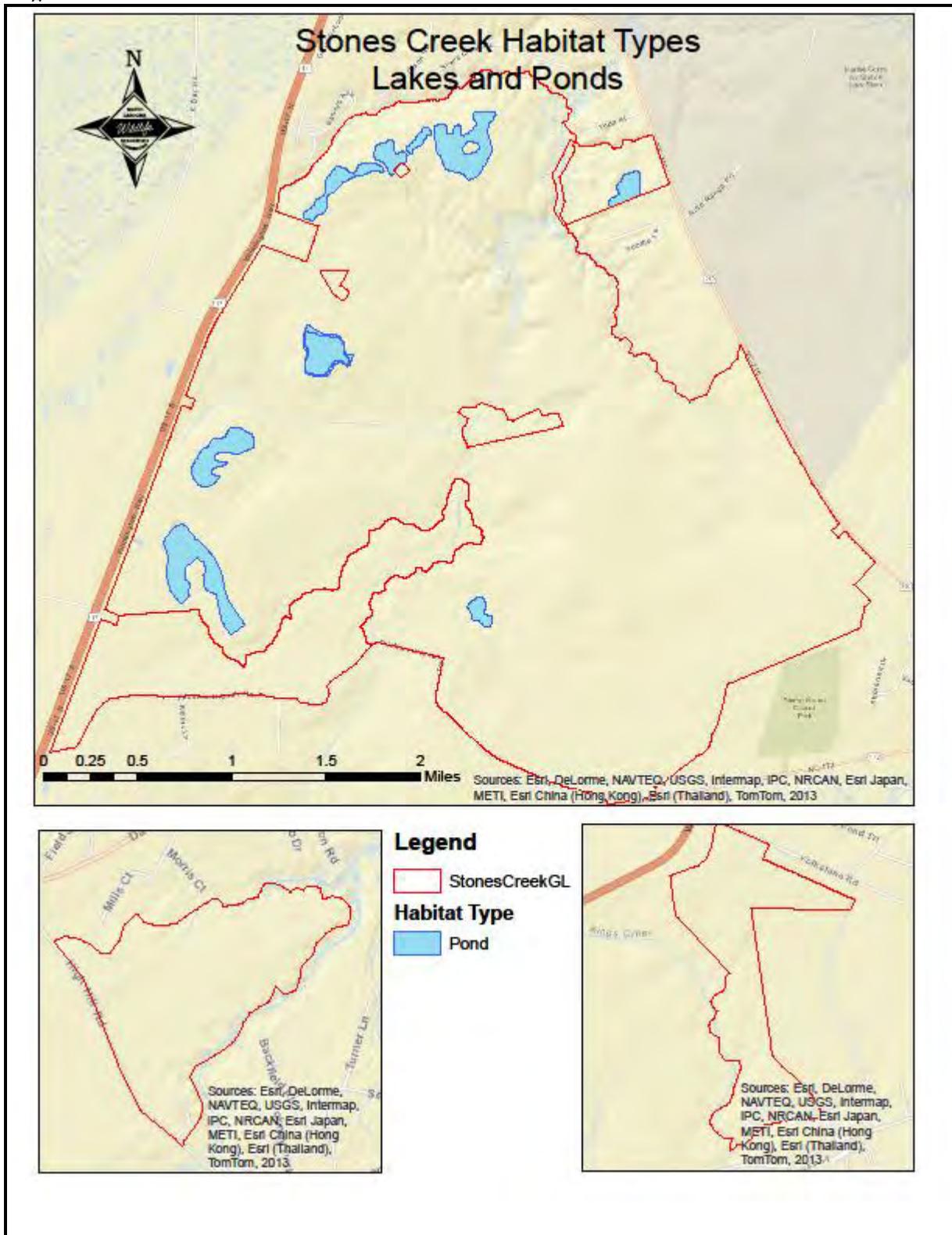
Ponds and Lakes

Numerous ponds occur throughout SCGL totaling approximately 108 acres or 2.7% of the Game Land (*Figure 13*). With the exception of the beaver pond between Pilcher's Branch Rd and Stones Creek Rd., all ponds are man-made ponds (borrow pits) and were created as a result of NCDOT road creation/maintenance operations. In 2007 Field Staff from Division of Inland Fisheries conducted an investigation to evaluate the feasibility of creating a Public Fishing Area on Stones Creek Game Land (*Appendix V*). It would be appropriate for the WRC to follow the recommendations made in the Final Report.

Location and current condition of habitat

Ponds are located throughout the Beck Tract. Inland Fisheries investigations in 2007 concentrated on the Northern most ponds. Without further analysis, one could speculate that the water quality in those hasn't changed since 2007. The 2007 findings described the lakes as generally nutrient deficient, with little to no vegetative community to support fish populations. Six hundred largemouth bass and 6000 bluegills were stocked in two ponds in 2008.

Figure 13: Lakes and Pond Located on Stones Creek Game Land.



Desired future condition

These ponds are visited frequently by anglers from nearby communities. A recent web search (<http://www.ncangler.com/forums/threads/46001-Stone-s-Creek-Game-Land>) found that these ponds are a popular destination for local anglers; the majority of which are stationed at nearby MCB Camp Lejeune. Fishing is currently conducted by either bank or canoe/kayak. It is interesting to note that anglers still do quite well fishing in the stocked ponds. Public input collected during Plan development, confirmed public interest in providing a PFA at SCGL. A current estimate for the construction of a PFA and a primitive canoe/kayak launch is \$65,000 (Appendix XX).

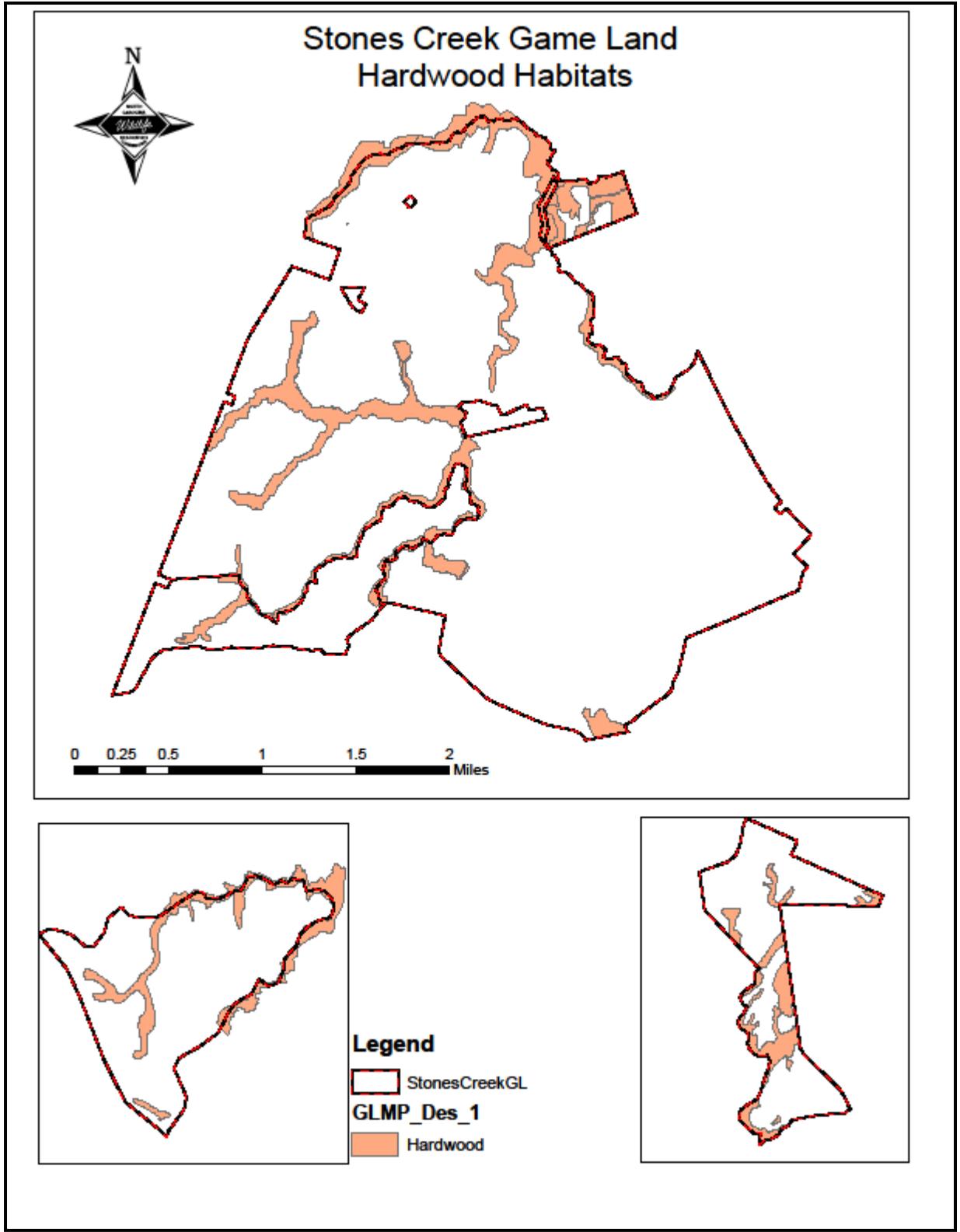
Hardwood:

The hardwood cover type occupies 15% (636 acres) of SCGL. This cover type differs from a traditional oak-hickory forest site, in that dominant species include large concentrations of tulip poplar, red maple, sweet gum and/or pine species on drier sites, and species more closely associated with pocosin i. e. *Persea spp.*, *Lyonia sp.*, etc on wetter sites. In very dry settings, post oak and blackjack oak may dominate. This cover type also includes sites that may have been longleaf pine stands at one time, but without fire have regenerated into closed canopy mixed hardwood/pine stands with crowded midstory development and low understory species diversity. Hardwood Forests were historically found throughout the Coastal Plain but much of this area is now in agriculture or pine plantations (Schafale and Weakley 1990).

Location and current condition of habitat

This cover type predominantly occurs adjacent to drains throughout all three tracts of SCGL (Figure 14).

Figure 14: Locations of Hardwood Habitats



Problems affecting species and habitat

The proximity to Highway 17 and high numbers of inter-state travelers, in addition to the relatively small size of these game land tracts makes them highly vulnerable to invasive species infestations. The usual suite of common invasive plants (e.g., mimosa [*Albizia julibrissin*], privet [*Ligustrum sp.*]) are present at low levels, primarily along road frontage.

The emerald ash borer (*Agrilus planipennis*) threatens to eradicate ash (*Fraxinus sp.*) species in North America. Another insect pest native to southeast Asia converging on North Carolina is the Redbay ambrosia beetle (*Xyleborus glabratus*). This beetle is a host to the invasive fungus Laurel wilt (*Raffaelea lauricola*), which is associated with redbay (*Persea borbonia*) and sassafras (*Sassafras albidium*) mortality. Both the ash borer and the ambrosia beetle have been detected in North Carolina, but not in Onslow County.

Desired Future Condition (DFC)

It is our desire to retain this cover type in an “as-is” condition to allow for increased biodiversity on SCGL. In order to attain this goal, these areas should be included in future prescribed burning rotations. Therefore, we would like to incorporate 100 acres of the hardwood cover type into our prescribed burning regime by the end of the 10-year planning horizon. Increased fuel loads directly adjacent to smoke sensitive areas are currently hindering this activity. The reduction of available fuels by hydro-mulching would allow us to better employ prescribed fire in the urban interface and other smoke sensitive areas.

Infrastructure

Assessment

Assessments of existing infrastructure throughout the Stones Creek Game Land were conducted by Division of Engineering & Lands Management staff in March of 2014. 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 Stones Creek Game Land. The results of the assessments along with recommendations for maintenance and improvements are discussed by category below.

Road Assessment

The Stones Creek Game Land has several roads within three separate tracts of land. These roads were inspected by Engineering staff on March 21 of 2014. Coastal Region field staff met with Engineering staff to discuss the current infrastructure conditions and future needs.

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 Stones Creek 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 Stones Creek Game Land are in fair to good condition. The observed conditions of these roads are as follows:

Stones Creek Road

This road is a major road through the game land at 2.3 miles long. It provides access from Rifle Range Road (NC 210) on the eastern side of the game land. This road was completely renovated in 2013. There gate and signage for this entrance is approximately 200' off of Rifle Range Road (NC 210). There is a small gravel parking area before the gate. This road has a gravel surface, provides two-way access, and is in very good condition. The roadside ditches are shallow and have filled with sediment. There is currently not adequate vegetation on the ditch banks to prevent the erosion of the sandy soils. There are four observed culverts under this road, all of which have some level of sediment build up. There was also standing water in several places along this road behind the check dams built during the renovation.

Lake Road

This road provides access off of Highway 17, and follows the southern edge of four small lakes that were once borrow pits. The entrance gate and signage is approximately 120' from Highway 17. Lake Road has a gravel surface and is wide enough for two-way traffic up to the intersection with the sand road that follows the northern edge of the lakes. After the intersection, the road narrows slightly and continues to be a compacted soil road with some gravel improvements until the second lake. At the eastern end of the first lake, there is an open parking area that appears to be a gathering place. There is evidence of target shooting, campfires, litter, and multiple vehicles doing 'donuts'. The road is closed beyond the open area; however, vehicles appear to be driving around the gate. This gate should be rebuilt to block vehicular traffic until major repairs are made to the road. After the second lake, the road turns into grass with sand runners for the rest of the way to the fourth lake. Vehicular access is possible around the north side of the lakes, but many areas are very narrow. There are several large puddles in tire ruts along the road as well as on the top of embankments separating the lakes. This road is relatively flat with only a few shallow grass swales for drainage.

Pond Road (adjacent to Tower Road)

This road provides access from Highway 17 just south of Lake Road, to a small pond. The entrance at Highway 17 is unmarked and the road surface is compacted gravel and soil, turning into grass with wheel runners. The gate for this road is about a tenth of a mile from Highway 17. The road beyond the gate is currently closed to vehicular traffic. There is evidence of dumping at the intersection of this road and Tower Rd. After the gate, the road is in fair condition with some rutting and a variety of surface conditions. This road has small 'v' shaped ditches on both sides that are heavily vegetated. There is an intersection at the pond that goes both ways around the grassed maintenance shelf. Vehicle access was not available all the way around the lake, stopping about three quarters of the way around. There is also a 12" HDPE culvert before reaching the pond. There is significant erosion above the pipe on both sides of the road.

Deer Lane

This road provides access from Highway 17 to the southwest portion of the game land. The entrance at Highway 17 drops immediately down to a low area, underneath the powerlines. The gate is

approximately 100' from Highway 17. There is also a significantly rusted 24" metal culvert pipe. There is significant standing water in the powerline easement. This portion of road has a gravel and compacted soil surface with some potholes. When the road reaches the lake, there is a drivable maintenance shelf around the southwest side of the lake. This part of the road is mostly compacted soil and grass. It is very narrow at points with encroaching shrub and tree limbs. As Deer Lane continues on the North side of the lake, the surface becomes mostly sand. The road turns to the northeast and dead ends at a gate after approximately 1/3 of a mile. There is a large low area with standing water on this section of road and deep sand at the gate. Beyond the gate the road continues for foot traffic, although it appears that vehicles drive around the gate.

Beaver Pond Road

This road provides access to the game land from Pilcher's Branch Road and travels .60 miles before intersecting with Stones Creek Road. This road was inspected on a separate date, May 2, 2014, by Division of Engineering & Lands Management staff. The road is severely washed out and in poor condition. The road bed is acting as a dam for the adjacent beaver pond and there is no culvert or outfall structure associated with the pond.

Hicks Road (Lanier Tract)

This road provides access to the Lanier Tract area of the game land from High Hill Road. This road is gated and open for foot traffic only. This road is mostly grass and compacted soil. For most of the road, there are 'v' shaped ditches that drain to a creek that runs south off the property. There is a 24" CMP culvert under the road at the creek, approximately 5' below the road surface. The ditches are heavily vegetated, with standing water in places. At the time of inspection, there was a downed tree about a half mile in and the remainder of the road could not be accessed in the vehicle. The Lanier Tract is heavily vegetated with a series of fire break trails that were not inspected. From the road, the fire break trails appear to be overgrown with brush and grasses. There is another gated entrance to access this tract a half mile north on High Hill Rd. Neither entrance has signage or parking.

Folkstone #1 (Folkstone Tract)

This unnamed road enters the Folkstone Tract from Folkstone Road, just east of Highway 17. The first gate is just off Folkstone Road with no space for parking. The road is single lane, grass with sand/soil runners. There are shallow swale ditches on both sides of the road. At 2/10 of a mile in, there is an intersection with another gated road that heads south into the game land. For the purpose of this inspection, this road will be called Folkstone #3. This road was not inspected as it appeared to be in the same condition as Folkstone #1. Passing through a second gate, Folkstone #1 continues on to a large overhead powerline easement. The easement had excessive standing water and was impassable without four-wheel drive.

Folkstone #2

This unnamed road enters the Folkstone Tract from Dolph Everett Rd. This is the second dirt road on the left, approximately 6/10 of a mile from Holly Ridge Rd. The first dirt road provides access to the large wildlife opening. This road is a sand & grass road that goes into the Folkstone Tract for approximately 4/10 of a mile before leaving the game land to the east. 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 existing sections of NCWRC access roads. The recommended road improvements discussed in this section are grouped by priority as follows:

High Priority

- Over the next ten years, the highest priority roads for upgrade are the following:
 - Lake Road
 - Folkstone #1 & #3
 - Stones Creek Road
 - Beaver Pond Road

Lake Road

Lake Road provides hunting access to a large portion of the game land. This road also provides access to 4 small lakes that are used for a variety of uses. The section of road from Highway 17 to the second gate should be widened in areas with a new gravel surface to accommodate a consistent width for two-way traffic. The open grass area after the first lake should be designed and constructed as a gravel parking area. Fencing in this area could reduce the maintenance requirements from the vehicle ‘donuts’. The section of road past the second gate should be designed and constructed to include a one lane road gravel surface, with adequate shoulders to allow the passage of oncoming vehicles. This improvement could end at a small gravel turn-around area at the southeast corner of the fourth lake. Existing rutting should be graded as needed. Limiting vehicular access to the north side of the lakes to NCWRC staff only could reduce maintenance costs associated with grading out rutted areas.

The section of road needing repair and construction is approximately .89 miles and will have an estimated cost of \$89,000.

Folkstone #1 & Folkstone #3

Folkstone #1, as described in the previous section, is one of two access roads into the 388 acre Folkstone Tract. Folkstone #3 is a road off of Folkstone #1 that heads south toward Folkstone #2. Both Folkstone #1 & #3 should 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. Folkstone #1 should be improved at least back to the large powerline easement, where a small gravel parking and turnaround area could be built. Folkstone #3 should be improved to just past the smaller east-west oriented easement. Road side ditches should be cleared of brush and re-shaped to improve drainage.

The section of roads needing repair and construction is approximately .8 miles and will have an estimated cost of \$120,000.

Stones Creek Road

Stones Creek Road is the main Road through the eastern part of the game land. This road was renovated in 2013 and is in very good condition. However, most of the roadside ditches have partially filled in with sand that has eroded from the ditch banks. The culverts along this road also have partially filled with sand. It is highly recommended that these ditches be cleaned out, reshaped as needed, and stabilized with vegetation.

The ditches needing repair and seeding is approximately 2.3 miles and will have an estimated cost of \$30,000.

Beaver Pond Road

This road is currently closed to vehicular traffic. If this road is to be open to vehicular traffic in the future, then the road should 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 road side ditches should be cleared of brush and re-shaped to improve drainage. Prior to any work on this road, a storm water evaluation should be performed on the beaver pond to determine the best management practices for the control of outfall from the pond. The section of roads needing repair and construction is approximately .6 miles and will have an estimated cost of \$90,000. The repair costs related to the pond are TBD.

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.

- Deer Lane
- Folkstone #2
- Hicks Road

Deer Lane

Deer lane is in pretty good condition up to the second gate by the lake. This section from Highway 17 back to the second gate could be improved by the addition of gravel and minor ditch repair. There is currently no parking near the Highway 17 entrance. A small parking area should be constructed just after the Highway 17 entrance gate, near the side trail to the small pond to the north of Deer Lane. Due to the grade change at the Highway 17 entrance, an asphalt apron should be constructed for safety and to reduce the spread of gravel. The section of Deer Lane from the second gate to the third gate is mostly sand and should be upgraded to a one lane road gravel surface, with adequate shoulders to allow the passage of oncoming vehicles. A small parking area and vehicle turnaround area could be constructed before the third gate as well to minimize disturbance in this area. The maintenance shelf around the south side of the lake should be cleared of vegetation to allow passible vehicular access. The section of road needing upgrade is approximately .8 miles and will have an estimated cost of \$80,000. The section of road needing to be cleared of vegetation is approximately .5 miles and will have an estimated cost of 5,000.

Folkstone #2

This road should be designed and constructed to include a one lane road gravel surface, with adequate shoulders to allow the passage of oncoming vehicles. A gate and gravel vehicle turnaround area should be provided before the road leaves the game land to prevent access to the adjacent private property. The section of road needing upgrade is approximately .5 miles and will have an estimated cost of \$50,000.

Hicks Road

Hicks Road is located on the Lanier Tract of the Stones Creek Game Land. This road provides the internal connection to several fire breaks that provide walking access to the 415 acre Lanier Tract. Currently, Hicks Road is closed to vehicular traffic. This road should be designed and constructed to include a one lane road gravel surface, with adequate shoulders to allow the passage of oncoming vehicles. If this road is to be improved, gravel roadside parking will need to be provided as well as a gravel turnaround area at one of the fire breaks. Road side ditches should be cleared of brush and reshaped as needed to improve drainage. The section of road needing repair and construction is approximately 1.3 miles and will have an estimated cost of \$195,000.

Low Priority

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

- Pond Road
- Lanier Tract Access Road

Pond Road

This road should be designed and constructed to include a one lane road gravel surface, with adequate shoulders to allow the passage of oncoming vehicles. The roadside ditches along this road should be cleared of brush and debris and reshaped and seeded as needed. The maintenance shelf around the south side of the pond should be graveled and continuous around the pond. Providing signage and a small gravel parking area before the gate may discourage dumping in this area. The section of road needing upgrade is approximately 1.0 miles and will have an estimated cost of \$120,000.

Lanier Tract Access Road

This road is the northern most gated entrance to the Lanier Tract. The existing road is gated and closed to the vehicular traffic. The road currently runs north then turns east through the pine plantation and eventually dead ends into Hicks Road. 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 .8 miles and will have an estimated cost of \$100,000.

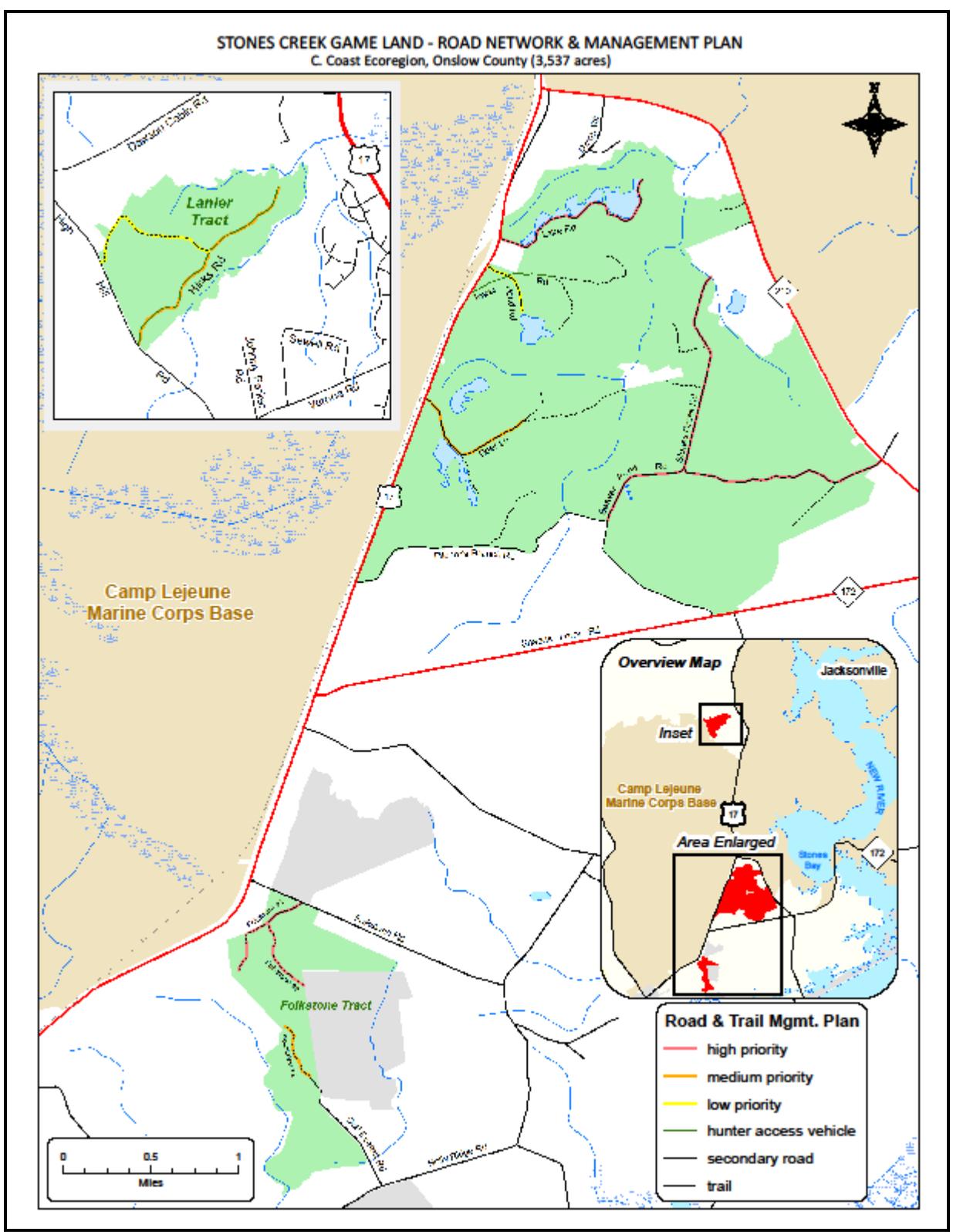
New Road Construction

Currently, there is good access to most areas of all three tracts of the game land. There may be opportunities to connect 'dead end' roads to provide continuous vehicular access through the game land. These include the following:

- Connection between Folkstone #2 and Folkstone #3

Connection between Folkstone #2 and Folkstone #3 would allow continuous access through the game land from Folkstone Road to Dolph Everett Road. This connection would be .25 miles in length. This connection may require one stream crossing and therefore require further study to determine feasibility.

Figure 15: Future road and trail improvements.



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 course materials.
- Keep downhill side of the road free of berms, unless intentionally placed to control drainage.

- Proper maintenance and grading of the road will require a motorgrader 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.

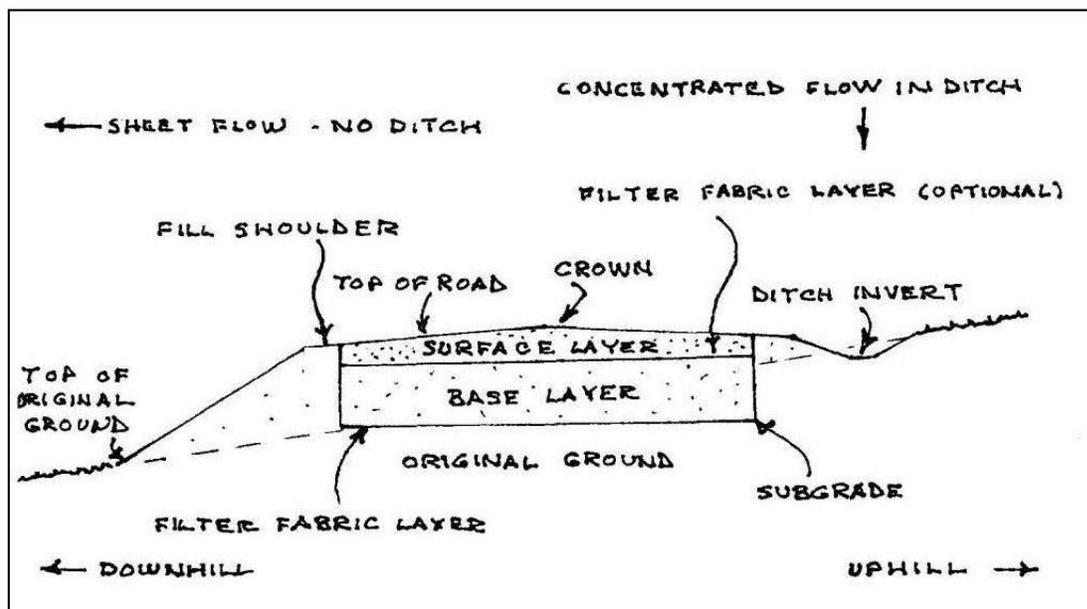


Figure 1 -Typical Road Cross-Section – Canaan, NH Highway Department
Road Safety Features

- 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 regraded 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

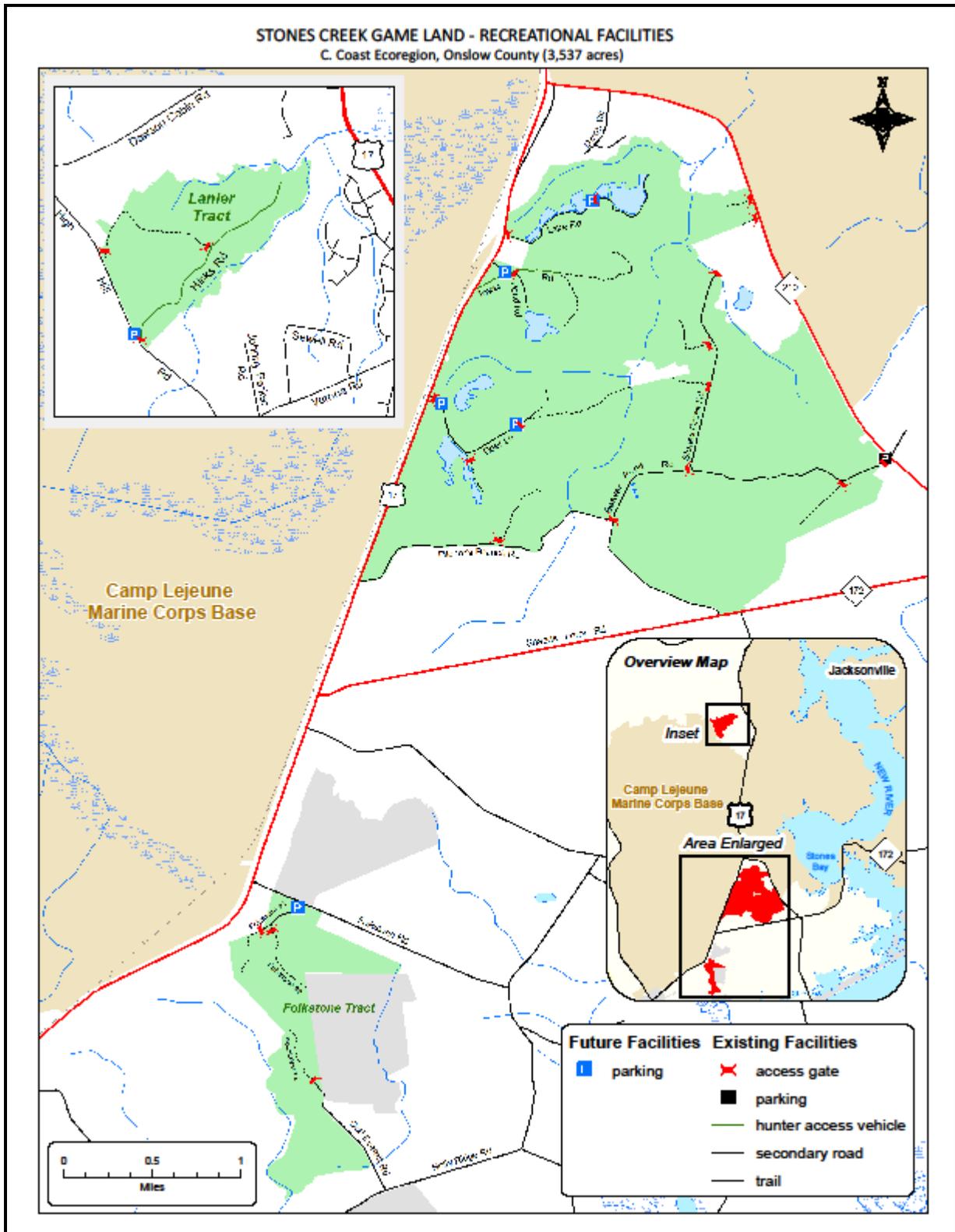
The Stones Creek Game Land consists of several miles of roads, but only one designated parking area. Currently, users of the game land park on the shoulders of roads or in open grass areas, which can present several problems, ranging from blocking access to safety. The game land road network has been reviewed with field staff and numerous locations have been identified for the addition of parking areas. These parking areas are generally located at road entrances or further in the game land at currently used grass open areas.

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.

Figure 16: Recreational facilities improvements.



Drainage Structure Assessment

Dams

The Stones Creek Game Land has several borrow pits that are currently lakes. There are no built dams that needed to be inspected for this Management Plan.

Borrow Pit Ponds

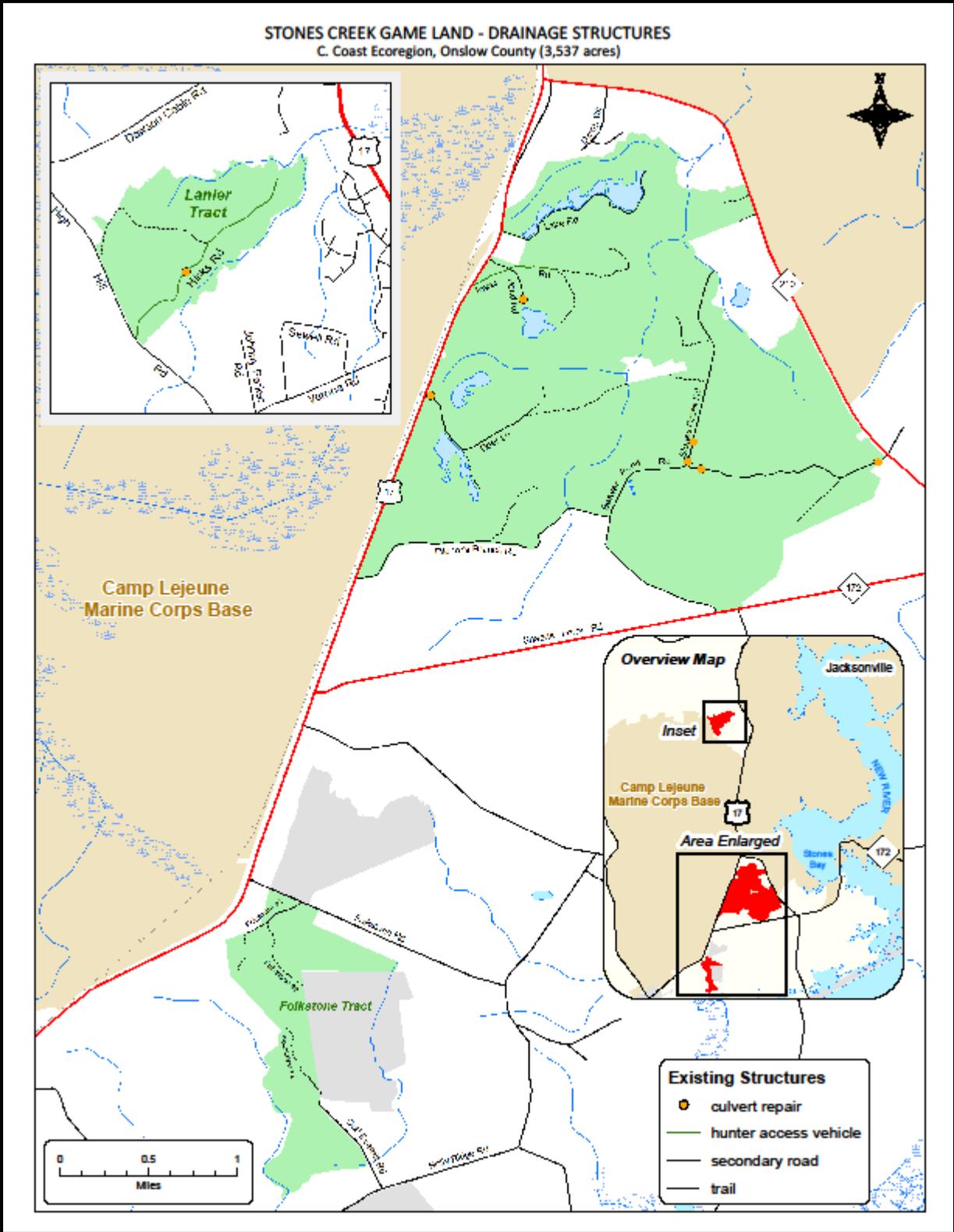
The main tract of Stones Creek Game land has eight ponds, all of which were formerly borrow pits. Of the eight ponds, only one has an outlet structure associated with it. This outlet structure (located at 34° 33' 17.05" N, 77° 29' 14.29" W) consists of an aluminum barrel, with an aluminum riser. This structure is in good 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 \$30,000.

The banks around the ponds 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 pond banks stay in good condition.

Culvert Assessment

During the road investigation with field staff, several culverts were inspected and identified as needing repair or upgrade. These include the following:

Stones Creek Road Four culverts were observed on Stones Creek Road. These culverts were installed in 2013 and all in very good condition. All four culverts had some amount of sediment that has accumulated from erosion. Sediment should be removed and rip rap should also be added to provide inlet and outlet protection.



Pond Road

The 12" HDPE culvert mentioned previously in the road conditions section is in very good condition. There is erosion above the pipe on both sides of the road, resulting in a narrower drive width. These areas should be regraded and riprap should be used above the pipes to stabilize slopes.

Deer Lane

The 24" corrugated metal pipe mentioned previously in the road conditions section is in poor condition and needs to be replaced soon. This culvert is rusted at its ends and may be under sized to handle the drainage in this area. This area is a low point, dropping +6' down from Highway 17. There was significant standing water in this power line easement. This entrance should be further evaluated to properly address drainage issues and accurately size a new culvert.

Hicks Road

At 3/10 of a mile into the Lanier Tract on Hicks road, there is a 24" CMP culvert that is in fair condition. There is outlet erosion causing standing water. There is also minor bank erosion above the pipe. When this pipe is replaced in the future, it should be designed as a reinforced concrete pipe with concrete headwalls.

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 Stones Creek Game Land provides for many recreational uses. These include fishing, recreational shooting, geocaching and hiking.

Public Fishing Areas

The Stones Creek Game Land currently has no designated Public Fishing Areas. Engineering staff should coordinate with the Inland Fisheries Division to determine feasibility of public fishing access at one of the eight ponds.

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 Stones Creek game land currently has approximately seven hidden caches on the main game land and one on the Lanier Tract. 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

Holly Shelter also contains several miles of trails, which have typically been for hunter access. Hiking is becoming a more popular activity and will continue to be a demand on the game land. It is recommended that staff works on a long-term plan to build 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.

Information needs

Current state of knowledge

Our current state of knowledge about wildlife occurrences on Stones Creek is limited. Distributions and occurrences of cryptic species such as reptiles, amphibians, and small mammals (including bats) are under surveyed and their relative abundances are unknown and misunderstood. The same could be said for the relative abundance of our game animals. Other than harvest data, 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 these 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” on Stones Creek, 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 manpower and finances are available.

It would seem appropriate to work closely with the Natural Heritage Program or North Carolina State University to develop surveys to document the flora and fauna on Stones Creek Game Land.

The identification of Game Land hunters (or other users) would allow the Commission 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 what disease process is occurring. Also, as disease surveillance is conducted (CWD, LPDV, etc...), the game land will be incorporated into the surveillance effort when appropriate.

Nongame

Birds

Red Cockaded Woodpecker:

Current Knowledge

No known RCW's currently reside on Stones Creek. Given the Game Lands proximity to Camp Lejeune, RCWs are likely to pass through it on occasion. This is authenticated by the presence of a cavity reported by the Natural Heritage Program in 1980. Even though the habitat is young, because the property is in a key location with age RCWs could find the property very useful again in the future.

Inventory/Monitoring Needs

As of writing, there is no need for organized inventory/monitoring on SCGL. Field staff should however be aware and disseminate locations of RCW sign or sightings.

Management Needs

Our land management techniques/practices must closely follow the recommendations provided by Part I Section 3 of the Fish and Wildlife Service's RCW Recovery Plan. This would include but not be limited to including all burnable acres into a prescribed fire regime with a goal of a 3-year burn rotation. Also, as plantations on longleaf pine suitable sites reach final harvest, these areas should be planted to longleaf and if necessary, appropriate ground cover be restored as well. Finally, chemical or mechanical midstory control should be exercised in existing savannahs that have been fire suppressed.

Research Needs

No research needs are currently warranted. Opportunities do exist for the research of yearling dispersal across the landscape.

Bachman's sparrow/ Henslow's sparrow:

Current Knowledge

Like RCW's, both Bachman's *Peucaea aestivalis* and Henslow's *Ammodramus henslowii* sparrows are both likely to use SCGL and have been reported on Camp Lejeune within close proximity to the Game Land.

Inventory/Monitoring needs

At this time, there is no need for staff to conduct intensive surveys to detect their presence. Staff should, however, report any sightings on SCGL.

Management Needs

Continued management for RCWs will provide for Bachman's and Henslow's sparrows. Plentovich et. Al. 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

No known research needs at present.

Bald eagle:*Current Knowledge*

Bald eagles (*Haliaeetus leucocephalus*) have not been recorded on SCGL, but could occur near the lakes.

Inventory/Monitoring Needs

Observations and nesting occurrences should be recorded.

Management Needs

Should bald eagles be detected, Federal guidelines should be followed when implementing management practices in the vicinity of nesting bald eagles.

Research needs

No research needs are warranted at this time.

Reptiles and Amphibians*Current Knowledge*

The amphibian and reptile species richness on SCGL is currently unknown partially due to the fact that the GL is still in its infancy and secondly, due to the cryptic nature of these types of animals.

Inventory/Monitoring Needs

Surveys targeted at Wildlife Action Plan priority upland and aquatic reptilian and amphibian species should be created to increase our knowledge of local populations and how they are distributed throughout the landscape. The institution of an incidental observation reporting system should be instituted.

Observations of priority species should be reported to help increase our understanding of species distribution. It seems logical to research the potential of using the reporting tool in PAWS to disseminate observations.

Management Needs

Timing of prescribed fire should be discussed among staff to create a plan that poses reduced potential to harm slow moving reptiles and amphibians during late dormant season and growing season burning operations. During logging operations, low ground pressure equipment should be utilized as applicable. It would be preferred that such operations should be conducted during winter months, as much as possible, to reduce the impacts to amphibians and reptiles.

Research needs

No research needs are warranted at this time.

Mammals**Rafinesque's big eared bat/ Southeastern myotis:***Current Knowledge*

Status: Rafinesque's big eared (*Corynorhinus rafinesquii*) and the southeastern bat (*Myotis austroriparius*) are likely to occur on SCGL.

Management Needs

Preservation and management of our floodplain forest should be continued. These species occur mainly in swamps and bottomland forests, where they roost in hollow trees, under loose bark, old buildings, and beneath bridges (mammals in NC 8/4/2014). 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).

Inventory/Monitoring Needs

If manpower allows, 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 cooperative biological inventory should be conducted with the assistance of the Natural Heritage program to explore and update the small mammal communities on SCGL.

Research Needs

No research needs are warranted at this time.

Game Animals:

White-tailed deer:

Current Knowledge

White-tailed deer (*Odocoileus virginianus*) occur on the game land with densities that are likely similar to estimated densities for Onslow County (15-29 deer/mi², 2010 statewide density map) (*Appendix VII*). Peak breeding is also likely consistent with peak breeding for Onslow County (November 2nd, *Appendix VII*). Deer hunting on SCGL follows the eastern deer season and hunting currently occurs six days/week; 3 still hunt and three dog/still hunt. Maximum harvest (either sex the entire season) is allowed. The following data were compiled from the last three hunting seasons (2010-2013) and evaluated based on the biological objectives outlined in the deer regulation evaluation tool.

- Average antlered buck harvest per square mile over the last 3 seasons (2011-2013) on Stones Creek was 3.0.
- Total harvest over the last 3 seasons has been 49.8% does, approaching our statewide objective of at least 50% does in the harvest.
- Sex composition of the harvest that occurs prior to peak breeding is 48.3%, approaching our statewide objective of at least 50% does in the harvest.
- 51.7% of antlered buck harvest occurs prior to peak breeding which fails to meet the statewide objective that no more than 20% of antlered buck harvest occurs prior to peak breeding.
- Age data is insufficient (n=1) to assess biological objectives related to the proportion of yearling bucks and does in the adult harvest.

Inventory needs

Baseline information should be collected for deer densities and/or population trends on Stones Creek. 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 surveys and harvest data we have no way to track deer population trends or sufficiently evaluate deer regulations and management efforts.

The use of FLIR offers a new survey technique that may have use on SCGL. 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. Currently the Division of Wildlife Management is currently conducting FLIR

surveys on private and public (Holly Shelter Game Land) in Pender and Duplin Counties. Upon the completion of this survey field staff will evaluate the effectiveness of the survey technique. Track counts could be a substitute for the FLIR survey. Stones Creek 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 would allow for the collection of general population trend fluctuations. Staff will continue investigating whether new methods may better assist us in monitoring and managing deer on SCGL.

Basic biological data from game land deer harvests are difficult to collect. NCWRC has collected biological data from just one deer since SCGL entered the Game Lands Program. If a survey were developed to identify our game land deer hunters, the NCWRC could implement a jawbone/biological 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 Stones Creek Game Land accordance to with the statewide deer management goals and objectives outlined in the Ad hoc deer evaluation tool

As a habitat generalist, the white-tailed deer will benefit from the continuation of current land management practices.

Research needs

No known research needs at present.

Black bear:

Current Knowledge

Stones Creek Game Land is included in the 8-week season starting the second Monday in November to January 1 (**15A NCAC 10B .0202**). Only one black bear (*Ursus americanus*) has been harvested on SCGL. This is in-large-part to the small size of the Game Land and the increasing amount of residential homes adjacent to Stones Creek.

Inventory/monitoring needs

Attempts should be made to collect biological data from any bear harvested on SCGL. DWM and DELM staff will continue to cooperate with bear hunters during the opening week of bear season and thereafter to collect these data.

Management Strategy

Bears on SCGL should be managed following the guidelines outlined in the NC Black Bear Management Plan (NCBBMP). 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 food resources 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 Stones Creek.

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

Since 2011 wild turkey (*Meleagris gallopavo*) harvest has been 2.75 (.50/ mi²) gobblers per 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 VIII. These data would give us better knowledge of 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 Game Land turkey hunter observation survey, (Appendix VIII). 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 establishment of permanent logging decks and subsequent plantings of these areas could 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 (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), coyote (*Canis latrans*), and raccoon (*Procyon lotor*). Trapping opportunities exist for bobcat, coyote, raccoon, river otter, *Lontra canadensis*, mink, *Neovison vison*, long-tailed weasel, *Mustela frenata*, and muskrat, *Ondatra zibethicus*. Although the resource exists on the SCGL, 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 SGGL. Gray (*Sciurus carolinensis*) squirrels occur on the game land. Rabbits and squirrels occur throughout the Game Land.

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. Increased use of mulched/disked fire breaks may well provide additional small game hunting opportunities. Other current land management practices should continue to provide suitable small game habitat.

Research needs

No known research needs at present.

Northern Bobwhite:*Current Knowledge*

Northern Bobwhites (quail) (*Colinus virginianus*) occur throughout the Beck (SCGL proper) and Folkstone Tracts. Public hunting opportunities exist from mid-November through the end of February.

Inventory/monitoring needs

Southeast NC Quail Forever has conducted spring call and fall covey and flush counts yearly since 2006. The number of birds heard by volunteers has changed frequently from a low of 12.5

in 2006 (initial surveys) to a high of 57.5 in 2009. Trend lines show a slight decrease in the numbers of birds detected. The SR 8 fire of 2011 likely displaced some birds; however recent call counts show that birds are repopulating the affected areas. Predator assessments could be determined during furbearer inventories.

Management Strategy

Continue to provide current hunting opportunities. All burnable acres should be incorporated into a prescribed fire regime with a goal of a 3 year burn rotation. Also, as plantations on longleaf pine suitable sites reach final harvest, these areas should be planted to longleaf and if necessary, appropriate ground cover be restored as well. Finally, chemical or mechanical midstory control should be exercised in existing savannahs that have been fire suppressed. Other current land management practices should continue to provide suitable habitat with an emphasis on early successional habitats and longleaf pine restoration/maintenance.

Research needs

No known research needs at present

Webless migratory:

Current Knowledge

Mourning doves (*Zenaida macroura*), snipe (*Gallinago gallinago*), and American woodcock (*Scolopax minor*) occur on the game land. Hunting opportunities exist for doves in planted dove fields as well as near many of the lakes located on the Game Land. Snipe and woodcock can be found on wetter sites closer to drains and creeks. 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 sporadically utilize SCGL year-round. Hunting is allowed on Tuesdays, Saturdays, Opening and closing days, and Holidays. Species observed are wood ducks, teal, mallards, ring-necks, and gadwall.

Inventory/Monitoring Needs

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

Management Needs

The current overflow systems on the lakes provide for ample water level management without encouraging user conflicts between waterfowl hunters and anglers. Benefits to waterfowl would be maximized by the addition of a flash board riser water control structure in stalled in the outflow of the beaver damn between Stones Creek Rd. and Pilcher's Branch Rd.

Research Needs

No known research needs at present.

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 and compatible uses for NCWRC-owned or controlled game land properties (Appendix J).

Hunting

Hunting is currently allowed on SCGL six days per week. Primary species pursued are Deer, turkey, quail, and waterfowl (see information needs for harvest rates). Small game and webless migratory birds (dove, woodcock, and snipe) are also hunted. Trapping occurs on the game land with raccoon, bobcat, the primary species sought.

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 1 disabled hunter blind located just off of Stones Creek Rd. will provide hunting opportunities previously not available on the SCGL. A focus on active 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 frequently occurs on SCGL. Primary species are largemouth bass and bream. Fishing on SCGL is largely limited to northern most lakes on Lake Rd. Year-round access is available via US Hwy. 17.

Geocaching

Geocaching is a recreational activity in which participants hide and seek objects called “caches” using GPS (Geographic Position System), or other devices. Geocaching occurs at an unknown frequency at SCGL. Current regulations allow for this activity during closed seasons and on closed days for taking bear, deer, turkey, and waterfowl (while 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.

Target Shooting

The NCWRC is actively working on developing a shooting range to accommodate rifle, shotgun and pistol on nearby Holly Shelter Game Land. Once completed, all target shooting activities will be limited to that area.

Hiking/Walking

Hiking and walking are very popular activities on SCGL and occurs year round. There are no designated hiking trails currently located on the game land. However, there are numerous maintained paths, roads, and linear wildlife openings available for hiking/walking. 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 SCGL. 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. Allowing horseback riding on maintained trails would create additional erosion issues, damage to linear wildlife openings, and conflicts with hikers, hunters, and wildlife watchers. Horseback riding also exacerbates the probability of introducing additional exotic species on the game land.

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 Offices land acquisition procedures and Phase I and II land evaluation forms (*Appendix X*).

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

Public Input

As part of the creation of the Stones Creek Game Land Management Plan, public input was solicited during the spring of 2014. 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 12 March 2014 through 15 May 2014. The public input meeting was held on 27 March 2014 at the Holly Ridge Community Center. 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?

30 % of the comments received were directly related to habitats associated with game animals i.e. Ducks, deer, dove, quail, turkey, etc. Generally, these comments included the expansion of open land (food plots), wetland, and longleaf pine habitats. Remaining comments were evenly distributed over a variety of habitat types.

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 (60% of comments). Specifically, Quail, white-tailed deer, and dove were thought to be most important to protect and/or improve.

Q3) How do you use this game land?

An overwhelming number of individuals (100% of received comments) use Stones Creek for “traditional” uses (hunting and fishing). Individuals added that they would also like to use SCGL as non-traditional users to hike, and participate in other activities such as geocaching and photography.

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

Generally, 63% of individuals were satisfied with current levels of access. Common comments of dissatisfaction were of traffic and the disrepair of Pilcher’s Branch Rd. Comments were received that the removal of some gates would increase access.

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

Most common comments were requests for 3 day/week hunting regulations (2 requests), still hunt only limited dog hunt area (2 requests), creation of a designated target shooting area (2 requests) and the increased use of prescribed fire (2 requests). The following were additional requests: Increased parking, increased law enforcement presence, the relocation of 2 gates, restrict the consumption of alcohol on Game Lands, increased plantings beneficial to quail, and the establishment of fruit (soft mast) producing trees.

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 Stones Creek. 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. Individuals would commented that the following would encourage them to use the Game Land more frequently: improved roads (Pilcher’s Branch Rd.), and better (more) access for disabled sportsmen, limited/restricted alcohol consumption, the stocking of ponds, limiting dog hunting, and the creation of a hiking trail.

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

Additional comments were broad in spectrum ranging from keep doing what you are currently doing to the creation of a mammalian nest predator control program, to the establishment of a jawbone mail-in survey for deer herd management. Comments were also received with regard to the condition of Pilcher's Branch Rd and the creation of a still-hunt only zone on SCGL.

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-A Dedicated Nature Preserve (DNP) is an ecologically important area which is permanently allocated as a nature preserve under the authority of G.S. 143B 135.260. Dedication of qualifying areas is often required by grant funding agencies such as the Clean Water Management Trust Fund and the former Natural Heritage Trust Fund. WRC Dedicated Nature Preserves must be approved by the Secretary of the Department of Natural and Cultural Resources, the Executive Director of the Wildlife Resources Commission, the Secretary of the Department of Administration, the Governor, and Council of State. The intent of the dedication is to protect and preserve the biodiversity and natural character of the site in perpetuity.

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 significance 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.

Literature Cited

- Bailey, M. A., J. N. Holmes, and K. A. Buhlmann. 2004. Habitat management guidelines for amphibians and reptiles of the southeastern United States (DRAFT). Partners in Amphibian and Reptile Conservation.
- Frost, C.C. 1993. Four centuries of changing landscape patterns in the longleaf pine ecosystem. Pages 17 – 34 in *The longleaf pine ecosystem: Ecology, restoration, and management*. Proc. Tall Timbers Fire Ecology Conf. No. 18. S. M. Hermann, ed. Tall Timbers Research Station, Tallahassee, FL.
- Hunter, W. C., L. Peoples, and J. Collazo. 2001. Partners in Flight bird conservation plan for the South Atlantic Coastal Plain. American Bird Conservancy.
- Karriker, K.S. Effects of intensive silviculture on breeding and wintering birds in North Carolina pocosins. Masters Thesis, N.C. State Univ., Raleigh, NC.
- Maehr, D. S., T. S. Hoctor, L. J. Quinn, and J. S. Smith. 2001. Black Bear habitat management guidelines for Florida. Technical Report No. 17. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA
- Measells, M.K., S.C. Grado and L.M. Capella. 2002. Forestry and forest industry: a fish and wildlife agency's current perspective. Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies 56: 148-158.
- Mitchell, M.S. 1994. Effects of intensive forest management on the mammal communities of selected North Carolina pocosin habitats. NCASI Tech. Bull. No. 665.
- NatureServe. 2013. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: December 2, 2013). 296 pp.
- Noss, R. F.; Peters, R. L. 1995. Endangered ecosystems. A status report on America's vanishing habitat and wildlife. Washington, DC: Defenders of Wildlife. 132 p.
- North Carolina Wildlife Resources Commission. 2005. North Carolina Wildlife Action Plan. Raleigh, NC.
- Onslow County, North Carolina Data Center. Quaterly Update Onslow County Planning & Development Department. April 2014.
- ONSLow COUNTY, NORTH CAROLINA. COMPREHENSIVE ANNUAL FINANCIAL REPORT June 30, 2013
- Plentovich, S., J. W. Tucker, N. R. Hollern, and G. E. Hill. 1998. Enhancing Bachman's sparrow habitat via management of red-cockaded woodpeckers. *The Journal of Wildlife Management* 62:347-354.

Robbins, L. & Myers, R. (1992). Seasonal effects of prescribed burning in Florida: A review. Tall Timbers Research Station Miscellaneous Publication 8. Tallahassee, FL: Tall Timbers Research Station & Land Conservancy.

Schafale, M.P. and A.S. Weakley. 1990. Classification of the natural communities of North Carolina, third approximation. North Carolina Natural Heritage Program, Raleigh, NC.

Schafale, M.P. 1994. Inventory of Longleaf Pine Natural Communities in North Carolina. N.C. Natural Heritage Program, Division of Parks and Recreation, Department of Environment, Health, and Natural Resources, 1994

United States Department of Agriculture. 1992. Soil Survey of Onslow County, North Carolina. Soil Conservation Service. 140 pp.

U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

U.S. Fish and Wildlife Service. 2003. Recovery plan for the red-cockaded woodpecker (*Picoides borealis*): second revision. U.S. Fish and Wildlife Service, Atlanta, GA. 296 pp.

Weller, M.W. and J.L. Stegman. 1977. Evaluating and maintaining habitats for fish and wildlife. Trans. Of the 42nd North American Wildlife and Natural Resources Conf. Wildlife Management Institute, Washington, D.C. pp.31-41.

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http://www.landscape.org/explore/natural_geographies/ecoregions/Mid-Atlantic%20Coastal%20Plain (11/26/2013)

¹ http://www.nc-climate.ncsu.edu/climate/nc_extremes.php

² <http://www.nc-climate.ncsu.edu/climate/ncclimate.html>

<http://www.water.ncsu.edu/whiteoak.html> (Accessed 7/12/2014)

http://ncwater.org/Education_and_Technical_Assistance/Ground_Water/AquiferCharacteristics/ NCDENR, (Accessed 6/2014)

Bald Eagle Management Guidelines and Conservation Measures.

http://www.fws.gov/southeast/es/baldeagle/baea_nhstry_snstvy.html (Accessed 12/05/2013)

Appendix III

NC Forest Service Memorandum of Understanding

DENR CONTRACT NO. 1988

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

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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.

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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.

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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.

Ponds Assessment

**Assessment of Ponds in Stone's Creek Game Lands
as Public Fishing Areas**

**Robert D. Barwick and Justin M. Homan
District 2 Fisheries Biologists**

**North Carolina Wildlife Resources Commission
Division of Inland Fisheries**

November 26, 2007

Introduction.—On September 18, 2007, biologists with the Wildlife Resources Commission’s Division of Inland Fisheries and Division of Wildlife Management met with engineering staff of the Commission’s Capitol Development Division and visited Stone’s Creek Game Lands in southwestern Onslow County to evaluate the potential of converting existing man-made ponds on the property into public fishing areas. Stone’s Creek Game Lands contain 2,923 acres and is currently managed for a variety of public hunting opportunities. The ponds were created when soil was removed for highway construction purposes, prior to the property being acquired into the game lands program. Numerous ponds of varying sizes are located throughout the property, but those with the most desirable characteristics for fish management (Ponds #1 and #2) are located adjacent to Lake Road in close proximity to US 17, south of Jacksonville (Figure 1). These ponds range in size from five to seven acres and are connected via emergency spillway overflows. During normal to low water levels, these ponds are not connected. Currently, there is no managed angler access to the ponds. Launching a small boat or canoe can be accomplished manually and bank fishing in all ponds is currently available however there is little evidence to suggest the presence of a quality fish community or substantial fishing pressure by anglers.

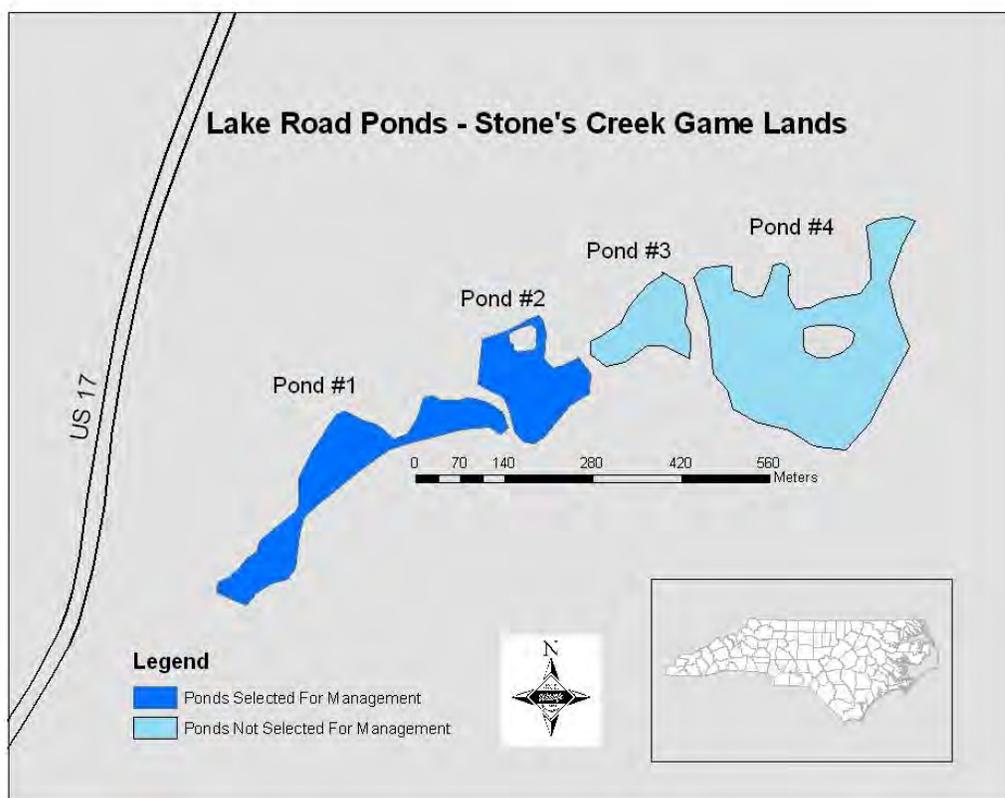


Figure 1.—Location and fish management potential of Lake Road Ponds at Stone’s Creek Game Lands.

Pond Characteristics.—During the site visit, several of the ponds were eliminated from further consideration as potential fishing ponds because of undesirable and irresolvable characteristics including extremely shallow water, extreme water clarity, very low water pH, excessive bank slope, and highly eroded banks. Water samples were collected from three ponds to evaluate whether existing water quality conditions were suitable for pond fish production. Analysis of the samples indicated that the ponds have relatively soft, acidic waters; characteristics not conducive for fish production (Table 1).

Table 1.—Water chemistry of three ponds on Stone's Creek Game Lands, September 2007.

Pond Location	pH	Alkalinity	Hardness
		(ppm) CaCO ₃	(ppm) CaCO ₃
Deer Lane	5.5	15	16
Lake Road #1	6.5	16	24
Lake Road #4	<5.0	8	24

The chemical characteristics of Pond #1, observations on submerged aquatic plants in Ponds #1 and #2, along with other indicators of biological activity suggests that establishment of a pond fishery in Ponds #1 and #2 may be possible with the addition of lime to increase the water pH and fertilizer to stimulate growths of phytoplankton and zooplankton. Although soil samples are best used to gauge lime requirements, the water chemistry data suggests that at least 1 ton of lime per acre will be required to increase pH, alkalinity, and hardness to a level that will be appropriate for fish production. However, if pond soils are more acidic than water, additional lime may be required.

Liming Ponds #1 and #2 during the first year would cost at least \$576 (Table 2). Fertilization costs for the two ponds are estimated to be \$1,120/year or \$560/year, depending upon the type and quality of fertilizer used (Tables 3 and 4).

Table 2.—Lime requirements and material costs for liming two ponds at Stone's Creek Game Land. Cost estimates are from Crop Production Services, Maysville, North Carolina, November 2007. Annualized liming costs are estimated based on lime application once every 3 years.

	Lake Road Pond #1	Lake Road Pond #2	Both Ponds
Size (acres)	7	5	12
Lime required (tons)	7	5	12
Lime cost (per ton)	\$48	\$48	\$48
Total lime cost (\$ per application)	\$336	\$240	\$576

Annualized lime cost (\$)	\$112	\$80	\$192
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Table 3.—Granular fertilizer requirements and material costs for fertilizing two ponds at Stone's Creek Game Land. Cost estimates are from Dixie Chemical, New Bern, North Carolina, November 2007. Annualized fertilizer costs estimated based on 8 applications per year. Total estimate does not include the cost for constructing a platform for dispersion of granular fertilizer.

	Lake Road Pond #1	Lake Road Pond #2	Both Ponds
Size (acres)	7	5	12
Fertilizer required (pounds of 20-20-5 granular)	280	200	480
Fertilizer cost (\$ per 50-lb bag)	\$14	\$14	\$14
Total fertilizer cost (\$ per application)	\$84	\$56	\$140
Annualized fertilizer cost (\$)	\$672	\$448	\$1,120

Table 4.—Water-soluble fertilizer requirements and material costs for fertilizing two ponds at Stone's Creek Game Land. Cost estimates are from Foster's Lake and Pond Management, Garner, North Carolina, November 2007. Annualized fertilizer costs estimated based on 8 applications per year.

	Lake Road Pond #1	Lake Road Pond #2	Both Ponds
Size (acres)	7	5	12
Fertilizer required (pounds of water-soluble 12-48-8)	28	20	48
Fertilizer cost (\$ per 25-lb bag)	\$35	\$35	\$35
Total fertilizer cost (\$ per application)	\$70	\$35	\$70
Annualized fertilizer cost (\$)	\$560	\$280	\$560 ¹

Angler Accessibility.—Considering biological implications, physical conditions and

¹ Costs for fertilizing both ponds are not additive because water-soluble fertilizer is sold in 25-lb bags.

location, all Commission staff agreed that Lake Road Ponds #1 and #2 were best suited for development as a Public Fishing Area. The slope and height of the banks of these ponds was deemed appropriate for the construction of a fishing pier or improving bank fishing opportunities by periodic mowing of vegetation at the crest of the pond bank. The area that appeared to be the best location to construct a fishing pier was located near the western shoreline of Pond #1 because of its proximity to a large open area that could be constructed as a parking area. Using this area of the property would require fewer access roads and less intrusion into game land property. Bathymetry surveys of Pond #1 (Figure 2), revealed that this pond is mostly shallow with little variability in depth over the pond area. Although pond depths ranged from 0 feet to 8 feet, 77% of the pond area was between 3 and 5 feet deep. Only a small area of the eastern end of the pond exceeded 6 feet deep.

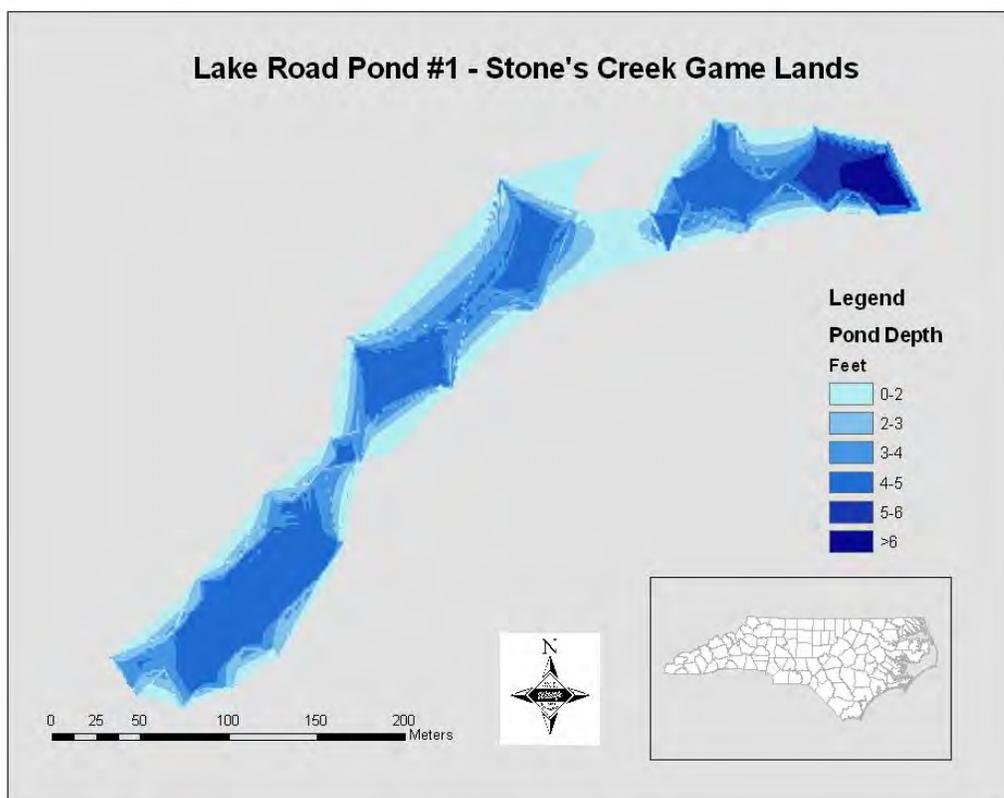


Figure 2.—Bathymetric profile of Lake Road Pond #1, Stone's Creek Game Lands

Appendix VI

Legal Documents

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BOOK 1960 PAGE 168

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ONSLow COUNTY 01/22/2003
\$5887.00



Real Estate
Excise Tax

Contract Number N62470-03-RP-00043
File Number E1-0777

STAMPS
\$5887.00

GRANT OF EASEMENT

THIS EASEMENT, made this 15th day of January, 2003 by and between THE NATURE CONSERVANCY, a nonprofit corporation organized and existing under the laws of the District of Columbia, hereinafter called GRANTOR, and the UNITED STATES OF AMERICA, acting by and through the Department of the Navy, hereinafter called GOVERNMENT.

The designation of GRANTOR as used herein shall include its successors and assigns, and shall include singular, plural, masculine, feminine or neuter pronouns as required by contract.

THIS DOCUMENT PRESENTED TO
THE ONSLOW COUNTY TAX OFFICE
DATE 1/22/03 CLERK *DM*

WITNESSETH:

WHEREAS, the GRANTOR is the sole owner in fee simple of certain property ("Property"), hereinafter described tract of land containing 1,481.92 acres, more or less, located in Onslow County, State of North Carolina and situated adjacent to the Marine Corps Base, Camp Lejeune, North Carolina; and

WHEREAS, the GOVERNMENT desires to acquire a perpetual easement which shall run with the entire tract of land to restrict the use and development of the Property and to provide ingress and egress on, over and across said Property for military training use; and

WHEREAS the purpose of this perpetual easement is to: 1) restrict and prevent the improvement, development or use of the Property where such improvement, development or use could be adversely affected by military training, operations, and activities on adjacent GOVERNMENT lands and thus lead to curtailment

I hereby certify that this is a true and accurate copy which appears on record in the Office of the Register of Deeds of Onslow County, N.C. in Book 1966 Page 168

Witness my hand and seal this 17 day of Feb 2003
M. Roman
Register of Deeds



of military training on said lands; 2) restrict and prevent such improvement, development or use of the Property that would encumber, impede, limit or otherwise be incompatible with military training, operation and activities on adjacent GOVERNMENT lands; and, 3) provide limited light military training opportunities otherwise consistent with the GRANTOR's use of the Property; and

WHEREAS, the GRANTOR and the GOVERNMENT entered into an agreement identified as Contract Number N62470-03-RP-00030, dated January 15, 2003, whereby the GRANTOR agreed to sell and the GOVERNMENT agreed to purchase for the consideration of two million nine hundred forty three thousand two hundred seventy one dollars and seventy three cents (\$ 2,943,271.73), the hereinafter described easement and additional rights on, over, across and affecting the use and development of said Property; and

NOW THEREFORE, for and in consideration of the sum of two million nine hundred forty three thousand two hundred seventy one dollars and seventy three cents (\$ 2,943,271.73) paid to GRANTOR, receipt of which is hereby acknowledged, the GRANTOR does hereby grant and convey to the GOVERNMENT, a perpetual easement appurtenant to restrict the use and development of said Property that would encumber, impede, limit or otherwise be incompatible with military training operations and activities on adjacent GOVERNMENT lands, and to provide for military training for the benefit of the GOVERNMENT and ingress and egress on, over and across said Property more particularly described as:

That certain parcel or tract of land being located in Stump Sound Township, Onslow County, North Carolina containing 1,481.92 acres, more or less, bounded on the north by Bull Branch, on the northeast by the flood plain of Stone Creek, on the east by Stone Creek Road, on the south by H & M Farms (DB 1645 PG 174), on the west by US Highway 17 and more particularly described as follows:

BEGINNING at a new iron rod (said rod being located at the point of intersection of the centerline of Indian Grave Branch and the eastern right-of-way of Stone Creek Road) in the eastern right-of-way of Stone Creek Road and running thence as said right-of-way S 39°22'24" W 189.07 feet to a new iron rod; thence S 33°31'10" W 90.98 feet to a new iron rod; thence S 22°40'59" W 105.96 feet to a new iron rod; thence S 17°01'06" W 206.23 feet to a new iron rod; thence S 14°53'37" W 823.27 feet to a new iron rod; thence S 03°56'48" W 79.78 feet to a new iron rod; thence S 13°53'03" E 86.36 feet to a new iron rod; thence S 25°51'55" E 68.38 feet to a new iron rod; thence S 30°28'31" E 174.35 feet to a new iron rod; thence S 32°59'26" E 446.81 feet to a new iron rod; thence S 28°35'05" E 167.59 feet to a new iron rod; thence S 16°53'38" E 94.81 feet to a new iron rod; thence S 02°59'17" W 115.69 feet to a new iron rod; thence S 11°03'31" W 242.61 feet to a new iron rod; thence S 13°51'15" W 778.24 feet to an existing iron rod; thence S 13°49'22" W 375.45 feet to an existing iron rod; thence S 13°24'15" W 1847.97 feet to an existing iron rod; thence S 16°30'22" W 129.26 feet to an existing iron rod; thence S 28°46'48" W 126.43 feet to an existing iron rod; thence S 55°57'10" W 117.52 feet to an existing iron rod; thence S 77°28'39" W 169.76 feet to an existing iron rod; thence S 85°27'29" W

1000.37 feet to an existing iron rod; thence S 82°52'39" W 266.94 feet to an existing iron rod; thence S 67°01'57" W 57.02 feet to an existing iron rod; thence S 51°31'09" W 87.53 feet to an existing iron rod; thence S 33°20'49" W 275.94 feet to an existing iron rod; thence S 26°31'19" W 889.30 feet to an existing iron rod; thence S 16°05'46" W 131.21 feet to an existing iron rod; thence S 11°11'15" W 134.98 feet to an existing iron rod at the point of intersection of the eastern right-of-way of Stone Creek Road and the centerline of a 60-foot wide access easement (MB 36 PG 175); thence as said centerline N 75°54'11" W 26.69 feet to an existing iron rod; thence N 75°54'11" E 1197.73 feet to a new iron rod; thence S 82°20'24" W 83.46 feet to a new iron rod; thence S 48°29'42" W 55.67 feet to a new iron rod at the point of intersection of the above mentioned 60-foot wide access easement and the run of a small creek, also being a corner of H. & M. Farms (DB 1645 PG 174) and running thence as said creek N 66°13'00" W 68.09 feet to an existing iron rod; thence N 12°57'10" W 28.47 feet to an existing iron rod; thence N 76°04'49" W 65.68 feet to a point; thence N 13°29'05" W 205.51 feet to a point; thence N 26°39'10" W 69.95 feet to a point; thence N 45°39'58" W 62.32 feet to a point; thence N 41°45'37" E 125.03 feet to a point; thence N 35°25'04" E 106.29 feet to a point; thence N 63°30'58" E 70.74 feet to a point; thence N 23°47'57" E 62.67 feet to a point; thence N 12°11'22" W 57.68 feet to a point; thence N 36°11'37" W 38.05 feet to a point; thence N 01°39'29" E 40.82 feet to a point; thence N 39°44'45" W 59.84 feet to a point; thence N 24°16'42" E 145.84 feet to a point; thence N 00°30'19" W 51.65 feet to a point; thence N 57°28'40" E 53.18 feet to a point; thence S 80°55'01" E 80.33 feet to a point; thence N 69°34'47" E 69.53 feet to a point; thence N 61°26'23" E 75.93 feet to a point; thence N 16°37'53" W 95.15 feet to a point; thence N 24°19'21" E 40.55 feet to a point; thence N 47°35'55" E 179.14 feet to a point; thence N 81°28'56" E 44.92 feet to a point; thence N 32°47'37" E 41.25 feet to a point; thence S 69°04'35" E 84.44 feet to a point; thence S 71°35'41" E 115.16 feet to a point; thence N 55°32'50" E 118.44 feet to a point; thence N 62°41'54" E 92.82 feet to a point; thence N 12°55'41" E 107.37 feet to a point; thence S 83°19'15" E 86.20 feet to a point; thence S 41°13'50" E 71.81 feet to a point; thence S 54°45'39" E 46.12 feet to a point; thence N 70°59'58" E 60.02 feet to a point; thence N 38°35'17" E 117.29 feet to a point; thence N 29°50'33" E 63.75 feet to a point; thence N 76°43'59" E 158.92 feet to a point; thence S 81°45'59" E 163.52 feet to a point; thence N 52°53'34" E 57.84 feet to a point; thence N 11°07'22" E 126.69 feet to a point; thence N 26°11'58" E 97.66 feet to a point; thence N 72°30'31" E 48.65 feet to a point; thence N 35°19'52" E 88.85 feet to a point; thence N 75°27'24" E 156.73 feet to a point; thence S 82°35'26" E 88.86 feet to a point; thence S 78°50'20" E 112.83 feet to a point; thence N 27°27'50" E 170.69 feet to a point; thence N 48°12'51" W 69.50 feet to a point; thence N 11°19'01" E 86.46 feet to a point; thence N 52°04'04" W 85.51 feet to a point; thence N 67°16'41" W 93.39 feet to a point; thence N 43°31'25" W 38.46 feet to a point; thence N 07°21'13" E 54.21 feet to a point; thence N 18°12'07" W 84.51 feet to a point; thence N 03°08'06" W 65.96 feet to a point; thence N 37°17'36" W 94.11 feet to a point; thence N 35°01'16" W 102.96 feet to a point; thence N 11°24'26" E 79.18 feet to a point; thence N 59°59'27" E 62.05 feet to a point; thence N 04°06'12" W 94.68 feet to a point; thence N 04°00'43" W 90.89 feet to a point; thence N 04°13'27" E 68.47 feet to a point; thence N 35°26'44" W 70.42 feet to a point; thence N 54°32'20" W 67.69 feet to a point; thence N 63°46'24" W 98.86 feet to a point; thence S 76°37'48" W 71.06 feet to a point; thence S 32°09'31" W 86.62 feet to a point; thence S 31°43'00" W 32.76 feet to a point; thence S 04°48'59" W 62.97 feet to a point; thence S 19°04'36" W 48.65 feet to a point; thence S 36°50'19" W 86.57 feet to a point; thence S 10°12'42" W 68.68 feet to a point; thence S 46°32'43" W 34.20 feet to a point; thence S 16°28'40" E 100.28 feet to a point; thence S 33°32'18" W 85.86 feet to a point; thence S 48°05'55" W 78.99 feet to a point; thence S 11°16'58" E 73.45 feet to a point; thence S 07°56'47" E 83.37 feet to a point; thence S 39°45'19" W 52.15 feet to a point; thence S 57°34'33" W 75.58 feet to a point; thence S 37°28'44" W 73.16 feet to a point; thence S 57°49'28" W 49.20 feet to a point; thence S 57°00'50" W 120.31 feet to a point; thence N 89°10'54" W 97.03 feet to a point; thence N 77°46'02" W 61.91 feet to a point; thence N 48°37'11" W 51.85 feet to a point; thence N 54°44'19" W 109.25 feet to a point; thence N 78°48'26" W 78.34 feet to a point; thence S 87°49'07" W 75.45 feet to a point; thence N 80°18' 26" W 70.66 feet to a point; thence N 51°07'42" W 95.17 feet to a point; thence N 56°38'35" W 70.92 feet to a point; thence S 78°06'59" W 48.96 feet to a point; thence S 78°12'04" W 74.98 feet to a point; thence S 48°26'21" W 98.63 feet to a point; thence S 32°03'29" W 65.97

feet to a point; thence S 47°49'48" W 78.77 feet to a point; thence S 71°18'31" W 97.16 feet to a point; thence S 81°58'15" W 96.84 feet to a point; thence S 09°19'35" W 64.96 feet to a point; thence S 09°34'04" W 63.68 feet to a point; thence S 05°03'08" W 88.95 feet to a point; thence S 20°48'56" W 76.64 feet to a point; thence S 65°12'24" W 95.69 feet to a point; thence S 58°31'55" W 88.53 feet to a point; thence S 56°53'53" W 95.50 feet to a point; thence S 65°19'57" W 77.70 feet to a point; thence S 37°34'54" W 96.98 feet to a point; thence S 14°57'05" W 72.02 feet to a point; thence S 33°34'55" W 96.97 feet to a point; thence S 18°59'06" W 93.67 feet to a point; thence S 06°16'47" W 47.07 feet to a point; thence S 24°29'23" W 105.50 feet to a point; thence S 04°24'15" E 94.44 feet to a point; thence S 11°05'36" W 90.90 feet to a point; thence S 71°35'49" W 60.01 feet to a point; thence S 69°02'59" W 68.86 feet to a point; thence N 76°28'12" W 81.70 feet to a point; thence N 71°25'54" W 58.17 feet to a point; thence S 74°04'45" W 118.21 feet to a point; thence N 83°38'26" W 108.48 feet to a point; thence S 47°48'27" W 102.81 feet to a point; thence S 86°55'20" W 109.04 feet to a point; thence S 37°43'44" W 62.19 feet to a point; thence S 42°06'56" W 81.42 feet to a point; thence S 72°35'30" W 88.17 feet to a point; thence S 44°59'58" W 85.73 feet to a point; thence S 37°50'44" W 68.72 feet to a point; thence S 09°14'27" E 80.41 feet to a point; thence S 12°59'00" E 165.72 feet to a point; thence N 66°03'12" W 121.14 feet to a point; thence S 50°53'59" W 42.52 feet to a point; thence S 44°28'24" W 70.11 feet to a point; thence S 03°16'24" W 40.24 feet to a point; thence S 08°55'43" W 111.95 feet to a point; thence S 47°52'35" W 103.88 feet to a point; thence S 14°42'40" E 61.84 feet to a point; thence S 36°51'01" W 107.27 feet to a point; thence S 19°04'15" W 59.11 feet to a point; thence S 61°35'29" W 59.98 feet to a point; thence S 41°06'07" W 169.65 feet to a point; thence S 83°46'47" W 98.59 feet to a point; thence S 73°04'59" W 245.04 feet to a point; thence S 00°36'58" E 94.96 feet to a point; thence S 20°03'14" W 140.36 feet to a point; thence N 50°35'52" W 185.28 feet to a point; thence N 67°08'32" W 197.85 feet to a point; thence N 41°53'41" W 101.29 feet to a point; thence N 17°29'23" W 102.20 feet to a point; thence N 56°39'05" W 110.73 feet to a point; thence N 51°51'36" W 64.03 feet to a point; thence N 37°33'55" W 82.38 feet to an existing iron rod; thence N 30°54'12" W 114.12 feet to an existing iron rod; thence N 02°51'09" E 119.19 feet to an existing iron rod; thence N 46°33'21" W 185.87 feet to an existing iron rod; thence N 20°56'43" W 124.50 feet to an existing iron rod; thence N 04°08'19" W 95.14 feet to an existing iron rod; thence leaving said creek S 85°46'31" W 1515.85 feet to an existing iron pipe, the northeast corner of the County of Onslow (DB 1198 PG 949) and running thence as the northern line of said County of Onslow N 69°03'40" W 300.18 feet to an existing iron pipe in the eastern right-of-way of US Hwy. 17; thence as said right-of-way N 20°52'58" E 4144.70 feet to an existing iron rod, the southwest corner of the County of Onslow (DB 1198 PG 949); thence as the southern line of said county S 69°00'00" E 199.98 feet to an existing iron rod; thence as the eastern line of said county property N 20°52'00" E 200.00 feet to an existing iron rod; thence as the northern line of said county property N 69°07'37" W 199.93 feet to an existing iron rod in the eastern right-of-way of US Hwy. 17; thence as said right-of-way N 20°52'49" E 1103.44 feet to a right-of-way monument, said monument being the point of curvature of a curve to the right having a radius of 3070.11 feet, a length of 580.94 feet, a chord bearing and distance of N 26°18'04" E 580.08 feet to a point; thence continuing with said right-of-way N 31°43'19" E 0.40 feet to an existing iron rod; thence N 31°43'19" E 1517.34 feet to an existing iron pipe, the westernmost corner of the County of Onslow's water treatment plant (DB 1198 PG 949); thence as the southern line leaving said right-of-way S 69°52'00" E 898.88 feet to an existing iron pipe; thence as the eastern line of said water treatment plant tract N 20°08'41" E 717.54 feet to an existing iron pipe; thence as the northern line of said water treatment plant tract N 69°51'51" W 869.34 feet to a point in the eastern right-of-way of US Hwy. 17; thence as said right-of-way N 09°37'08" E 64.69 feet to a right-of-way monument; thence continuing with said right-of-way N 09°37'08" E 317.54 feet to the point of intersection of the eastern right-of-way of US Hwy. 17 and the run of Bull Branch; thence leaving said right-of-way as the Run of Bull Branch N 61°40'56" E 54.80 feet to a point; thence N 49°16'19" E 218.98 feet to a point; thence N 69°14'58" E 212.47 feet to a point; thence N 49°01'19" E 257.25 feet to a point; thence N 35°45'01" E 176.42 feet to a point; thence N 63°40'44" E 91.87 feet to a point; thence N 26°33'09" E 88.73 feet to a point; thence N 58°36'10" E 105.70 feet to a point; thence N 29°58'56" E 165.70 feet to a point; thence N 04°45'51" E 80.63 feet to a point; thence N

41°05'45" E 131.75 feet to a point; thence N 18°20'51" E 56.50 feet to a point; thence N 48°21'17" E 127.31 feet to a point; thence N 30°59'09" E 106.53 feet to a point; thence N 48°46'18" E 134.52 feet to a point; thence N 63°25'45" E 200.35 feet to a point; thence S 83°12'55" E 208.56 feet to a point; thence S 82°53'02" E 120.29 feet to a point; thence N 36°45'11" E 67.12 feet to a point; thence N 48°46'18" E 79.15 feet to a point; thence N 64°45'36" E 85.97 feet to a point; thence N 82°12'03" E 141.25 feet to a point; thence N 30°39'05" E 50.02 feet to a point; thence N 70°09'48" E 58.26 feet to a point; thence N 35°24'58" E 28.32 feet to a point; thence S 87°21'20" E 122.17 feet to a point; thence N 66°25'23" E 116.46 feet to a point; thence N 87°45'22" E 88.28 feet to a point; thence S 82°38'08" E 140.22 feet to a point; thence S 69°09'07" E 116.43 feet to a point; thence N 75°28'45" E 145.73 feet to a point; thence S 62°32'24" E 131.82 feet to a point; thence N 17°35'36" E 124.03 feet to a point; thence N 58°16'11" E 218.70 feet to a point; thence N 19°46'17" E 132.62 feet to a point; thence N 33°09'35" E 168.47 feet to a point; thence N 86°50'40" E 204.98 feet to a point; thence N 21°06'41" E 210.16 feet to a point; thence N 77°43'14" E 155.01 feet to a point; thence S 57°10'13" E 223.06 feet to a point; thence N 76°08'36" E 257.67 feet to a point; thence S 43°17'51" E 75.20 feet to a point; thence S 48°05'10" E 207.10 feet to a point; thence N 60°41'01" E 180.34 feet to a point; thence S 58°19'36" E 99.87 feet to a point; thence S 39°34'56" E 343.70 feet to a point; thence S 81°58'24" E 78.32 feet to a point; thence S 57°00'18" E 102.50 feet to a point; thence S 76°40'38" E 86.43 feet to a point; thence S 47°10'40" E 109.91 feet to a point; thence S 14°38'23" W 438.09 feet to a point; thence S 13°59'01" E 322.15 feet to a point; thence S 31°49'19" E 139.19 feet to a point; thence S 60°58'13" E 187.71 feet to a point in the eastern flood plain of Stone Creek (MB 34 PG 202); thence as said flood plain S 27°34'06" W 560.57 feet to a point; thence S 12°20'50" E 459.32 feet to a point; thence S 15°39'16" W 291.04 feet to a point; thence S 31°02'08" E 341.99 feet to a point in the run of Indian Grave Branch; thence as said run S 14°31'32" E 41.34 feet to a point; thence S 74°24'14" E 58.38 feet to a point; thence S 11°59'21" E 37.19 feet to a point; thence S 43°18'31" E 60.74 feet to a point; thence S 27°47'13" E 112.50 feet to a point; thence S 04°24'12" E 40.58 feet to a point; thence S 08°29'19" E 43.38 feet to a point; thence S 26°25'49" W 71.29 feet to a point; thence S 23°41'31" E 23.51 feet to a point; thence S 55°35'52" E 58.60 feet to a point; thence S 83°40'19" E 40.36 feet to a point; thence N 88°12'49" E 35.14 feet to a point; thence N 88°46'16" E 61.81 feet to a point; thence S 31°42'42" E 21.28 feet to a point; thence S 57°52'32" E 24.94 feet to a point; thence N 76°30'10" E 15.00 feet to a point; thence S 57°18'38" E 46.09 feet to a point; thence S 17°35'33" W 23.70 feet to a point; thence S 67°55'21" E 27.20 feet to a point; thence S 49°29'55" E 69.23 feet to a point; thence S 36°50'49" E 82.35 feet to a point; thence S 07°47'55" E 26.68 feet to a point; thence S 71°43'26" E 140.31 feet to a point; thence S 42°27'15" E 40.34 feet to a point; thence S 35°39'31" E 22.61 feet to the BEGINNING, containing 1,481.92 acres, more or less, and being a portion of that tract shown on Map Book 43, Page 190, Slide K-1617 Onslow County Registry.

LESS AND EXCEPT the following tracts or parcels of land as shown on the above mentioned map:

1. That certain tract designated as Charles Cooper, Deed Book 376, Page 625 (actual page number being 62), containing 21.30 acres;
2. The Telespectrum, Inc. tract, containing 2.90 acres, Deed Book 956, Page 489, Onslow County Registry;
3. The County of Onslow Well lot, containing 1.01 acres, Deed Book 1820, Page 143, Onslow County Registry;
4. The County of Onslow Well lot, containing 0.92 acres, Deed Book 1944, Page 886, Onslow County Registry;

BEING the same property acquired by the GRANTOR by deed recorded in the Register of Deeds Office, Onslow County, North Carolina in Deed Book 1920, page 425.

The perpetual easement and rights for restrictions, military training, ingress and egress are described as follows:

A. Restricted Uses and Development Rights. Except as provided herein, industrial, manufacturing, sales and residential uses or development of the Property, and access thereto for those purposes, is prohibited. Except as authorized herein, the GRANTOR conveys to the GOVERNMENT the right to restrict all development rights that are now or hereafter allocated to, implied, reserved or inherent in the Property. Provided, however,

1. Agricultural, Recreational and Commercial Uses. All agricultural, recreational and commercial uses or exploitation of the Property that is not inconsistent with the restrictions contained in paragraph B, or the purposes of this easement, are authorized; and

2. Silvicultural, Mining, Grazing, Excavation and Use of Natural Resources. Provided such uses are not inconsistent with the restrictions contained in paragraph B or the purposes of this easement, all silvicultural, mining, grazing, excavation and other exploitation of the Property's natural resources, including but not limited to timber harvesting (to include thinning and clearcutting of marketable timber), mechanical and chemical site preparation, reforestation, and all other activities associated therewith are permitted.

B. Improvements and New Construction. No building, facility, warehouse, residence, dwelling (to include, but not limited to: mobile homes, tents, campers, trailers or any type of permanent residential structure), cell tower, radio tower, satellite tower, landfill, tank farm, golf course, recreational structure or park (to include, but not limited to, tennis court, skating rink, basketball court, or sports field), utility plant operation (to include, but not limited to, waste water or sewer treatment plants, municipal water systems, and electrical or natural gas operations) and or any other type of edifice or structure shall be constructed or placed on the Property after the date of this easement unless the GOVERNMENT expressly approves such construction or activity in writing. Provided, however, GRANTOR, may:

1. Construct, maintain and utilize reasonable means of access to, and utilities for, all permitted uses of the Property not otherwise inconsistent with the restrictions contained herein; and,
2. Construct and maintain fences and gates for the purpose of limiting access and protecting the Property from unauthorized use.

C. Use of Property. Consistent with the prohibitions set forth in paragraphs A and B, the purposes of this easement, or otherwise reserved herein, the GRANTOR retains all rights, responsibilities, uses and benefits as owner of the Property.

D. Military Training Rights. The GOVERNMENT shall have a perpetual right to access and use the Property for "limited light military training," which may include, but is not limited to: tactical exercises with troops; non-tracked tactical vehicles and other foot mobile troop movement; establishment of command posts, communication and radar sites, and bivouac for troops; and, other similar military training exercises, more particularly described as follows:

1. Limited light military training will only be conducted upon the GOVERNMENT's express written request and the express written consent of the GRANTOR or its designee, provided: (1) that such training will be compatible with the GRANTOR's use and enjoyment of the Property, including the preservation and protection of GRANTOR's economic interests and activities; and (2) that the opportunity to conduct such training shall not be unreasonably withheld and shall, at a maximum, be granted for not more than 30 days per calendar year. The parties agree to use best efforts to coordinate authorized military training activities with other uses.
2. The following activities are expressly prohibited: the use of live ammunition or demolitions, removal of bridges, road obstacles that are not easily removed by hand, and the use of noxious gas agents or other similar riot control agents.

E. Ingress and Egress. The GOVERNMENT shall have a perpetual easement for ingress and egress at reasonable times and places, subject to the prior notice conditions herein stated, for the purpose of exercising

and enforcing the rights set forth hereinabove; reserving, however, to the GRANTOR, any and all rights and privileges as may be used and enjoyed without interfering with or abridging the rights hereinabove set forth.

F. Enforcement. The GOVERNMENT shall have the right to prevent and correct violations of the terms of this Easement through administrative and/or legal procedures.

1. Upon advance written notice, the GOVERNMENT may enter the Property for the purpose of inspection for violations of the terms or provisions of this Easement. If the GOVERNMENT discovers a violation, it may, at its discretion, take appropriate enforcement action, to include instituting legal action. Provided, however, the GOVERNMENT shall give the GRANTOR, or any successors or assigns, written notice of the violation and sixty (60) days to correct any such violation (or begin good faith efforts to correct in the event the violation is something which cannot be reasonably corrected in sixty (60) days) before filing any legal action. If a court of competent jurisdiction determines that a violation exists or has occurred, the court may enjoin any inconsistent use and may require the GRANTOR, its successors or assigns, to correct the violation or restore the Property to the condition prior to the violation. Failure of the GOVERNMENT to discover a violation or to take immediate legal action shall not bar it from doing so at a later time.

G. Transfer of Property. Any time the GRANTOR transfers any or all interest in the Property to any third party, the GRANTOR shall notify the GOVERNMENT in writing at least thirty (30) days prior to the transfer of the Property, and the document of conveyance shall expressly state that the rights, entitlements, use and enjoyment of the Property being conveyed are subject to the restrictions and provisions set forth in this Easement.

H. Notice. Notice shall be considered as provided upon delivery to the respective owners of record for interests in property, unless otherwise agreed to in writing.

I. Responsibilities of GRANTOR and GOVERNMENT not affected. Other than specified herein, this Easement is not intended to impose any legal or other responsibility on the GOVERNMENT, or in any way affect any existing obligation or responsibility of the GRANTOR as owner of the Property.

The GRANTOR covenants with the GOVERNMENT that it is seized of said Property in fee simple; that GRANTOR has the right to convey, and voluntarily conveys for the agreed upon price, this Easement with the additional authority for the GOVERNMENT to control and restrict the use and development of GRANTOR's Property as provided in this Easement; that title is marketable and free and clear of all encumbrances; and that the GRANTOR will warrant and defend the title against the lawful claims of all persons whomsoever, except for easement of record; and that GRANTOR will execute such further assurances as may be required.

IN WITNESS WHEREOF, the GRANTOR has caused this GRANT OF EASEMENT to be executed as of the day and year first above written.



[Handwritten signature] Asst. Sec.

THE NATURE CONSERVANCY
By: Katharine D. Kemin
Title: Vice President

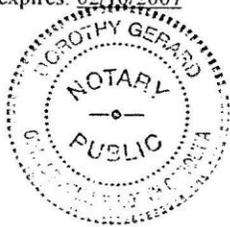
NORTH CAROLINA, DURHAM COUNTY

I, Dorothy Gerard, Notary Public in and for the County and State aforesaid, certify that Katherine D. Skinner personally came before me this day and acknowledged that she is Vice President of the Nature Conservancy, a non-profit corporation, and that she, as Vice President, being authorized to do so, executed the foregoing on behalf of the corporation. Witness my hand and official seal or stamp this 15th day of January, 2003.

Dorothy Gerard
Notary Public

My commission expires: 02/10/2007

(Notary Seal)



NORTH CAROLINA, ONSLOW COUNTY
The foregoing certificate(s) of

Dorothy Gerard

Notary(ies) Public is (are) certified to be correct. This instrument was presented for registration and recorded in this office in
Book 1960 Page 168 This 22 day of January
2003 A.D. at 12:07 o'clock p M.
Michael M. Hoare By --
Register of Deeds, Onslow County Register of Deeds

P/29/2007/THU 02:13 PM

GAYLOREDWARDSVATCHER

Doc No. 910 455 0117

P.002



Doc ID: 003812640003 Type: CRP
Recorded: 08/15/2007 at 12:48:16 PM
Fee Amt: \$1,866.00 Page 1 of 3
Excise Tax: \$1,846.00
Onslow County, NC
Maryland K. Washington Reg. of Deed

BK 2836 PG 15-17

This deed presented to
The Onslow Co Tax Office
Date 8-15-07 Clerk AM

Delinquent taxes, if any, will be paid out of the closing proceeds to the Onslow County Tax Collector by the closing attorney

NORTH CAROLINA SPECIAL WARRANTY DEED

Excise Tax \$1,846.00

Recording Time, Book and Page (see above)

This instrument prepared by: Gaylor, Edwards and Vatcher, Attorneys

Tax Parcel I.D. No.: 747-13

Mail after recording to: Attorney General's Office, Property Control Section, 9001 Mail Service Center
Raleigh, NC 27699-9001

Brief description for index: 376.524 acres, Map Book 49, Page 40

THIS DEED made this 14th day of March, 2007 by and between:

GRANTOR:

GRANTEE:

THE NATURE CONSERVANCY, a non-profit corporation of the District of Columbia

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 tract, lot or parcel of land described as follows:

Being situated in Stump Sound Township, Onslow County, North Carolina and being more particularly described as follows:

BEING all that 376.524 acre tract of land as shown and described on a plat entitled, "Boundary Survey For THE NATURE CONSERVANCY", dated August 4, 2005, prepared by Charles F. Riggs & Associates, Inc. and recorded in Map Book 49, Page 40, Slide L-898, in the office of the Register of Deeds of Onslow County, North Carolina.

The property herein above described was acquired by Grantor by instrument recorded in: Book 2507, Page 646, Onslow County Registry.

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

THE GRANTOR COVENANTS WITH THE GRANTEE, that Grantor has done nothing to impair the title to the above described property and that to the best of Grantor's knowledge, 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 claiming by or through the Grantor, except for the exceptions hereinafter stated.

Title to the property herein above described is subject to the following exceptions:

1. Grant of Easement to the United States of America, acting by and through the Department of the Navy, restricting the use of the above described property and for ingress and egress, recorded in Book 2576, Page 708, Onslow County Registry.
2. Encroachments, overlaps, boundary line disputes, easements or claims of easement, and any other matters that would be disclosed by an accurate survey or inspection of the premises.
3. Liens for taxes, not yet due and payable, if any.
4. Any law, ordinance or governmental regulation (including, but not limited to, building and zoning ordinances, statutes and regulations) that restricts, regulates, or prohibits the occupancy, use or enjoyment of the property, or regulates the character, dimensions or location of any improvement, now or hereafter, erected on the property.
5. All applicable restrictive covenants and utility easements of record, if any.
6. This conveyance does not include any crop allotment, including, but not limited to, tobacco.

The State of North Carolina has received a grant from the US Department of the Interior, Fish and Wildlife Service to assist it with the acquisition of the above described property, and the State has instructed The Nature Conservancy to include the following paragraph in this deed:

The above described property was acquired (in part) with funds provided by the U.S. Department of the Interior, Fish and Wildlife Service and will be managed for the purpose of this grant, in accordance with the applicable Federal and State Law. The property may not be disposed of in any manner, or used for purposes inconsistent with the Program for which it was acquired, without the prior approval of the Regional Director- Southeast Region, U.S. Fish and Wildlife Service.

All correspondence and requests concerning this notice shall be forwarded to: U.S. Fish and Wildlife Service, Division of Federal Aid, 1875 Century Blvd., Suite 240, Atlanta, GA 30345.

IN WITNESS WHEREOF, the Grantor has hereto set his hand, or if corporate or other entity, has caused this instrument to be executed by its duly authorized partner(s), manager(s) or officer(s), the day and year first above written.

THE NATURE CONSERVANCY, a nonprofit corporation organized and existing under the laws of the District of Columbia,

By: Michael L. Andrews

Name: Michael L. Andrews

Title: Vice President

AGREEMENT FOR PURCHASE OF REAL PROPERTY
No. N62470-05-RP-10066

AGREEMENT by and between **THE STATE OF NORTH CAROLINA**, a body politic and corporate, hereinafter called the "Vendor," and the United States of America, hereinafter called the "Government."

THE VENDOR AGREES TO SELL, AND THE GOVERNMENT AGREES TO PURCHASE, for the consideration of Five hundred and fifty thousand dollars and no cents (\$ 550,000.00) the restrictive easement described below, subject to the terms, conditions, and general provisions set forth on this page and on the reverse side hereof and to the additional provisions, if any, incorporated herein by attachment or reference as set forth below.

1. LOCATION AND DESCRIPTION OF PROPERTY: As described on Attachment No. 1 hereto.
2. RIGHTS OUTSTANDING IN THIRD PARTIES OTHER THAN SPECIFIED IN PARAGRAPH (a) OF THE GENERAL PROVISIONS: None Described in Attachment No. _____
3. RIGHTS RESERVED BY VENDOR: None Described in Attachment No. 2
4. The Vendor agrees to convey said restrictive easement to the Government upon payment of the purchase price. If possession is to be delivered upon other than the date of payment of the purchase price, or not as provided in the preceding sentence, provision therefor shall be made in the form of an attachment to this Agreement.
5. The executed copy of the agreement, or notice of execution thereof, shall be sent to the Vendor at the following address:
 State of North Carolina / State Property Office
 1321 Mail Service Center
 Raleigh, North Carolina 27699-1321

6. EXECUTION BY VENDOR

THE STATE OF NORTH CAROLINA, a body politic and corporate

By: Tommy E. Chris General Real Estate Mgr. 7-19-05
 Name Title Date

IF VENDOR IS A CORPORATION, CERTIFICATION BY SECRETARY OR ASSISTANT SECRETARY: I certify that the person who signed this agreement on behalf of the Vendor was then the Officer indicated and this agreement was duly signed for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

 Name and Title Signature Date

7. EXECUTION FOR AND ON BEHALF OF THE GOVERNMENT

THE UNITED STATES OF AMERICA

BY Eugene C. Jicha 8/29/05 Carla S. Rott
 EUGENE C. JICHA Date Witness
 Real Estate Contracting Officer, Naval Facilities Engineering Command, Atlantic

8. NAVY IDENTIFICATION AND ACCOUNTING DATA							
8A. NAME AND ADDRESS OF NAVAL ACTIVITY Commanding General Marine Corps Base PSC Box 20004 Camp Lejeune North, Carolina 28542-0004				8B. LOCAL GOVERNMENT REPRESENTATIVE (Activity and address) Commander Naval Facilities Engineering Command, Atlantic 6506 Hampton Boulevard Norfolk, Virginia 23508-1278			
8C. PAYMENT TO BE MADE BY: Defense Finance & Accounting Service Operating Location Norfolk, Attn: Code CAC3431 1837 Morris Street, Suite 1401 Norfolk VA 23511					8D. PARCEL(S) NO. H&M Farms		8E. CONTRACT NO. N62470-05-RP-10066
APPROPRIATION SYMBOL AND SUBHEAD	OBJECT CLASS	BUREAU CONTROL OR UIC	AUTH. ACCTG. ACTIVITY	TYPE	PROPERTY ACCTG. ACTY	COST CODE	AMOUNT
AA 1751106.27A0	0000	00027/0	067443	2D	000000	8805RCUPL349	\$ 550,000.00

9. GENERAL PROVISIONS

a. **PAYMENT AND CONVEYANCE.** The purchase price for said property shall be paid when the Government has had a reasonable time to secure and examine the title evidence for said property and to obtain the necessary approval of title; and provided that the Vendor executes and delivers to the Government a good and sufficient deed conveying the easement in the said property to the Government free from all liens and encumbrances.

b. **PREPARATION OF DEED.** The Government agrees to defray the expenses incident to the preparation of the deed to the Government and the abstract or certificate of title; provided, however, that the Vendor will deliver to the representatives of the Government any abstracts, certificates of title or muniments of title available to the Vendor or in his possession.

c. **LIENS.** The Vendor agrees that all taxes, assessments, and encumbrances which are a lien against the property at the time of conveyance to the Government shall be satisfied by the Vendor prior to or at the time of transfer of title and, if the Vendor fails to do so, the Government may pay any taxes, assessments, and encumbrances which are a lien against the property and deduct such payments from the purchase price. However, the Government agrees to pay all recording fees, transfer taxes and similar expenses incidental to conveying the easement to the Government, if payable in a conveyance to the Government.

d. **LOSS OR DAMAGE.** The Vendor agrees that loss or damage to the property shall be at the risk of the Vendor until the deed conveying the easement to the Government has been accepted by the Government through its duly authorized representative, and in the event that such loss or damage occurs, the Government may, without liability, refuse to accept conveyance of the easement, or it may elect to accept conveyance of the easement, in which case there shall be an equitable adjustment of the purchase price.

e. **DESCRIPTION.** The above description of the property is subject to such modifications as may be necessary to conform to the survey (if any) made by the agents of the Government.

f. **GRATUITIES.**

(1) The Government may, by written notice to the Vendor, terminate the right of the Vendor to proceed under this agreement if it is found, after notice and hearing, by the Secretary of the Navy or his duly authorized representative, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the Vendor, or any agent or representative of the Vendor, to any officer or employee of the Government with a view toward securing this agreement or securing favorable treatment with respect to the awarding or amending or the making of any determinations with respect to the performing of such agreement: *Provided*, that the existence of the facts upon which the Secretary or his duly authorized representative makes such findings shall be in issue and may be reviewed in any competent court.

(2) In the event this agreement is terminated as provided in Paragraph (1) hereof, the Government shall be entitled to pursue the same remedies against the Vendor as it could pursue in the event of a breach of the contract by the Vendor.

(3) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this agreement.

g. **NUMBER.** Wherever the context thereof requires, the singular number as used herein shall be read as plural.

h. **REPRESENTATIONS.** All terms and conditions with respect to this agreement of purchase are expressly contained herein and the Vendor agrees that no representative or agent of the Government has made any representation or promise with respect thereto not expressly contained herein.

i. **ADDITIONAL PROVISIONS.** Additional provisions incorporated by attachment or reference and forming a part of this agreement:

Attachment No. 1 is the land survey and legal description describing the H&M Farms property.

Attachment No. 2 is easement number N62470-05-RP-10065 between the U.S. Government and The State of North Carolina.

Contract Number N62470-05-RP-10065
File Number EI-0809

GRANT OF EASEMENT

THIS EASEMENT, made this 26th day of July, 2005 by and between THE STATE OF NORTH CAROLINA, a body politic and corporate, hereinafter called GRANTOR, and the UNITED STATES OF AMERICA, acting by and through the Department of the Navy, hereinafter called GOVERNMENT;

The designation of GRANTOR as used herein shall include its successors and assigns, and shall include singular, plural, masculine, feminine or neuter pronouns as required by context.

WITNESSETH:

WHEREAS, the GRANTOR is the sole owner in fee simple of certain property ("Property"), hereinafter described tract of land containing 250.77 acres, more or less, located in Onslow County, State of North Carolina and situated adjacent to the Marine Corps Base, Camp Lejeune, North Carolina (the "Installation"); and

WHEREAS, GRANTOR intends to limit development of the Property and preserve and protect the conservation values of the Property in perpetuity; and

WHEREAS, it is in the public interest to limit development or use of property in the vicinity of the Installation that would otherwise be incompatible with its mission and to preserve habitat on such property in a

manner that is compatible with environmental requirements that would or might interfere, whether directly or indirectly, with current or anticipated military training, testing or operations on such Installation; and

WHEREAS, the GOVERNMENT has entered into an agreement with GRANTOR pursuant to Section 2684a of Title 10 of the United States Code to acquire a perpetual easement which shall run with the entire tract of land to prevent development that would be incompatible with the mission of the installation; and

WHEREAS, the GRANTOR and the GOVERNMENT entered into an agreement identified as

(purchase agreement contract #) _____, dated _____, whereby the GRANTOR agreed to sell

and the GOVERNMENT agreed to purchase for the consideration of FIVE HUNDRED AND FIFTY THOUSAND DOLLARS AND NO CENTS (\$ 550,000.00), the hereinafter described easement and additional rights on, over, across and affecting the use and development of said Property; and

NOW THEREFORE, for and in consideration of the sum of FIVE HUNDRED AND FIFTY THOUSAND DOLLARS AND NO CENTS (\$ 550,000.00) paid to GRANTOR, receipt of which is hereby acknowledged, the GRANTOR does hereby grant and convey to the GOVERNMENT, a perpetual easement appurtenant to restrict the use and development of said Property that would encumber, impede, limit or otherwise be incompatible with the mission of the Installation, and to provide for ingress and egress on, over and across said Property more particularly described as:

The certain parcel or tract of land being located in Stump Sound Township, Onslow County, North Carolina. Bounded on the north by the State of North Carolina (MB 43 Pg 173); on the east by Gregory Pearson (DB 1333 Pg 894); on the west by US Highway 17; on the south by Folkstone Plantation and Sullivan Estates and more particularly described as follows to wit:

BEGINNING at an existing iron rod (said rod being located at the intersection of the southeast right-of-way of US Highway 17 and the centerline of Pilchers Branch Road) and running thence as the southeast right-of-way of US Highway 17 N 20°54'21" E 2725.98' to an existing iron pipe the southwest corner of the County of Onslow (DB 1198 Pg 949); thence leaving said right-of-way as the southern line of said County of Onslow S 69°05'52" E 300.84' to an existing iron pipe thence as the southeast line of said County of Onslow N 20°42'02" E 199.86' to an existing iron pipe a corner of the State of North Carolina property (MB 43 Pg 173); thence as a line of the State of North Carolina N 85°46'31" E 1,515.85' to a point in the run of a branch (MB 37 Pg 56); thence as said run the following calls and distances: S 04°08'19" E 95.14', S 20°56'43" E 124.50', S 46°33'21" E 185.87', S 02°51'09" W 119.19', S 30°54'12" E 114.12', S 37°33'55" E 82.38', S 51°51'36" E 64.03', S 56°39'05" E 110.73', S 17°29'23" E 102.20', S 41°53'41" E 101.29', S 67°08'32" E 197.85', S 50°35'52" E 185.28', N 20°03'14" E

140.36', N 00°36'58" W 94.96', N 73°04'59" E 245.04', N 83°46'47" E 98.59', N
 41°06'07" E 169.65', N 61°35'29" E 59.98', N 19°04'15" E 59.11', N 36°51'01" E
 107.27', N 14°42'40" W 61.84', N 47°52'35" E 103.88', N 08°55'43" E 111.95', N
 03°16'24" E 40.24', N 44°28'24" E 70.11', N 50°53'59" E 42.52', S 66°03'12" E
 121.14', N 12°59'00" W 165.72', N 09°13'59" W 80.40', N 37°50'44" E 68.72', N
 44°59'58" E 85.73', N 72°35'30" E 88.17', N 42°06'56" E 81.42', N 37°43'44" E
 62.19', N 86°55'20" E 109.04', N 47°48'27" E 102.81', S 83°38'26" E 108.48', N
 74°04'45" E 118.21', S 71°25'54" E 58.17', S 76°28'12" E 81.70', N 69°02'59" E
 68.86', N 71°35'49" E 60.01', N 11°05'36" E 90.90', N 04°24'15" W 94.44', N
 24°29'23" E 105.50', N 06°16'47" E 47.07', N 18°59'06" E 93.67', N 33°34'55" E
 96.97', N 14°57'05" E 72.02', N 37°34'54" E 96.98', N 65°19'57" E 77.70', N
 56°53'53" E 95.50', N 58°31'55" E 88.53', N 65°12'24" E 95.69', N 20°48'56" E
 76.64', N 05°03'08" E 88.95', N 09°34'04" E 63.68', N 09°19'35" E 64.96', N
 81°58'15" E 96.84', N 71°18'31" E 97.16', N 47°49'48" E 78.77', N 32°03'29" E
 65.97', N 48°26'21" E 98.63', N 78°12'04" E 74.98', N 78°06'59" E 48.96', S
 56°38'35" E 70.92', S 51°07'42" E 95.17', S 80°18'26" E 70.66', N 87°49'07" E 75.45',
 S 78°48'26" E 78.34, S 54°44'19" E 109.25', S 48°37'11" E 51.85', S 77°46'02" E
 61.91', S 89°10'54" E 97.03', N 57°00'50" E 120.31', N 57°49'28" E 49.20', N
 37°28'44" E 73.16', N 57°34'33" E 75.58', N 39°45'19" E 52.15', N 07°56'47" W
 83.37', N 11°16'58" W 73.45', N 48°05'55" E 78.99', N 33°32'18" E 85.86', N
 16°28'40" W 100.28', N 46°32'43" E 34.20', N 10°12'42" E 68.68', N 36°50'19" E
 86.57', N 19°04'36" E 48.65', N 04°48'59" E 62.97', N 31°43'00" E 32.76', N
 32°09'31" E 86.62', N 76°37'48" E 71.06', S 63°46'24" E 98.86', S 54°32'20" E 67.69',
 S 35°26'44" E 70.42', S 04°13'27" W 68.47', S 04°00'43" E 90.89', S 04°06'12" E
 94.68', S 59°59'27" W 62.05', S 11°24'26" W 79.18', S 35°01'16" E 102.96', S
 37°17'36" E 94.11', S 03°08'06" E 65.96', S 18°12'07" E 84.51', S 07°21'13" W 54.21',
 S 43°31'25" E 38.46', S 67°16'41" E 93.39', S 52°04'04" E 85.51', S 11°19'01" W
 86.46', S 48°12'51" E 69.50', S 27°27'50" W 170.69', N 78°50'20" W 112.83', N
 82°35'26" W 88.86', S 75°27'24 W 156.73', S 35°19'52" W 88.85', S 72°30'31" W
 48.65', S 26°11'58" W 97.66', S 11°07'22" W 126.69', S 52°53'34" W 57.84', N
 81°45'59" W 163.52', S 76°43'59" W 158.92', S 29°50'33" W 63.75', S 38°35'17" W
 117.29', S 70°59'58" W 60.02', N 54°45'39" W 46.12', N 41°13'50" W 71.81', N
 83°19'15" W 86.20', S 12°55'41" W 107.37', S 62°41'54" W 92.82', S 55°32'50" W
 118.44', N 71°35'41" W 115.16', N 69°04'35" W 84.44', S 32°47'37" W 41.25', S
 81°28'56" W 44.92', S 47°35'55" W 179.14', S 24°19'21" W 40.55', S 16°37'53" E
 95.15', S 61°26'23" W 75.93', S 69°34'47" W 69.53', N 80°55'01" W 80.33', S
 57°28'40" W 53.18', S 00°30'19" E 51.65', S 24°16'42" W 145.84', S 39°44'45" E
 59.84', S 01°39'29" W 40.82', S 36°11'37" E 38.05', S 12°11'22" E 57.68', S 23°47'57"
 W 62.67', S 63°30'58" W 70.74', S 35°25'04" W 106.29', S 41°45'37" W 125.03', S
 45°39'58" E 62.32', S 26°39'10" E 69.95', S 13°29'05" E 205.51', S 76°04'49" E
 65.68', S 12°57'10" E 28.47', S 66°13'00" E 68.09' to an existing iron rod in the
 centerline of Pilchers Branch Road (MB 35 Pg 81) thence as said centerline S 42°25'11"
 W 153.86' to an existing iron rod; thence S 38°31'49" W 329.43' to an existing iron rod;
 thence S 57°10'59" W 183.75' to an existing iron rod; thence S 51°35'32" W 261.77' to
 an existing iron rod; thence S 60°33'00" W 149.08' to an existing iron rod; thence S
 33°41'55" W 121.42' to an existing iron rod; thence S 24°13'37" E 128.66' to an existing
 iron rod; thence S 09°49'35" W 129.78' to an existing iron rod; thence S 38°45'26" W
 93.08' to an existing iron rod; thence S 73°37'31" W 82.09' to an existing iron rod;

thence N 88°04'59" W 192.87' to an existing iron rod; thence N 88°05'21" W 170.97' to an existing iron rod; thence N 46°23'29" W 152.09' to an existing iron rod; thence S 87°06'29" W 341.65' to an existing iron rod; thence N 80°21'53" W 188.15' to an existing iron rod; thence N 68°50'38" W 158.51' to an existing iron rod; thence S 85°15'39" W 157.43' to an existing iron rod; thence N 78°36'53" W 232.54' to a new iron rod; thence S 81°04'54" W 337.47' to an existing iron rod; thence S 86°25'22" W 464.53' to an existing iron rod; thence N 83°21'07" W 243.94' to a new iron rod; thence S 75°32'36" W 183.56' to an existing iron rod; thence S 88°26'12" W 301.78' to an existing iron rod; thence N 73°14'17" W 204.85' to an existing iron rod; thence S 89°44'22" W 402.95' to an existing iron rod; thence S 78°47'37" W 444.87' to an existing iron rod; thence S 47°32'04" W 269.34' to an existing iron rod; thence S 29°04'52" W 745.16' to an existing iron rod; thence S 44°44'38" W 106.68' to an existing iron rod; thence S 80°27'01" W 468.53' to the beginning containing 250.77 acres more or less and being all of that tract described in Deed Book 1645 Page 174 Onslow County Registry.

BEING the same property acquired by the GRANTOR by deed recorded in the Register of Deeds Office, Onslow County, North Carolina in Deed Book _____, Page _____.

The perpetual easement and rights for restrictions, ingress and egress are described as follows:

A. Restricted Uses and Development Rights. Except as provided herein, industrial, manufacturing, sales and residential uses or development of the Property, and access thereto for that purpose, is prohibited. Except as authorized herein, the GRANTOR conveys to the GOVERNMENT the right to restrict all development rights that are now or hereafter allocated to, implied, reserved or inherent in the Property. Provided, however,

1. Agricultural, Recreational, Industrial, Manufacturing, Sales and Commercial Uses. All agricultural, recreational, industrial, manufacturing, sales and commercial uses or exploitation of the Property that is not inconsistent with the restrictions contained in paragraph B, or the purposes of this easement, are authorized; and

2. Silvicultural, Mining, Grazing, Excavation and Use of Natural Resources. Provided such uses are not inconsistent with the restrictions contained in paragraph B or the purposes of this easement, all silvicultural, mining, grazing, excavation and other exploitation of the Property's natural resources, including but not limited to timber harvesting (to include thinning and clearcutting of marketable timber), mechanical and chemical site preparation, reforestation, and all other activities associated therewith are permitted.

B. Improvements and New Construction. No building, facility, warehouse, residence, dwelling (to include, but not be limited to: mobile homes, tents, campers, trailers or any type of permanent residential structure), cell tower, radio tower, satellite tower, landfill, tank farm, golf course, recreational structure or park (to include, but not limited to, tennis court, skating rink, basketball court, or sports field), utility plant operation (to include, but not limited to, waste water or sewer treatment plants, municipal water systems, and electrical or natural gas operations) and or any other type of edifice or structure shall be constructed or placed on the Property after the date of this easement unless the GOVERNMENT expressly approves such construction or activity in writing. Provided, however, GRANTOR, may:

1. Construct, maintain and utilize reasonable means of access to, and utilities for, all permitted uses of the Property not otherwise inconsistent with the restrictions contained herein; and,

2. Construct and maintain fences and gates for the purpose of limiting access and protecting the Property from unauthorized use.

C. Use of Property. Consistent with the prohibitions set forth in paragraphs A and B, the purposes of this easement, or otherwise reserved herein, the GRANTOR retains all rights, responsibilities, uses and benefits as owner of the Property.

D. Ingress and Egress. The GOVERNMENT shall have a perpetual easement for ingress and egress at reasonable times and places, subject to the prior notice conditions herein stated, for the purpose of exercising and enforcing the rights set forth hereinabove; reserving, however, to the GRANTOR, any and all rights and privileges as may be used and enjoyed without interfering with or abridging the rights hereinabove set forth.

E. Enforcement. The GOVERNMENT shall have the right to prevent and correct violations of the terms of this Easement through administrative and/or legal procedures.

1. Upon advance written notice, the GOVERNMENT may enter the Property for the purpose of inspection for violations of the terms or provisions of this Easement. If the GOVERNMENT discovers a violation, it may, at its discretion, take appropriate enforcement action, to include instituting legal action. Provided, however, the GOVERNMENT shall give the GRANTOR, or any successors or assigns, written notice of the violation and sixty (60) days to correct any such violation (or begin good faith efforts to correct in the event the violation is something which cannot be reasonably corrected in sixty (60) days) before filing any legal action. If a court of competent jurisdiction determines that a violation exists or has occurred, the court may enjoin any inconsistent use and may require the GRANTOR, its successors or assigns, to correct the violation or restore the Property to the condition prior to the violation. Failure of the GOVERNMENT to discover a violation or to take immediate legal action shall not bar it from doing so at a later time.

F. Transfer of Property. Any time the GRANTOR transfers any or all interest in the Property to any third party, the GRANTOR shall notify the GOVERNMENT in writing at least thirty (30) days prior to the transfer of the Property, and the document of conveyance shall expressly state that the rights, entitlements, use and enjoyment of the Property being conveyed are subject to the restrictions and provisions set forth in this Easement.

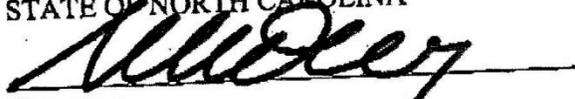
G. Notice. Notice shall be considered as provided upon delivery to the respective owners of record for interests in property, unless otherwise agreed to in writing.

H. Responsibilities of GRANTOR and GOVERNMENT not affected. Other than specified herein, this Easement is not intended to impose any legal or other responsibility on the GOVERNMENT, or in any way affect any existing obligation or responsibility of the GRANTOR as owner of the Property.

The GRANTOR covenants with the GOVERNMENT that it is seized of said Property in fee simple; that GRANTOR has the right to convey, and voluntarily conveys for the agreed upon price, this Easement with the additional authority for the GOVERNMENT to control and restrict the use and development of GRANTOR's Property as provided in this Easement; that title is marketable and free and clear of all encumbrances; and that the GRANTOR will warrant and defend the title against the lawful claims of all persons whomsoever, except for easement of record; and that GRANTOR will execute such further assurances as may be required.

IN WITNESS WHEREOF, the GRANTOR has caused this GRANT OF EASEMENT to be executed as of the day and year first above written.

STATE OF NORTH CAROLINA


Governor

ATTEST:


Secretary of State



Doc ID: 004245150003 Type: CRP
 Recorded: 02/28/2008 at 02:04:08 PM
 Fee Amt: \$770.00 Page 1 of 3
 Excise Tax: \$750.00
 Onslow County, NC
 Maryland K. Washington Reg. of Deeds

BK **3024** PG **283-285**

This deed presented to
 The Onslow Co Tax Office
 Date 2/28/08 Clerk OM

Delinquent taxes, if any, will be paid out of the closing proceeds to the Onslow County Tax Collector by the closing attorney

NORTH CAROLINA SPECIAL WARRANTY DEED

Excise Tax \$750.00

Recording Time, Book and Page (see above)

This instrument prepared by: Gaylor Edwards & Vatcher, P.A., Attorneys

Tax Parcel I.D. No.: 759-1,13

Mail after recording to: Attorney General's Office, Property Control Section, 9001 Mail Service Center
 Raleigh, NC 27699-9001

Brief description for index: 55.169 acres, Map Book 45, Page 30, Onslow County Registry

THIS DEED made this 25th day of February, 2008 by and between:

GRANTOR:

GRANTEE:

THE NATURE CONSERVANCY, a non-profit corporation of the District of Columbia

STATE OF NORTH CAROLINA
 c/o State Property Office
 1321 Mail Service Center
 Raleigh, NC 27699-1321

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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 tract, lot or parcel of land situated in Stump Sound Township, Onslow County, North Carolina and being more particularly described as follows:

Commencing at an existing Parker Kalon nail in the centerline intersection of N.C.S.R. 1671 and N.C. Highway 210, thence leaving said centerline intersection and along the centerline of N.C. Highway 210 in a northern direction 7,110.6 feet to an existing Parker Kalon nail in said centerline, thence continuing along said centerline the following courses and distances: North 21 degrees 24 minutes 01 seconds West 111.70 feet to an existing Parker Kalon nail, North 19 degrees 33 minutes 04 seconds West 337.92 feet to an existing Parker Kalon nail and North 18 degrees 57 minutes 14 seconds West 481.94 feet to a set magnetic

nail in said centerline, thence leaving said centerline South 72 degrees 18 minutes 30 seconds West 45.37 feet to an existing iron rod in the western right-of-way line of N.C. Highway 210 and being THE TRUE POINT OF BEGINNING: thence from the above described true point of beginning and leaving said western right-of-way line South 70 degrees 33 minutes 36 seconds West 1,708.34 feet to an existing iron rod, thence South 70 degrees 33 minutes 36 seconds West 376.01 feet to a point in the centerline of Indian Grave Branch or Indian Graveyard Branch, thence along said branch centerline and within the floodplain of Stone Creek the following courses and distances: North 30 degrees 03 minutes 53 seconds West 297.14 feet, North 17 degrees 06 minutes 21 seconds East 290.96 feet, North 11 degrees 04 minutes 54 seconds West 453.80 feet and North 28 degrees 59 minutes 52 seconds East 563.36 feet to a point in the intersection of the floodplain of Stone Creek and a tributary of Stone Creek, thence along said Stone Creek tributary the following courses and distances: North 78 degrees 19 minutes 00 seconds East 109.50 feet, North 79 degrees 29 minutes 00 seconds East 333.30 feet, North 82 degrees 39 minutes 00 seconds East 166.30 feet, South 64 degrees 16 minutes 00 seconds East 107.50 feet, South 81 degrees 46 minutes 00 seconds East 176.80 feet, North 41 degrees 39 minutes 00 seconds East 133.30 feet, North 04 degrees 54 minutes 00 seconds East 69.30 feet, North 45 degrees 04 minutes 00 seconds East 85.80 feet, South 56 degrees 41 minutes 00 seconds East 124.00 feet, North 87 degrees 49 minutes 00 seconds East 65.00 feet, North 81 degrees 44 minutes 00 seconds East 117.50 feet and North 46 degrees 34 minutes 00 seconds East 192.70 feet to an existing iron pipe in the intersection of Stone Creek tributary and the western right-of-way line of N.C. Highway 210, thence leaving said intersection and along said western right-of-way line South 19 degrees 10 minutes 34 seconds East 1,190.98 feet to an existing iron rod in said western right-of-way line and being the point and place of beginning and containing 55.169 acres as surveyed by Charles Francis Riggs, P.L.S. L-2981 on August 11, 2003. The courses contained within are correct in angular relationship and are referenced to Map Book 30, Page 151 of the Onslow County Registry. Charles Francis Riggs, P.L.S. L-2981.

Also being described as being all that certain 55.169 acres tract of land as shown on a map entitled, "Partial Boundary Survey For: Robert Christopher Querry & Dana E. Temprano", dated June 17, 2003, prepared by Charles F. Riggs & Associates, Inc. and recorded in Map Book 45, Page 30, Slide K-1936, in the office of the Register of Deeds of Onslow County, North Carolina.

The property herein above described was acquired by Grantor by instrument recorded in: Book 2951, Page 730, Onslow County Registry.

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

THE GRANTOR COVENANTS WITH THE GRANTEE, that Grantor has done nothing to impair the title to the above described property and that to the best of Grantor's knowledge, 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 claiming by or through the Grantor, except for the exceptions hereinafter stated.

Title to the property herein above described is subject to the following exceptions:

1. Grant of Easement to the United States of America, acting by and through the Department of the Navy, restricting the use of the above described property and for ingress and egress, recorded in Book 2951, Page 733, Onslow County Registry.

7
32.00

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Doc ID: 000674620007 Type: CRP
Recorded: 08/09/2005 at 02:22:13 PM
Fee Amt: \$2,065.00 Page 1 of 7
Excise Tax: \$2,033.00
Onslow County, NC
Mildred M Thomas Register of Deeds

FILED

SEP 16 2005

SECRETARY OF STATE

BK 2499 PG 579-585

Stamps \$2,032.50

Contract Number N62470-05-RP-10049
File Number EI-0808

GRANT OF EASEMENT

THIS EASEMENT, made this 26th day of July, 2005 by and between THE STATE OF NORTH CAROLINA, a body politic and corporate, hereinafter called GRANTOR, and the UNITED STATES OF AMERICA, acting by and through the Department of the Navy, hereinafter called GOVERNMENT;

The designation of GRANTOR as used herein shall include its successors and assigns, and shall include singular, plural, masculine, feminine or neuter pronouns as required by context.

WITNESSETH:

WHEREAS, the GRANTOR is the sole owner in fee simple of certain property ("Property"), hereinafter described tract of land containing 437.64 acres, more or less, located in Onslow County, State of North Carolina and situated adjacent to the Marine Corps Base, Camp Lejeune, North Carolina (the "Installation"); and

WHEREAS, GRANTOR intends to limit development of the Property and preserve and protect the conservation values of the Property in perpetuity; and

WHEREAS, it is in the public interest to limit development or use of property in the vicinity of the Installation that would otherwise be incompatible with its mission and to preserve habitat on such property in a manner that is compatible with environmental requirements that would or might interfere, whether directly or indirectly, with current or anticipated military training, testing or operations on such Installation; and

WHEREAS, the GOVERNMENT has entered into an agreement with GRANTOR pursuant to Section 2684a of Title 10 of the United States Code to acquire a perpetual Easement which shall run with the entire tract of land to prevent development that would be incompatible with the mission of the Installation; and

WHEREAS, the GRANTOR and the GOVERNMENT entered into an agreement identified as Agreement for Purchase of Real Property Number N62470-05-RP-10051, dated 9 August 05, whereby the GRANTOR agreed to sell and the GOVERNMENT agreed to purchase for the consideration of One million sixteen thousand two hundred fifty dollars and no cents (\$ 1,016,250.00), the hereinafter described Easement and additional rights on, over, across and affecting the use and development of said Property; and

NOW THEREFORE, for and in consideration of the sum of One million sixteen thousand two hundred fifty dollars and no cents (\$ 1,016,250.00) paid to GRANTOR, receipt of which is hereby acknowledged, the GRANTOR does hereby grant and convey to the GOVERNMENT, a perpetual Easement appurtenant to restrict the use and development of said Property that would encumber, impede, limit or otherwise be incompatible with the mission of the Installation, and to provide for ingress and egress on, over and across said Property more particularly described as:

That certain parcel or tract of land being located in Stump Sound Township, Onslow County, North Carolina. Bounded on the west by SR. 1119 (High Hill Road), on the north by the Rocky Ford Branch, on the northwest by Rocky Ford Estate – Section 2 (MB 21 Pg 202) and Summerfield Acres Subdivision, on the east by Hicks Run Creek, on the south by Beaver Creek-Section 2 (MB 39 Pg. 183) and Beaver Creek – Section 1 (MB 39 Pg. 169), and more particularly described as follows to/wit:

BEGINNING at a point (said point being located N 50°46'35" W 1607.21 feet from an existing railroad spike located at the centerline intersection of Hicks Run Creek and SR. 1119 having NC grid coordinates of N=337,538.26' and E=2,452,791.82' NAD 83) in the centerline of SR. 1119 (High Hill Road) having NC grid coordinates of N=338,554.57' and E=2,451,546.74' NAD 83 and running thence as said centerline, the following bearings and distances: N 48°40'52" W 125.19 feet, N 43°09'22" W 119.95 feet to an existing PK nail, N 37°16'17" W 107.42 feet, N 33°01'00" W 119.91 feet, N 30°22'58" W 143.94 feet, N 27°56'19" W 133.01 feet, N 27°08'07" W 133.89 feet, N 25°37'12" W 134.94 feet to an existing PK nail, N 23°39'35" W 259.99 feet to an existing PK nail, N 23°38'50" W 411.51 feet to an existing PK nail, N 22°54'38" W 399.99 feet to an existing PK nail, N 22°54'44" W 1034.31 feet to an existing PK nail, N 22°54'52" W 299.97 feet to an existing PK nail; thence leaving said centerline N 65°41'11" E 29.33 feet to an existing iron rod, the southernmost corner of Lot #5 of the Summerfield Acres Subdivision; thence as the southern line of said Lot #5 N 65°08'37" E 191.11 feet to a point; thence as the

eastern line of said Lot #5 N 15°02'43" E 69.06 feet to an existing iron rod; thence continuing as said line N 15°02'43" E 284.41 feet to a point; thence N 39°16'33" W 40.93 feet to an existing iron rod, the easternmost corner of Lot #4 of the Summerfield Acres Subdivision; thence with the eastern line of said Lot #4 N 39°16'33" W 220.42 feet to an existing iron rod, the easternmost corner of Lot #3; thence as the northeastern line of Lot #3 N 39°16'54" W 250.93 feet to an existing iron rod, the northernmost corner of Lot #3 and located in the southeast line of Lot #2; thence as said southeast line of Lot #2 N 45°03'02" E 154.64 feet to an existing iron, the easternmost corner of Lot #2 of the Summerfield Acres Subdivision, also located in the southwest line of Lot #15 of the Rocky Ford Estate – Section 2 (MB 21 Pg. 202); thence as said southwest line S 57°16'21" E 397.11 feet to an existing iron rod; thence continuing with said line S 58°58'12" E 59.55 feet to an existing iron rod, the southernmost corner of Lot #15; thence as the southeast line of Lot #15 N 39°12'08" E 160.44 feet to an existing iron rod, the southernmost corner of Lot #14; thence N 39°12'13" E 70.85 feet to an existing iron pipe; thence N 29°43'37" E 263.75 feet to an existing iron rod; thence N 17°23'25" E 223.68 feet to an existing iron pipe; thence N 28°09'06" E 82.57 feet to an existing iron rod, the southernmost corner of Lot #13; thence N 27°45'19" E 484.88 feet to an existing iron pipe, the northeast corner of Lot #13, also located in the centerline of Rocky Ford Branch; thence as the centerline of Rocky Ford Branch, the following bearings and distances: S 51°43'29" E 20.22 feet to an existing iron rod, S 51°47'04" E 105.61 feet, S 84°05'36" E 94.80 feet, S 78°26'49" E 103.79 feet, N 56°29'59" E 60.51 feet, N 39°26'10" E 233.98 feet, N 89°07'08" E 82.57 feet, N 08°58'23" W 69.40 feet, N 59°57'46" E 84.20 feet, N 52°29'35" E 302.23 feet, N 39°53'20" E 124.64 feet, N 53°06'20" E 117.98 feet, S 46°54'01" E 221.38 feet, S 32°49'18" E 190.41 feet, S 61°50'19" E 117.89 feet, N 61°29'04" E 166.78 feet to an existing iron pipe, S 42°54'54" E 99.57 feet, N 66°47'25" E 114.78 feet, N 20°13'29" E 89.55 feet, S 73°34'50" E 175.03 feet, S 72°45'24" E 312.88 feet, N 12°33'21" E 75.72 feet, S 87°11'27" E 82.92 feet, S 46°04'20" E 137.43 feet, S 81°35'59" E 35.85 feet, N 47°19'27" E 121.40 feet, N 05°04'25" W 73.45 feet, N 28°14'25" W 144.99 feet, N 35°54'27" E 56.01 feet, S 66°59'33" E 80.69 feet, S 03°03'42" W 15.68 feet, S 66°38'20" E 67.02 feet, N 49°45'39" E 29.92 feet, S 70°07'54" E 49.24 feet, S 29°37'32" E 77.04 feet, N 59°56'42" E 72.83 feet, N 75°51'12" E 103.60 feet, N 31°00'21" E 82.82 feet, N 17°59'28" W 51.56 feet, N 27°45'58" E 91.87 feet, N 53°22'53" W 35.30 feet, N 21°20'10" E 34.58 feet, N 78°12'07" E 68.56 feet, N 15°03'17" W 70.24 feet, N 76°43'31" E 79.58 feet, S 61°18'19" E 42.81 feet, S 48°41'25" E 70.47 feet, S 59°41'15" E 55.28 feet, N 72°45'33" E 85.09 feet, S 57°10'48" E 99.17 feet, S 86°58'21" E 64.62 feet, S 53°50'00" E 162.78 feet, S 83°34'02" E 302.41 feet, N 86°14'13" E 44.69 feet, N 56°05'25" E 82.15 feet, N 49°53'25" W 32.58 feet, N 51°22'45" E 88.07 feet, N 54°33'49" E 69.63 feet, N 13°47'46" W 38.67 feet, N 39°56'12" E 103.36 feet, N 14°01'45" W 77.67 feet, N 44°09'19" E 50.62 feet, S 65°03'31" E 102.77 feet, S 14°24'04" E 73.42 feet, S 17°05'57" E 40.49 feet, N 88°11'29" E 30.23 feet, S 18°07'05" E 139.55 feet, S 10°51'05" E 96.24 feet, S 10°53'05" E 78.77 feet, N 83°28'55" E 40.66 feet, N 21°50'55" E 49.93 feet, N 78°29'55" E 104.44 feet, S 87°30'05" E 55.06 feet, N 61°10'55" E 56.50 feet, N 43°29'55" E 67.01 feet, S 44°14'05" E 88.36 feet, S 13°45'05" E 26.05 feet, N 42°46'55" E 95.99 feet, N 18°03'55" E 65.00 feet, S 81°47'05" E 34.09 feet, N 34°26'55" E 115.50 feet, N 09°04'05" W 72.80 feet, N 29°05'55" E 156.11 feet to the point of intersection of Rocky Ford Branch and Hicks Run Creek; thence as said Hicks Run Creek, the following bearings and distances: S 54°09'33" E 91.38 feet, S 43°46'56" E 97.21 feet, N 61°25'18" E 86.13 feet, S 11°43'25" E 111.29 feet, S 05°22'19" E 96.28 feet, S 17°53'46" W 143.95 feet, S 02°53'13" W 142.68 feet, S 00°53'19" E 167.33 feet, S 04°44'45" E 122.92 feet, S 14°57'56" W 145.09 feet, S 29°06'30" W 367.74 feet, S 05°36'15" E 137.04 feet, S 16°56'35" W 126.44 feet, S 32°17'22" W 75.15 feet, S 81°25'07" W 90.38 feet, N 35°15'07" W 51.43 feet, N 86°06'14"

W 89.11 feet, N 54°00'13" W 33.85 feet, S 51°35'05" W 226.40 feet, S 67°42'47" W 76.34 feet, S 57°35'30" W 290.94 feet, S 38°36'19" W 111.34 feet, S 19°01'27" E 77.18 feet, S 01°24'13" W 74.55 feet, S 46°00'32" W 142.79 feet, S 08°39'50" E 124.65 feet, S 03°00'06" E 128.73 feet, S 75°08'27" W 69.40 feet, S 55°12'05" W 146.14 feet, S 71°21'40" W 55.06 feet, S 18°03'26" E 20.95 feet, S 24°53'59" E 76.80 feet, S 09°51'08" E 100.05 feet, N 78°48'03" W 118.94 feet, S 69°34'17" W 375.28 feet, S 88°53'46" W 124.40 feet, S 35°40'07" W 34.78 feet, S 22°30'07" E 110.69 feet, S 76°19'59" W 128.18 feet, S 21°40'01" W 75.50 feet, S 73°15'38" E 90.09 feet, S 17°19'42" W 90.39 feet, S 54°04'25" W 55.14 feet, N 34°44'10" W 21.21 feet, S 31°44'24" W 64.94 feet, S 10°59'20" E 49.30 feet, S 61°56'12" W 230.09 feet, N 25°16'52" W 43.30 feet, N 68°34'26" W 210.80 feet, S 12°10'31" E 74.26 feet, S 54°22'05" W 134.53 feet, S 18°06'58" E 55.31 feet, S 61°41'11" W 65.66 feet, S 28°36'32" W 135.33 feet, S 26°23'57" E 90.74 feet, S 13°37'22" E 59.45 feet, S 42°44'08" W 69.31 feet, S 08°18'43" E 76.19 feet, S 07°23'22" W 170.93 feet, N 80°00'08" W 117.90 feet, S 65°14'27" W 78.97 feet, N 67°10'42" W 109.96 feet, S 42°38'54" W 266.55 feet, S 22°42'41" E 96.36 feet, S 89°56'05" W 100.08 feet, S 04°45'58" W 119.43 feet, S 07°57'51" E 35.00 feet, N 78°43'12" W 127.10 feet, N 52°38'20" W 39.59 feet, S 65°11'25" W 105.12 feet, S 72°36'55" W 106.03 feet, S 43°33'42" W 71.05 feet, S 83°03'55" W 53.77 feet, S 16°00'44" W 84.98 feet, N 64°20'35" W 56.82 feet, S 89°34'51" W 89.44 feet, S 40°08'42" W 34.08 feet, S 35°57'53" E 138.34 feet, S 13°20'59" W 43.50 feet, S 07°22'21" E 39.66 feet to a point, the northeast corner of Lot #15 of Beaver Creek – Section 2, (MB 39 Pg. 183); thence as the northwest line of said Lot #15, S 56°28'11" W 389.33 feet to an existing iron rod; thence continuing as said line S 56°28'11" W 174.57 feet to an existing iron rod in the northeast right-of-way of Grismill Road; thence leaving said right-of-way N33°31'42" W 8.48 feet to a new iron rod, the point of curvature of a curve to the right, having a radius of 25.00 feet, an arc length of 21.21 feet and a chord bearing and distance of N 10°05'00" E 20.58 feet to a new iron, the point of curvature of a curve to the left, having a radius of 50.00 feet, an arc length of 241.16 feet and a chord bearing and distance of S 56°02'40" W 66.69 feet to a new iron rod, the point of curvature of a curve to the right, having a radius of 25.00 feet, an arc length of 20.83 feet and a chord bearing and distance of S 58°15'19" E 20.23 feet to a new iron rod the point of tangency; thence S 33°31'42" E 8.48 feet to an existing iron rod, the northernmost corner of Lot #14; thence as the northwest line of Lot #14 S 56°28'18" W 175.33 feet to an existing iron rod; thence continuing as said line S 56°28'40" W 296.47 feet to an existing iron rod; thence S 12°33'12" E 50.64 feet to an existing iron rod; thence S 64°45'41" E 33.89 feet to an existing iron rod, the northernmost corner of Lot #1 of Beaver Creek - Section 1 (MB 39 Pg. 169); thence as the northwest line of said Lot #1 S 39°12'10" W 251.59 feet to an existing iron rod in the northwest right-of-way of SR. 1119 (High Hill Road); thence S 39°12'10" W 30.00 feet to the **BEGINNING**, containing 437.64 acres, more or less, and being a portion of those tracts described in Deed Book 1507 Page 794 and Deed Book 1418 Page 190, Onslow County Registry.

BEING the same property acquired by the GRANTOR by deed recorded in the Register of Deeds

Office, Onslow County, North Carolina in Deed Book 2499, Page 572 and Map Book 49, Page 17,
Slide L-875

The perpetual Easement and rights for restrictions, ingress and egress are described as follows:

A. Restricted Uses and Development Rights. Except as provided herein, industrial, manufacturing, sales and residential uses or development of the Property, and access thereto for that purpose, is prohibited. Except as authorized herein, the GRANTOR conveys to the GOVERNMENT the right to restrict all development rights that are now or hereafter allocated to, implied, reserved or inherent in the Property. Provided, however,

1. Agricultural, Recreational, Industrial, Manufacturing, Sales and Commercial Uses. All agricultural, recreational, industrial, manufacturing, sales and commercial uses or exploitation of the Property that is not inconsistent with the restrictions contained in paragraph B, or the purposes of this Easement, are authorized; and

2. Silvicultural, Mining, Grazing, Excavation and Use of Natural Resources. Provided such uses are not inconsistent with the restrictions contained in paragraph B or the purposes of this Easement, all silvicultural, mining, grazing, excavation and other exploitation of the Property's natural resources, including but not limited to timber harvesting (to include thinning and clearcutting of marketable timber), mechanical and chemical site preparation, reforestation, and all other activities associated therewith are permitted.

B. Improvements and New Construction. No building, facility, warehouse, residence, dwelling (to include, but not be limited to: mobile homes, tents, campers, trailers or any type of permanent residential structure), cell tower, radio tower, satellite tower, landfill, tank farm, golf course, recreational structure or park (to include, but not limited to, tennis court, skating rink, basketball court, or sports field), utility plant operation (to include, but not limited to, waste water or sewer treatment plants, municipal water systems, and electrical or natural gas operations) and or any other type of edifice or structure shall be constructed or placed on the Property after the date of this Easement unless the GOVERNMENT expressly approves such construction or activity in writing. Provided, however, GRANTOR, may:

1. Construct, maintain and utilize reasonable means of access to, and utilities for, all permitted uses of the Property not otherwise inconsistent with the restrictions contained herein; and,

2. Construct and maintain fences and gates for the purpose of limiting access and protecting the Property from unauthorized use.

C. Use of Property. Consistent with the prohibitions set forth in paragraphs A and B, the purposes of this Easement, or otherwise reserved herein, the GRANTOR retains all rights, responsibilities, uses and benefits as owner of the Property.

D. Ingress and Egress. The GOVERNMENT shall have a perpetual Easement for ingress and egress at reasonable times and places, subject to the prior notice conditions herein stated, for the purpose of exercising and enforcing the rights set forth hereinabove; reserving, however, to the GRANTOR, any and all rights and privileges as may be used and enjoyed without interfering with or abridging the rights hereinabove set forth.

E. Enforcement. The GOVERNMENT shall have the right to prevent and correct violations of the terms of this Easement through administrative and/or legal procedures.

1. Upon advance written notice, the GOVERNMENT may enter the Property for the purpose of inspection for violations of the terms or provisions of this Easement. If the GOVERNMENT discovers a violation, it may, at its discretion, take appropriate enforcement action, to include instituting legal action. Provided, however, the GOVERNMENT shall give the GRANTOR, or any successors or assigns, written notice of the violation and sixty (60) days to correct any such violation (or begin good faith efforts to correct in the event the violation is something which cannot be reasonably corrected in sixty (60) days) before filing any legal action. If a court of competent jurisdiction determines that a violation exists or has occurred, the court may enjoin any inconsistent use and may require the GRANTOR, its successors or assigns, to correct the violation or restore the Property to the condition prior to the violation. Failure of the GOVERNMENT to discover a violation or to take immediate legal action shall not bar it from doing so at a later time.

F. Transfer of Property. Any time the GRANTOR transfers any or all interest in the Property to any third party, the GRANTOR shall notify the GOVERNMENT in writing at least thirty (30) days prior to the transfer of the Property, and the document of conveyance shall expressly state that the rights, entitlements, use and enjoyment of the Property being conveyed are subject to the restrictions and provisions set forth in this Easement.

G. Notice. Notice shall be considered as provided upon delivery to the respective owners of record for interests in property, unless otherwise agreed to in writing.

H. Responsibilities of GRANTOR and GOVERNMENT not affected. Other than specified herein, this Easement is not intended to impose any legal or other responsibility on the GOVERNMENT, or in any way affect any existing obligation or responsibility of the GRANTOR as owner of the Property.

The GRANTOR covenants with the GOVERNMENT that it is seized of said Property in fee simple; that GRANTOR has the right to convey, and voluntarily conveys for the agreed upon price, this Easement with the additional authority for the GOVERNMENT to control and restrict the use and development of GRANTOR's Property as provided in this Easement; that title is marketable and free and clear of all encumbrances; and that the GRANTOR will warrant and defend the title against the lawful claims of all persons whomsoever, except for easement of record; and that GRANTOR will execute such further assurances as may be required.

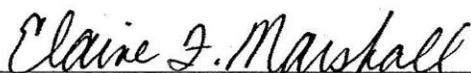
IN WITNESS WHEREOF, the GRANTOR has caused this GRANT OF EASEMENT to be executed as of the day and year first above written.

STATE OF NORTH CAROLINA



Governor

ATTEST:



Secretary of State

APPROVED AS TO FORM:

ROY COOPER
Attorney General

Douglas Hill
Assistant Attorney General

STATE OF NORTH CAROLINA

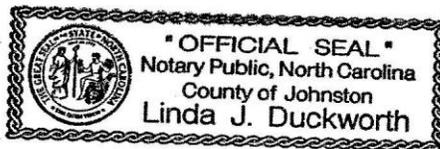
COUNTY OF WAKE

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

IN WITNESS WHEREOF, I have hereunto set my hand and Notarial Seal, this the 26th day of July, 2005.

Linda J. Duckworth
Notary Public

My commission expires: 6-22-2008



I, CHARLES FRANCIS RIGGS, PROFESSIONAL LAND SURVEYOR, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION FIELD DESCRIPTION RECORDS IN DEED BOOK 4279, PAGE 142 THAT THE LOCATIONS NOT SHOWN ARE STAKES, MARKERS, IRON PIPES AND SPARK FROM INFORMATION FOUND IN DEED BOOK 4279, PAGE 142 THAT THE BOUNDARY OF PARCELS AS CALCULATED BY LATITUDES AND BEARINGS IS 1/10000TH THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 42-30 AND ANY OTHER KNOWN AS CORRECT. REGISTERED NUMBER AND SEAL HAS 1741 DAY OF October

Charles F. Riggs
 CHARLES FRANCIS RIGGS
 PROFESSIONAL LAND SURVEYOR
 SEAL
 L-2081
 10/17/02

- I, CHARLES FRANCIS RIGGS, PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY TO ONE OR MORE OF THE FOLLOWING AS INDICATED HERE:
- A. THAT THE SURVEY CREATES A SUBDIVISION OF LAND WITHIN THE AREA OF A COUNTY OR MUNICIPALITY THAT HAS AN ORDINANCE THAT REGULATES PARCELS OF LAND.
 - B. THAT THE SURVEY IS LOCATED IN A PORTION OF A COUNTY OR MUNICIPALITY THAT IS UNREGULATED AS TO A WATERCOURSE THAT REGULATES PARCELS OF LAND.
 - C. ANY ONE OF THE FOLLOWING:
 - 1) THAT THE SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET.
 - 2) THAT THE SURVEY IS OF AN EXISTING BUILDING OR OTHER STRUCTURE ON NATURAL FEATURES, SUCH AS A WATERCOURSE.
 - 3) THAT THE SURVEY IS A CONTROL SURVEY.
 - D. THAT THE SURVEY IS OF ANOTHER CATEGORY SUCH AS THE RECONSTRUCTION OF EXISTING PARCELS, A LIGHT-INDUCED SURVEY OR OTHER EXCEPTION TO THE DEFINITION OF SUBDIVISION.
 - E. THAT THE INFORMATION AVAILABLE TO THIS SURVEYER SHOWS THAT I AM UNABLE TO MAKE A DETERMINATION TO ANY OF THE PROVISIONS LISTED THROUGH (C) ABOVE.

Charles F. Riggs
 CHARLES FRANCIS RIGGS
 PROFESSIONAL LAND SURVEYOR
 SEAL
 L-2081
 10/17/02

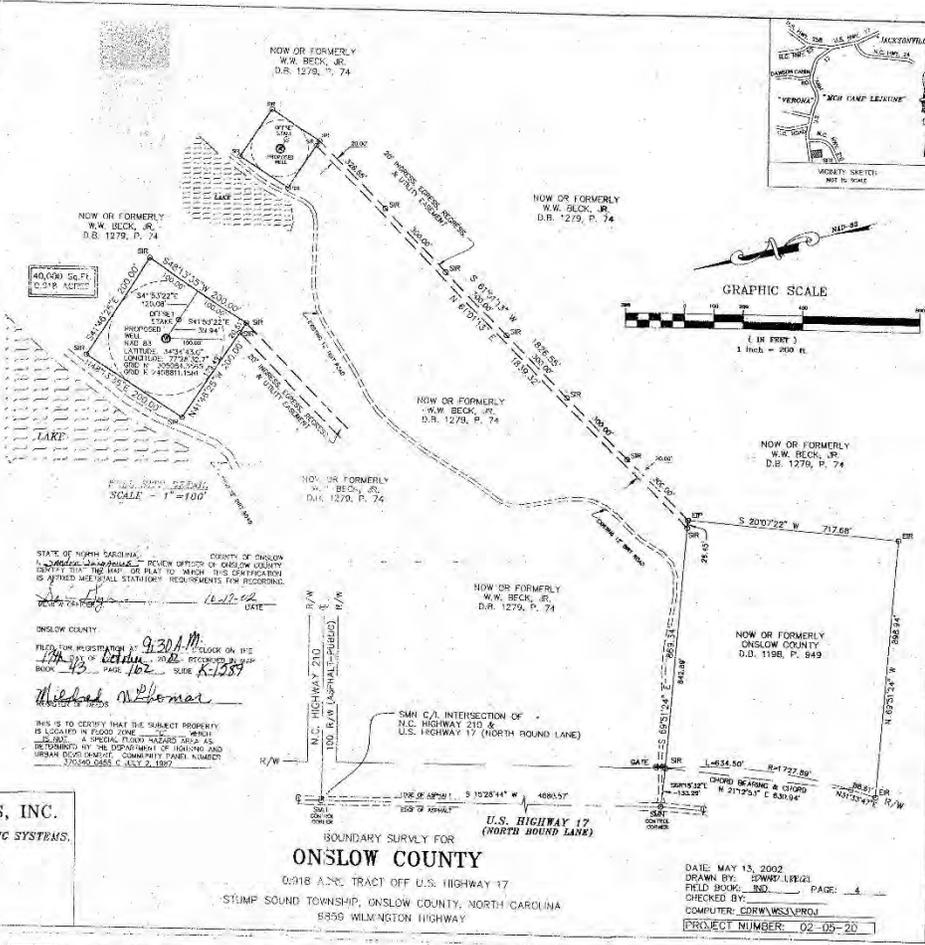
I HEREBY CERTIFY THAT I AM THE OWNER OF THIS PROPERTY DESCRIBED HEREON, WHICH IS LOCATED IN THE SUBDIVISION ADMINISTERED BY THE COUNTY AND THAT I HEREBY ADAPT THIS PLAT OF SUBDIVISION WITH MY FREE CONSENT. CHANGES MADE BY THE SURVEYOR WILL MAINTAIN AND UPGRADE DRAINAGE SYSTEMS UNTIL THE PASSED. OWNERS WILL MAINTAIN AND UPGRADE STREETS UNTIL THE STREETS ARE INCLUDED INTO THE STATE SYSTEM. OWNER IS AWARE OF BOTH NORTH CAROLINA SUBDIVISION AND DRAINAGE CONTROL REGULATIONS AND NORTH CAROLINA STORMWATER REGULATIONS.

10/17/02 *Charles F. Riggs, Reg. No. 1741*

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH SUBDIVISION REGULATIONS OF THE COUNTY OF ONSLOW, NORTH CAROLINA, AND THAT THIS PLAT HAS BEEN APPROVED BY THE ONSLOW COUNTY PLANNING BOARD FOR RECORDING IN THE OFFICE OF THE REGISTER OF DEEDS OF ONSLOW COUNTY.

10/17/02 *Deborah Manning*
 DEBORAH MANNING
 COUNTY ADMINISTRATOR

CHARLES F. RIGGS & ASSOCIATES, INC.
 LAND SURVEYING - CONVENTIONAL & GLOBAL POSITIONING SYSTEMS,
 LAND PLANNING & COMPUTER MAPPING
 202 WARLUK STREET
 P.O. BOX 1570
 JACKSONVILLE, N.C. 28541-1570
 TELEPHONE: (910) 455-0877
 FACSIMILE: (910) 455-8033
 E-MAIL: riggs@cfriassoc.com



STATE OF NORTH CAROLINA COUNTY OF ONSLOW
 I, *Michael McManis*, DEEDS CLERK OF ONSLOW COUNTY, IDENTIFY THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS APPLIED AND SHALL SIGNIFY REQUIREMENTS FOR RECORDING.
 DATE: 10/17/02

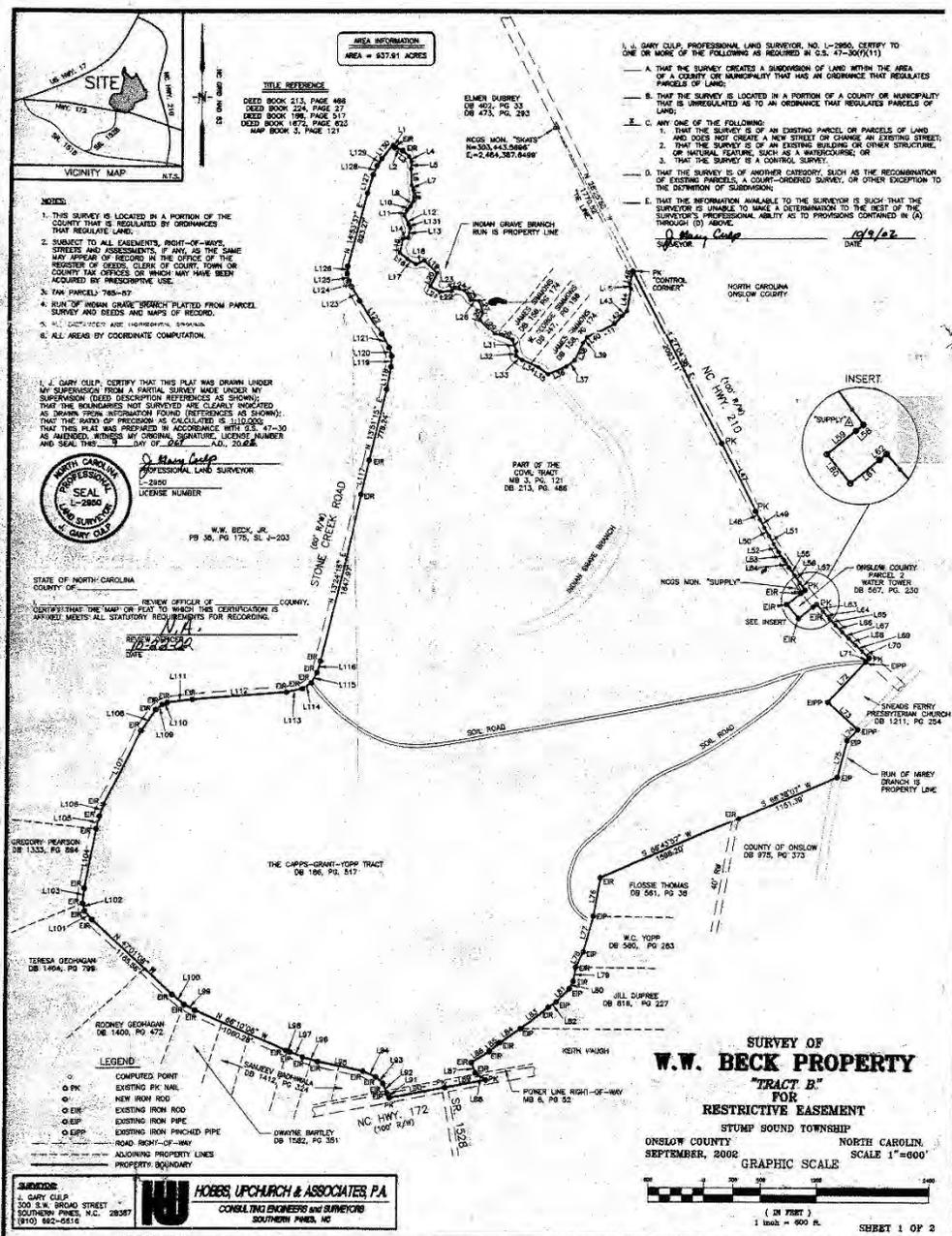
ONSLOW COUNTY
 FIELD FOR REGISTRATION AT 9:30 A.M. CLOCK ON THE 17th DAY OF October, 2002. RECORDING IN DEED BOOK 43, PAGE 102, SLIDE K-1284

Michael McManis
 DEEDS CLERK

THIS IS TO CERTIFY THAT THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE 1, WHICH IS PART OF A SPECIAL FLOOD HAZARD STUDY AS DETERMINED BY THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT. COMMUNITY PANEL NUMBER: 17050-0502 C JULY 2, 1997

BOUNDARY SURVEY FOR
ONSLOW COUNTY
 0918 A2C TRACT OFF U.S. HIGHWAY 17
 STUMP SOUND TOWNSHIP, ONSLOW COUNTY, NORTH CAROLINA
 6595 WILMINGTON HIGHWAY

DATE: MAY 13, 2002
 DRAWN BY: *Benny Liegel*
 FIELD BOOK: 100, PAGE: 4
 CHECKED BY: _____
 COMPUTER: *CDRW/MSL/PROJ*
 PROJECT NUMBER: 02-05-20



AREA INFORMATION
AREA = 637.91 ACRES

TITLE REFERENCE
DEED BOOK 213, PAGE 468
DEED BOOK 224, PAGE 27
DEED BOOK 198, PAGE 517
DEED BOOK 1672, PAGE 823
MAP BOOK 3, PAGE 121

I, GARY CULP, PROFESSIONAL LAND SURVEYOR, NO. L-2850, CERTIFY TO ONE OR MORE OF THE FOLLOWING AS REQUIRED IN G.S. 47-30(7)(1):

- A. THAT THE SURVEY CREATES A SUBDIVISION OF LAND WITHIN THE AREA OF A COUNTY OR MUNICIPALITY THAT HAS AN ORDINANCE THAT REGULATES PARCELS OF LAND;
- B. THAT THE SURVEY IS LOCATED IN A PORTION OF A COUNTY OR MUNICIPALITY THAT IS UNREGULATED AS TO AN ORDINANCE THAT REGULATES PARCELS OF LAND;
- C. ANY ONE OF THE FOLLOWING:
 1. THAT THE SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET;
 2. THAT THE SURVEY IS OF AN EXISTING BUILDING OR OTHER STRUCTURE, OR NATURAL FEATURES, SUCH AS A WATERCOURSE; OR
 3. THAT THE SURVEY IS A CONTROL SURVEY;
- D. THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMMENDATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXCEPTION TO THE DEFINITION OF SUBDIVISION;
- E. THAT THE INFORMATION AVAILABLE TO THE SURVEYOR IS SUCH THAT THE SURVEYOR IS UNABLE TO MAKE A DETERMINATION TO THE BEST OF THE SURVEYOR'S PROFESSIONAL ABILITY AS TO PROVISIONS CONTAINED IN (A) THROUGH (D) ABOVE.

D. Gary Culp
SURVEYOR
10/4/02
DATE

NOTES

1. THIS SURVEY IS LOCATED IN A PORTION OF THE COUNTY THAT IS REGULATED BY ORDINANCES THAT REGULATES LAND.
2. SUBJECT TO ALL EASEMENTS, RIGHT-OF-WAYS, STREETS AND ASSIGNMENTS, IF ANY, AS THE SAME MAY APPEAR OF RECORD IN THE OFFICE OF THE REGISTER OF DEEDS, CLERK OF COUNTY TOWN OR COUNTY THE OFFICES OF WHICH MAY HAVE BEEN ACQUIRED BY PRESCRIPTIVE USE.
3. RUN OF INDIAN GRAVE BRANCH PLATED FROM PARCEL SURVEY AND DEEDS AND MAPS OF RECORD.
4. ALL DISTANCES AND BEARINGS SHOWN.
5. ALL AREAS BY COORDINATE COMPUTATION.

I, GARY CULP, CERTIFY THAT THIS PLAN WAS DRAWN UNDER MY SUPERVISION (SEE DESCRIPTION REFERENCES AS SHOWN) THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS SHOWN FROM INFORMATION FOUND (REFERENCES AS SHOWN) THAT THE RATE OF PRECISION AS CALCULATED IS 1:110,000 THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED, WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 10th DAY OF OCTOBER, 2002.



W.W. Beck, Jr.
PROFESSIONAL LAND SURVEYOR
L-2820
LICENSE NUMBER
P.B. 06, PG 175, 21, 4-203

STATE OF NORTH CAROLINA
COUNTY OF _____

REVIEW OFFICER OF _____ COUNTY.
I HEREBY CERTIFY THAT THE MAP OR PLAN TO WHICH THIS CERTIFICATION IS APPLIED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

W.W. Beck, Jr.
DATE

LEGEND

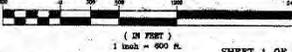
- COMPUTED POINT
- PK EXISTING P.C. NAIL
- NEW IRON ROD
- EX EXISTING IRON ROD
- EIP EXISTING IRON PIPE
- EIPP EXISTING IRON PINCHED PIPE
- ROAD RIGHT-OF-WAY
- ALLOWING PROPERTY LINES
- PROPERTY BOUNDARY

SURVEYOR:
I, GARY CULP
300 S.W. BROAD STREET
SOUTHFORD, N.C. 28387
1810 662-0616

HOBBES, URCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS AND SURVEYORS
SOUTHFORD, N.C.

**SURVEY OF
W.W. BECK PROPERTY
"TRACT B"
FOR
RESTRICTIVE EASEMENT**

ONSWLOW COUNTY
STUMP SOUND TOWNSHIP
SEPTEMBER, 2002
GRAPHIC SCALE
SCALE 1"=600'



SHEET 1 OF 2

LINE LABEL TABLE

Table with columns: LINE, LENGTH, BEARING, LINE, LENGTH, BEARING, LINE, LENGTH, BEARING, LINE, LENGTH, BEARING. Contains a grid of survey data points.

NORTH CAROLINA ONSLOW COUNTY PREPARED FOR REGISTRATION AND RECORDED IN THIS OFFICE IN MAP BOOK... REGISTERED OF DEEDS

I, J. GARY GULP, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM A PARTIAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION REFERENCES AS SHOWN) THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND (REFERENCES AS SHOWN) THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000. THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED, WITNESSED BY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS DAY OF... A.D. 2002.



CURVE TABLE with columns: CURVE LENGTH, RADIUS, BEARING, DELTA. Contains data for curve C1.

- I, J. GARY GULP, PROFESSIONAL LAND SURVEYOR, NO. L-2950, CERTIFY TO ONE OR MORE OF THE FOLLOWING AS REQUIRED IN G.S. 47-30(a)(1): A. THAT THE SURVEY CREATES A SUBDIVISION OF LAND WITHIN THE AREA OF A COUNTY OR MUNICIPALITY THAT HAS AN ORDINANCE THAT REGULATES PARCELS OF LAND... X. ANY ONE OF THE FOLLOWING: 1. THAT THE SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET... D. THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMMENDATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXCEPTION TO THE DEFINITION OF SURVEYING... E. THAT THE INFORMATION AVAILABLE TO THE SURVEYOR IS SUCH THAT THE SURVEYOR IS UNABLE TO MAKE A DETERMINATION TO THE BEST OF THE SURVEYOR'S PROFESSIONAL ABILITY AS TO PROVISIONS CONTAINED IN (A) THROUGH (D) ABOVE.

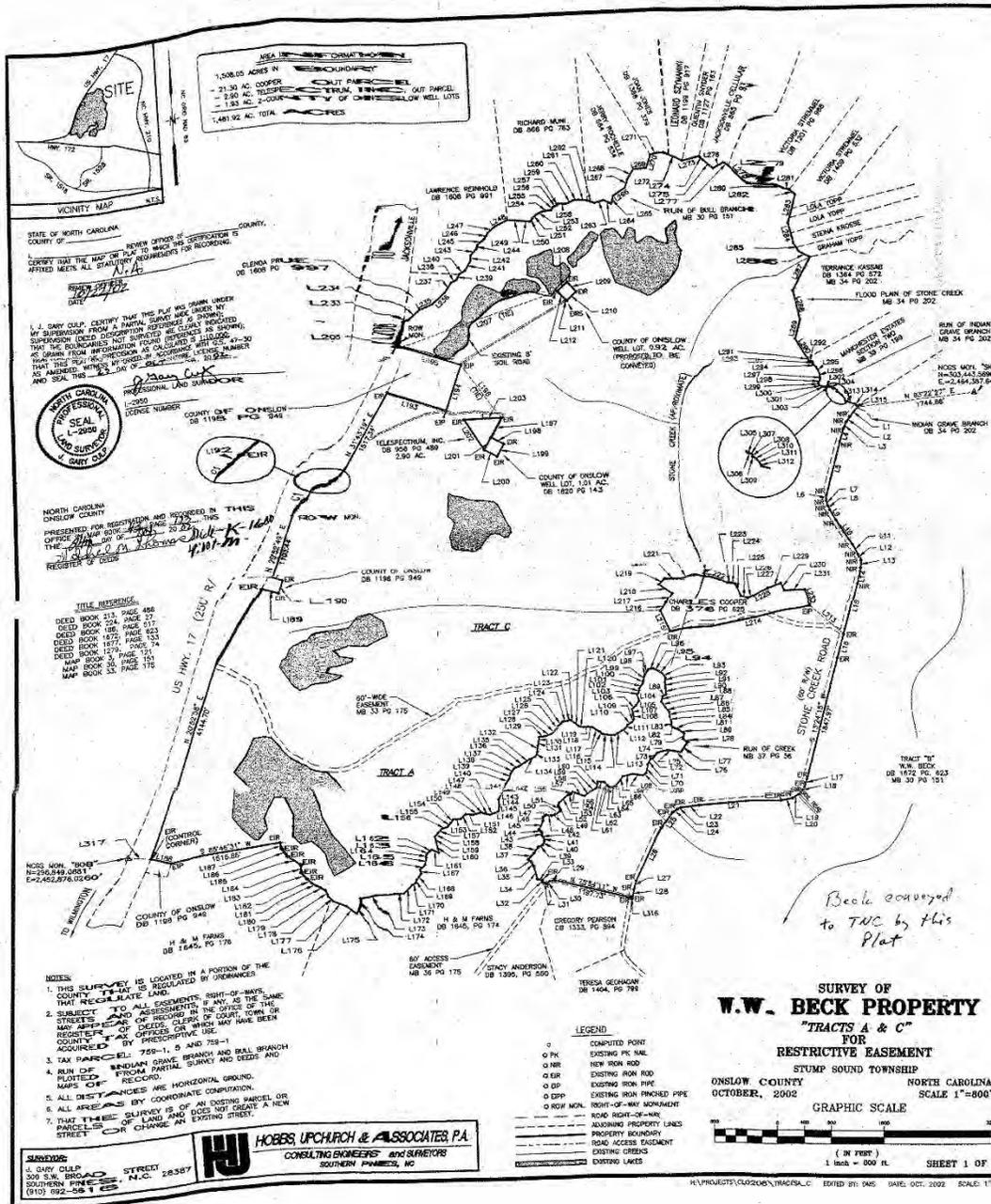
SURVEYOR DATE

STATE OF NORTH CAROLINA COUNTY REVIEW OFFICER OF COUNTY CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS ATTACHED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

REVIEW OFFICER DATE

HOOPS, UPCHURCH & ASSOCIATES, P.A. CONSULTING ENGINEERS AND SURVEYORS SOUTHWEST PINE, NC

SURVEY OF W.W. BECK PROPERTY "TRACTS A & C" FOR RESTRICTIVE EASEMENT STUMP SOUND TOWNSHIP NORTH CAROLINA OCTOBER, 2002 NORTH SCALE SHEET 2 OF 2



Beck conveyed to TWC by this Plat

NOTES:

1. THIS SURVEY IS LOCATED IN A PORTION OF THE COUNTY OF ONSLOW AS REGULATED BY ORDINANCES THAT REQUIRE SURVEYED LAND.
2. SUBJECT TO ALL EASEMENTS, RIGHT-OF-WAYS, AND INTERESTS, IN ANY OF THE SAME, AND RECORDS IN THE OFFICE OF THE COUNTY CLERK OF ONSLOW COUNTY, NORTH CAROLINA, AND RECORDS IN THE OFFICE OF THE COUNTY CLERK OF ONSLOW COUNTY, NORTH CAROLINA, WHICH MAY HAVE BEEN ACQUIRED BY PREScriptive USE.
3. TAX PARCELS: 759-1, 0 AND 759-1 ACQUIRED BY PREScriptive USE.
4. RUN OF INDIAN CRANE BRANCH AND BALL BRANCH FROM PARTIAL SURVEY AND DEEDS AND PLOTS OF RECORDS.
5. ALL DISTANCES ARE HORIZONTAL COMPUTATIONS.
6. ALL ADJACENT SURVEYS ARE BY COORDINATE COMPUTATION.
7. THAT THIS SURVEY IS OF AN EXISTING PARCEL OR OF LAND AND DOES NOT CREATE A NEW PARCEL OR CHANGE AN EXISTING STREET.

HUBBARD, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS AND SURVEYORS
SOUTHWEST CORNER, NC

SURVEYOR:
J. J. DARY, CLIP
300 S.W. BROAD STREET
SOUTHWEST CORNER, NC
(910) 592-5811

LINE LABEL TABLE

LINE TABLE			LINE TABLE			LINE TABLE		
LINE	LENGTH	BEARING	LINE	LENGTH	BEARING	LINE	LENGTH	BEARING
L1	31.47'	S 38°04'12" E	L45	55.59'	N 11°26'38" W	L89	435.11'	S 78°19'49" W
L2	96.24'	S 67°22'02" E	L46	138.78'	N 13°46'38" E	L90	605.31'	S 79°17'40" W
L3	91.35'	S 46°48'13" E	L47	807.72'	S 27°10'13" E	L91	51.17'	N 23°38'35" W
L4	65.54'	S 28°28'01" E	L48	100.07'	S 28°17'54" E	L92	117.90'	N 23°37'53" W
L5	78.32'	S 03°36'08" W	L49	100.42'	S 29°34'57" E	L93	103.86'	N 48°40'52" W
L6	177.54'	S 02°39'12" E	L50	100.05'	S 30°31'28" E	L94	153.90'	N 67°24'10" W
L7	98.36'	S 21°29'26" E	L51	109.04'	S 31°28'59" E	L95	306.99'	N 78°18'37" W
L8	113.86'	S 00°40'34" E	L52	99.81'	S 32°38'20" E	L96	171.18'	N 74°34'48" W
L9	66.73'	S 30°29'02" W	L53	99.93'	S 33°49'16" E	L97	148.89'	N 69°05'12" W
L10	62.37'	S 38°56'07" W	L54	99.94'	S 34°36'43" E	L98	43.05'	N 68°16'57" W
L11	63.29'	S 24°03'05" W	L55	100.03'	S 35°38'24" E	L99	129.96'	N 62°02'28" W
L12	106.15'	S 24°58'46" E	L56	99.94'	S 36°16'56" E	L100	188.52'	N 60°53'41" W
L13	108.76'	S 10°30'08" W	L57	99.92'	S 37°08'04" E	L101	123.67'	N 59°52'25" W
L14	60.23'	S 78°23'29" W	L58	50.31'	S 31°07'43" W	L102	82.85'	N 18°37'43" W
L15	191.28'	S 11°37'10" W	L59	199.98'	S 31°08'33" W	L103	160.33'	N 09°54'33" E
L16	103.82'	S 51°34'29" E	L60	200.22'	S 38°01'52" E	L104	833.84'	N 11°08'18" W
L17	113.60'	S 58°55'25" E	L61	200.16'	N 50°55'41" E	L105	134.98'	N 11°11'15" E
L18	97.42'	N 69°02'53" E	L62	49.80'	N 50°39'23" E	L106	131.21'	N 16°05'46" E
L19	192.86'	S 44°51'18" E	L63	108.44'	S 40°26'52" E	L107	889.30'	N 26°31'19" E
L20	158.41'	S 28°42'03" W	L64	100.04'	S 41°36'14" E	L108	275.94'	N 33°20'49" E
L21	116.32'	S 59°29'52" E	L65	99.87'	S 43°26'18" E	L109	87.53'	N 51°31'09" E
L22	140.00'	N 85°19'27" E	L66	100.12'	S 45°04'46" E	L110	57.02'	N 67°01'57" E
L23	37.21'	N 35°48'02" E	L67	99.83'	S 45°39'08" E	L111	268.94'	N 62°54'39" E
L24	121.14'	S 79°31'09" E	L68	100.51'	S 46°07'16" E	L112	1000.37'	N 62°27'28" E
L25	122.03'	S 30°38'46" E	L69	99.98'	S 46°20'55" E	L113	169.78'	N 77°28'39" E
L26	90.93'	S 83°57'25" E	L70	105.27'	S 47°36'45" E	L114	117.52'	N 55°57'10" E
L27	131.39'	S 18°20'32" E	L71	58.49'	S 47°22'53" W	L115	126.43'	N 28°48'48" E
L28	86.59'	S 24°22'31" W	L72	594.60'	S 42°21'53" W	L116	129.26'	N 18°30'22" E
L29	231.38'	S 43°41'52" E	L73	440.03'	S 47°38'31" E	L117	375.45'	N 13°49'22" E
L30	189.98'	S 69°50'11" E	L74	164.67'	S 42°25'13" W	L118	242.81'	N 11°03'31" E
L31	127.95'	S 17°34'18" E	L75	407.56'	S 14°32'24" W	L119	115.89'	N 02°59'17" E
L32	54.91'	S 00°18'52" W	L76	415.26'	S 10°02'39" W	L120	94.81'	N 18°53'38" W
L33	75.86'	S 55°41'21" E	L77	392.10'	S 16°12'55" W	L121	167.59'	N 28°53'05" W
L34	190.68'	S 66°33'30" E	L78	181.56'	S 26°58'54" W	L122	448.81'	N 32°58'26" W
L35	126.68'	S 54°27'42" E	L79	150.94'	S 09°48'19" W	L123	174.35'	N 30°28'31" W
L36	217.58'	N 67°54'05" E	L80	85.84'	S 26°27'24" W	L124	68.38'	N 29°51'58" W
L37	110.92'	N 52°47'44" E	L81	202.50'	S 45°36'21" W	L125	86.36'	N 12°54'03" W
L38	205.27'	N 25°48'36" E	L82	107.16'	S 56°28'58" W	L126	79.78'	N 02°35'48" E
L39	73.48'	N 36°24'17" E	L83	375.14'	S 52°58'34" W	L127	206.23'	N 17°01'06" E
L40	145.03'	N 57°08'19" E	L84	257.39'	S 64°30'59" W	L128	105.96'	N 22°40'59" E
L41	202.64'	N 62°29'25" E	L85	145.55'	S 48°43'05" W	L129	90.68'	N 33°31'10" W
L42	117.12'	N 43°19'35" E	L86	221.76'	S 57°55'07" W	L130	189.07'	N 38°22'24" E
L43	73.88'	N 45°33'53" E	L87	119.24'	S 22°31'43" E	L131	42.82'	S 24°04'34" E
L44	246.34'	N 10°13'22" E	L88	129.44'	S 55°46'08" E			

- I. J. GARY CLUP, PROFESSIONAL LAND SURVEYOR, NO. L-2950, CERTIFY TO ONE OR MORE OF THE FOLLOWING AS REQUIRED BY G.S. 47-300(1)(1):
- ___ A. THAT THE SURVEY CREATES A SUBDIVISION OF LAND WITHIN THE AREA OF A COUNTY OR MUNICIPALITY THAT HAS AN ORDINANCE THAT REGULATES PARCELS OF LAND;
 - ___ B. THAT THE SURVEY IS LOCATED IN A PORTION OF A COUNTY OR MUNICIPALITY THAT IS UNREGULATED AS TO AN ORDINANCE THAT REGULATES PARCELS OF LAND;
 - C. ANY ONE OF THE FOLLOWING:
 1. THAT THE SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET;
 2. THAT THE SURVEY IS OF AN EXISTING BUILDING OR OTHER STRUCTURE, OR NATURAL FEATURE, SUCH AS A WATERCOURSE; OR
 3. THAT THE SURVEY IS A CONTROL SURVEY.
 - ___ D. THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXCEPTION TO THE DEFINITION OF SUBDIVISION;
 - ___ E. THAT THE INFORMATION AVAILABLE TO THE SURVEYOR IS SUCH THAT THE SURVEYOR IS UNABLE TO MAKE A DETERMINATION TO THE BEST OF THE SURVEYOR'S PROFESSIONAL ABILITY AS TO PROVISIONS CONTAINED IN (A) THROUGH (D) ABOVE.

J. Gary Clup 10/10/02
 SURVEYOR DATE

I, J. GARY CLUP, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM A PARTIAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION REFERENCES AS SHOWN); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND (REFERENCES AS SHOWN); THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED; WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 10 DAY OF 10th MO., 2002.



J. Gary Clup
 PROFESSIONAL LAND SURVEYOR
 L-2950
 LICENSE NUMBER

NORTH CAROLINA
 ONSLOW COUNTY
 PRESENTED FOR REGISTRATION AND RECORDED IN THIS
 OFFICE OF MAP BOOK 23, PAGE 180, THIS 4:00PM
 THE 10th DAY OF 10th MO., 2002
J. Gary Clup *Shelby-K-1599*
 REGISTER OF DEEDS

STATE OF NORTH CAROLINA
 COUNTY OF _____
 REVIEW OFFICER OF _____ COUNTY,
 CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS
 AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.
 REVIEW OFFICER
 DATE *10/10/02*

SURVEY OF
W.W. BECK PROPERTY
 "TRACT B"
 FOR
 RESTRICTIVE EASEMENT
 STUMP SOUND TOWNSHIP
 ONSLOW COUNTY NORTH CAROLINA
 SEPTEMBER, 2002 NO SCALE

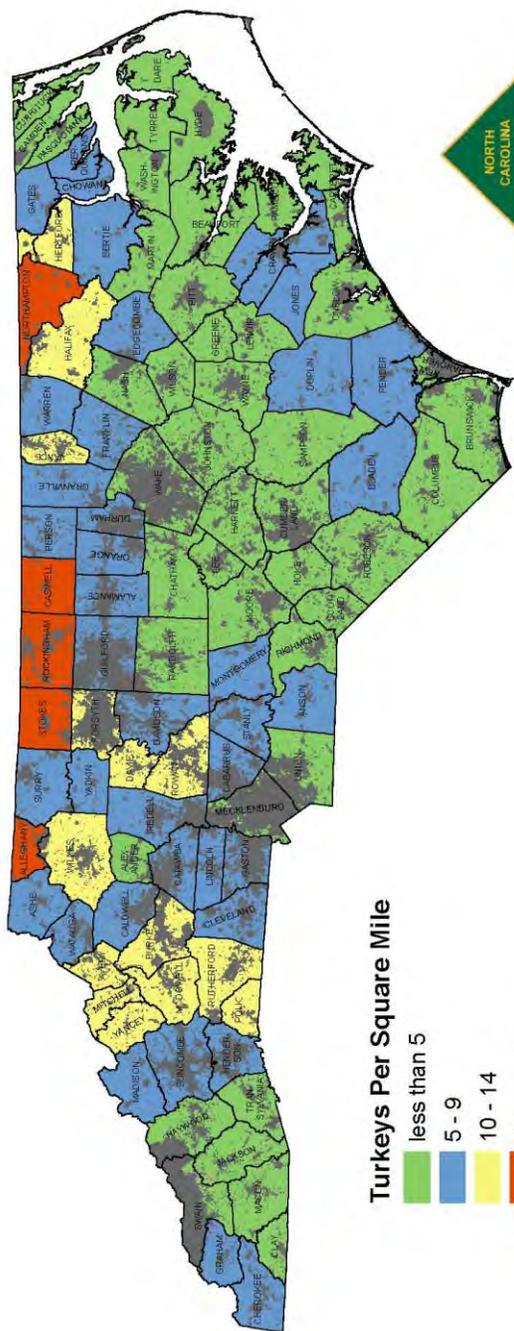
SURVEYOR:
 J. GARY CLUP
 300 S.W. BRUSH STREET
 SOUTHERN PINES, N.C. 28387
 (910) 592-5916



Appendix VII.

Turkey and Deer Density/Conception Maps

2010 North Carolina Wild Turkey Density Map



Turkeys Per Square Mile

- less than 5
- 5 - 9
- 10 - 14
- 15 or more

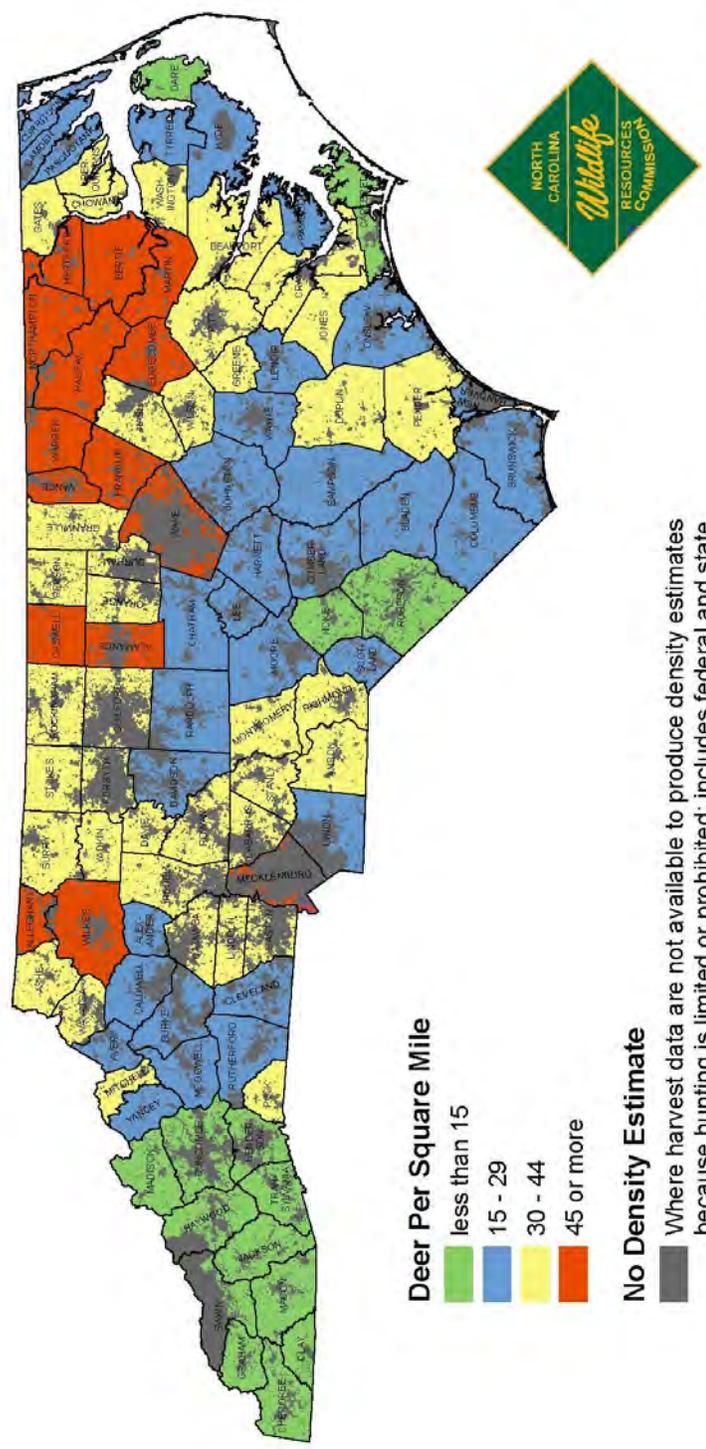
No Density Estimate

■ Where harvest data are not available to produce density estimates because hunting is limited or prohibited; includes federal and state parks, municipal boundaries, water bodies, and human density greater than 1 person per 2 acres.



Division of Wildlife Management

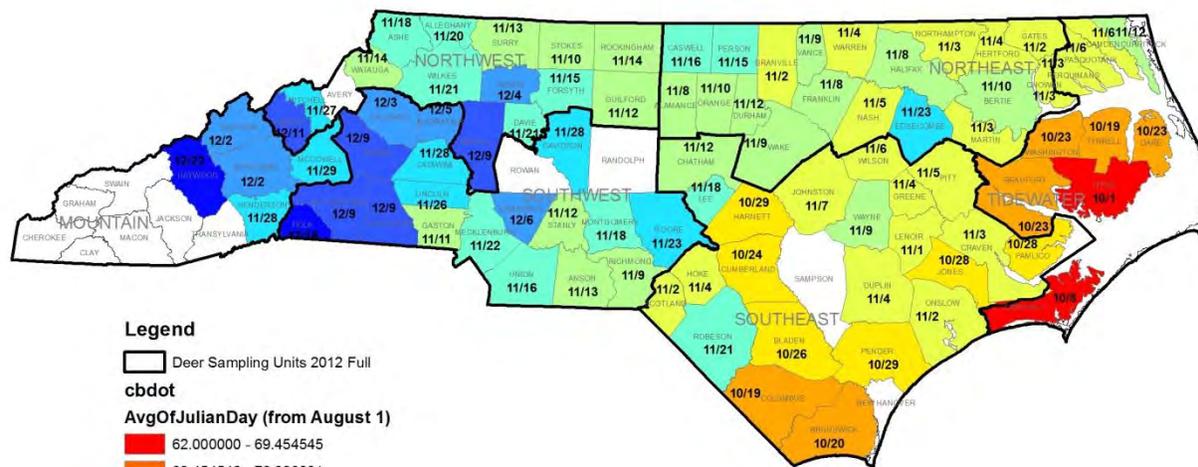
2010 North Carolina White-tailed Deer Density Map



Division of Wildlife Management

Conception date analysis 2013

(as of August 2013)



Legend

- Deer Sampling Units 2012 Full
- cbdot**
- AvgOfJulianDay (from August 1)**
- 62.000000 - 69.454545
- 69.454546 - 76.909091
- 76.909091 - 84.363636
- 84.363636 - 91.818182
- 91.818182 - 99.272727
- 99.272727 - 106.727273
- 106.727274 - 114.181818
- 114.181819 - 121.636364
- 121.636365 - 129.090909
- 129.090910 - 136.545455
- 136.545456 - 144.000000
- cbdot

Appendix VIII.

Hunter Survey



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

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 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 deer 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) _____

2. What hunting method did you *primarily* use during your hunt(s) using the permit?
- Still
- Dog

3. 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"/>

4. 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"/>

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CONTINUE ON REVERSE SIDE →

Formatted: Tab stops: 2.31", Left + Not at 0.5"

Permit Number: «PermitID»

5. 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"/>

6. Overall, how dissatisfied or satisfied were you with your hunt(s) using this permit? (one)

Very Dissatisfied ←————→ Very Satisfied

1 2 3 4 5

7. 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»	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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): _____

Appendix IX

Game Land Use and Evaluation Forms

EXHIBIT 1

APPROPRIATE USE DETERMINATION

Property Name: _____

Requested or Considered Use: _____

DECISION CRITERIA	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 state or NCWRC policies?		
E. Is the use consistent with public safety?		
F. 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 – E (and F, if applicable) must be YES.

Determination (check one below):

_____ Appropriate

_____ Not Appropriate

Comments:

Property Manager: _____

Date: _____

Regional Supervisor: _____

Date: _____

Appendix X

Phase I and II Land Acquisition 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: 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: \$:

Five Year Estimate of Total Projected Revenue: \$:

Additional Comments:

Appendix XI

Public Comment and Response

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

Comment	Response
The overall habitat needs improving for the safety of the people and the health of the bird population - trash removal, parking for vehicles on Pilcher's Branch to help maintain the integrity of the road, law enforcement to prevent 4 wheel trucks from joy-riding.	Thank you for your comments. Target shooting is currently prohibited on SCGL.
Native plants, grass & long leaf pine. The burn plan needs to be rotated on a 3-year basis to prevent the understory from becoming too thick. A plan for the future to thin pines should be included. This game land should be managed for Bobwhite Quail restoration and small game as was the original plan. Also, develop the ponds and other water for fishing and waterfowl. drainage ditching should be considered also in some areas of the game land.	The use of prescribed burning and return interval is discussed in the Habitat Section. Currently, there is not a "Plan" for SCGL. Quail management goals and recommendations are presented in the Information Needs Section. Pond management is discussed in the Habitat Section.
Longleaf pine natural communities, including Wet Pine Flatwoods, Pine Savanna, and Sandhill Seep are important to protect and improve at Stones Creek Game Land, particularly through the use of prescribed fire.	Addressed in Plan. See Habitat Section
All Habitats are important. Would like roads fixed.	Addressed in Plan. See Habitat and Infrastructure Sections
Longleaf pine ridges. Wetlands.	Addressed in Plan. See Habitat Section
Deer, turkey, rabbit, squirrel	Addressed in Plan. See Information Needs Section
Food plots that many different species can use. For birds=millet.	Addressed in Plan. See Habitat Section
Long leaf pine ecosystem and warm season grasses	Addressed in Plan. See Habitat Section

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 this game land?

Comment	Response
The plan has always been for this game land to be used as a Bobwhite Quail restoration area and that should stay the course of action.	Currently, there is not a "Plan" for SCGL. Quail management goals and recommendations are presented in the Information Needs Section.
Quail and dove and migratory birds.	Addressed in Plan. See Information Needs Section
Fish in the ponds and the white tail population.	Addressed in Plan. See Information Needs Section
Need to protect all water species.	Addressed in Plan. See Information Needs Section
Deer, turkey, rabbit	Addressed in Plan. See Information Needs Section
All should be equal unless there is one in decline	Addressed in Plan. See Information Needs Section
Bobwhite quail	Addressed in Plan. See Information Needs Section

Question 3: How do you use this game land?

Comment	Response
I use the Stones Creek Game Land for big/small game hunting, fishing, and shed hunting/hiking.	Thank you for your comment
Fishing, still hunting whitetail, hiking, duck hunting	Thank you for your comment
We use the land for hunting dove, but would like to use it for geocaching, bird watching and photography, but it is not safe for such use due to a lack of law enforcement presence.	Thank you for your comment
I still hunt this game land and i think this game land should be for Still Hunting ONLY. It's a small piece of land and running dogs is not good for the deer. I wish there was turkey on the land.	Thank you for your comment
I only use this game land for quail & woodcock hunting and to assist the Wildlife Commission in the restoration effort being conducted for Bobwhite Quail.	Thank you for your comment
Deer and rabbit hunt on the game lands.	Thank you for your comment
Hunt and live on adjacent property.	Thank you for your comment
To deer hunt running dogs.	Thank you for your comment
Hunting and fishing.	Thank you for your comment
Quail hunt and contribute to habitat projects	Thank you for your comment

Question 4: Please explain why you think the current level of access is or is not, satisfactory on this game land?

Comment	Response
I think the current level of access to fine. However, I think greater level of restriction needs to be in place. Additional gates need to be installed to limit the distance you can enter the game land by vehicle. A little more walking from all access points will do the hunters some good and allow for more people to enjoy the use of the game land other than deer dog hunters running up and down the roads in trucks.	Thank you for your comment
My neighborhood borders this land and our private road is being used as access. Despite recent improvements by Wildlife, it is a difficult road to maintain due to the lack of road base, inconsiderate hunters and unlawful traffic, such as 4-wheel drive joy-riders. I have requested that a small area be cleared for parking for visitors so as to reduce the amount of road blocking activity that occurs mostly on weekends.	Thank you for your comment. These issues are discussed in the Infrastructure Section.
Access to the game lands is horrible on Pilchers Branch Rd. When it rains, the road can become impassible. The commission spent a fortune improving other roads but not the only road with homes on it.	Thank you for your comment. These issues are discussed in the Infrastructure Section.
I feel the current access is sufficient. The gates keep vehicles out of most of the game land preventing 4x4 off road recreation that destroys the land/habitat.	Thank you for your comment.
Fine	Thank you for your comment
Satisfactory for hunting on Saturday. Move gates to edge of branch.	Thank you for your comment
We need more access for handicap that can not walk. Access registered with Commission, especially some gated roads.	A disabled hunter blind has been installed off the Church Rd.
I think the hunting should be 3 days per week. Other activities should enjoy the same access.	Thank you for your comment

Question 5: What suggestions, if any, do you have for changing how this game land is managed and maintained?

Comment	Response
<p>This game land needs to be a 3 day a week game land for use. It is close to heavy populated areas and used beyond its capacity to support. The wildlife is the resource and needs to be managed in manner that best maintains it. Keep in mind that a Bobwhite Quail restoration effort has been working there since the game land was established and that appears to no longer be the focus by the commission.</p>	<p>Recent regulations have allowed a 3-day dog hunt and 3-day still hunt framework. It is the hope of the WRC that this will offer better quality opportunities for still hunters as well as small game hunters. WRC staff continues to work closely sportsman's groups on SCGL. All game lands are managed for multiple species, and SCGL is no exception.</p>
<p>The game land is so small it is almost impossible to still hunt during deer season because of the dog hunters. Nearly every inch of the tract is run by dogs.</p>	<p>Recent regulations have allowed a 3-day dog hunt and 3-day still hunt framework. It is the hope of the WRC that this will offer better quality opportunities for still hunters as well as small game hunters.</p>
<p>Limit dog hunter use. Still hunters have no chance.</p>	<p>Recent regulations have allowed a 3-day dog hunt and 3-day still hunt framework. It is the hope of the WRC that this will offer better quality opportunities for still hunters as well as small game hunters.</p>
<p>Parking for visitors, signage to indicate appropriate behavior (i.e. no 4 wheelers, no littering or loitering) and law enforcement contact information and actual law enforcement presence. Pilchers Branch is a private road. If it is to remain open to Wildlife visitors, assistance with road maintenance is essential.</p>	<p>Field staff is working on improved signage and parking areas. Road maintenance is discussed in Infrastructure Section.</p>
<p>As a landowner that shares borders with Stones Creek Game lands it has been noticed that occasional target shooting with firearms is taking place at night. It is unknown how this is done but many times has awakened neighbors as well as this landowner. The target shooting is fine otherwise. Please provide designated areas and times to shoot. It is unknown if shooters are aware that homes are unprotected to their direction of fire! Leonard M. Szymanik</p>	<p>Target shooting is currently prohibited on SCGL.</p>

Question 5 CONTINUED: What suggestions, if any, do you have for changing how this game land is managed and maintained?

<p>Encourage continued use of prescribed fire in the uplands to reduce expansion of shrub cover and increase the vigor of herbs. No special management needs are known for the riparian areas, but it would be good to monitor all habitats for invasive exotic species.</p>	<p>Addressed in Habitat Section</p>
<p>Need to move 2 gates.</p>	<p>Addressed in Infrastructure Section</p>
<p>Shooting range, Prescribe burn every 2-3 years.</p>	<p>Target shooting is currently prohibited on SCGL. Prescribed burning operations are discussed in Habitat Section.</p>
<p>To put in a shooting range.</p>	<p>Target shooting is currently prohibited on SCGL. A shooting range is planned to open on Holly Shelter GL in August 2016.</p>
<p>Establish fruit trees in certain areas. No beer drinking in this area.</p>	<p>Areas suitable for fruit trees are isolated to the Verona tract. After final timber harvests have been conducted, we may consider this action. Consumption of alcoholic beverages is prohibited on all game land shooting ranges and it is illegal to hunt on any game land or wildlife conservation area while under the influence of alcohol or narcotic drugs. With those safeguards in place, we have little justification for a more encompassing prohibition.</p>
<p>I would like to see hunting reduced to three days. I would also like to see an increase in planting of vegetation that would provide food and cover for quail.</p>	<p>Recent regulations have provided a 3-day dog hunt and 3-day still hunt framework. It is the hope of the WRC that this will offer better quality opportunities for still hunters as well as small game hunters.</p>

Question 6: What would encourage you to start using this game land, or to continue using it more actively?

Comment	Response
<p>Install or clear designated areas for small boat launch onto the ponds. Also, install a small designated shooting area somewhere on the land. Something as small as a 50yd rifle/pistol/self-thrown skeet range would drastically reduce the amount of illegal recreational shooting on the land and concentrate it to a specific, safe area. Currently there are NO recreational shooting facilities between Wilmington and Hubert/ Jacksonville, leading some people to shoot illegally on game lands and other private lands. I'm also sure if public notice was given, many community volunteers would help in the building and annual maintenance of the area, lowering the cost to the state of building/ maintaining such an area.</p>	<p>Thank you for your comments. Installation of described facilities is described in Infrastructure Section. Target shooting is currently prohibited on SCGL. A public shooting range is scheduled to open in August 2016.</p>
<p>MAKE IT A STILL HUNTING ONLY GAME LAND. I'm TIRED OF DOG HUNTING MESSING UP MY HUNTS. THESE GUYS DON'T CARE THEY THINK THEY OWN EVERYTHING.</p>	<p>Recent regulations have allowed a 3-day dog hunt and 3-day still hunt framework. It is the hope of the WRC that this will offer better quality opportunities for still hunters as well as small game hunters.</p>
<p>Improved safety such as the afore mentioned signage as law enforcement presence and litter clean up. No one wants to hike through the woods to find trash and destructive 4 wheeling trucks!</p>	<p>Target shooting is currently prohibited on SCGL. We are grateful for the recent volunteer litter pickup day conducted by the NC State Aquarium at Kure Beach, NC. Enforcement is an issue statewide. With only 1-2 enforcement officers per county, at best, it is impossible to be everywhere all the time.</p>

Question 6 CONTINUED: What would encourage you to start using this game land, or to continue using it more actively?

<p>The Stones Creek Game Land is a little known natural area that should be utilized for activities other than target shooting and illegal camping. I have been hiking out near the limesink ponds-a beautiful area but I was appalled by the trash left behind and fearful of stray bullets from the people out there target shooting. There needs to be an area set aside for the target shooters so that people who want to enjoy scenery, hiking, photography, birdwatching, etc., can do it without fear. An established hiking trail would be fantastic for our area. Please, we all want to enjoy it. Thank you.</p>	<p>Thank you for your comments. Installation of described facilities is described in Infrastructure Section. Target shooting is currently prohibited on SCGL. A public shooting range is scheduled to open in August 2016.</p>
<p>If dog hunting during deer season was limited and Pilchers Branch Rd was improved.</p>	<p>Recent regulations have allowed a 3-day dog hunt and 3-day still hunt framework. It is the hope of the WRC that this will offer better quality opportunities for still hunters as well as small game hunters. Road maintenance is discussed in Infrastructure Section.</p>
<p>Good quail hunting and all the ponds being stocked with fish. Being able to safely hunt small game during the deer season without having a confrontation with deer dog hunters thinking the game land is their private hunt club and not have to fear that my bird dogs would be run over by trucks running up and down the roads or myself or truck being shot.</p>	<p>Recent regulations have allowed a 3-day dog hunt and 3-day still hunt framework. It is the hope of the WRC that this will offer better quality opportunities for still hunters as well as small game hunters. Target shooting is currently prohibited on SCGL. A public shooting range is scheduled to open in August 2016.</p>
<p>Make it where you can't be beer drinking.</p>	<p>Consumption of alcoholic beverages is prohibited on all game land shooting ranges and it is illegal to hunt on any game land or wildlife conservation area while under the influence of alcohol or narcotic drugs. With those safeguards in place, we have little justification for a more encompassing prohibition.</p>
<p>Access for handicapped. Being able to get to hunting area.</p>	<p>A disabled hunter blind has been installed off the Church Rd.</p>
<p>I use the game land frequently.</p>	<p>Thank you for your comments.</p>

Question 7: What additional comments do you have regarding this game land?

Comment	Response
<p>Do what is best for the game land and the wildlife that lives upon it. Do not do what you think is best for a bunch of buttheads that abuse game lands, give nothing back to wildlife and think that the game land is a private hunting club for them to use and abuse as they desire because they live in the local area. Please feel free to contact me should you have additional questions. I want to assist and be part of a solution and not part of the problem.</p>	<p>Thank you for your comments. Addressed in plan.</p>
<p>Pilchers Branch Rd gets a lot of traffic from the game lands. Especially during hunting season. The road is in serious disrepair. An ambulance couldn't even get down it to pick a girl up who was having a seizure. It needs to be improved.</p>	<p>Road maintenance is described in Infrastructure Section.</p>
<p>This game land is a small tract of land but is ideal for still hunting only. There is no place for still hunters close by. Bladen is the only one. The section located by Dawson Cabin has so many hunters dropping carcasses at both gates, it's sad to know people are getting away with this.</p>	<p>Thank you for your comments. Addressed in plan.</p>
<p>The North Carolina Natural Heritage Program appreciates the opportunity to provide input as the North Carolina Wildlife Resources Commission (WRC) develops a management plan for the Stones Creek Game Land. Given the constraint on comment length, please see comments sent to gamelandplan@ncwildlife.org</p>	<p>Thank you for your comments. Addressed in plan.</p>
<p>Establish a management for deer, removal of jawbone/gallbladder and send to Raleigh.</p>	<p>Thank you for your comments. Addressed in Information Needs Section.</p>
<p>I would like to see a program put in place to control nest raiding predators and larger mammalian predators.</p>	<p>Thank you for your comments</p>

Appendix XII

Final Public Comment and Response

Email Comment for Period 8/23-9/30/2016	
Comment	WRC Response
<p>I live adjacent to the game lands and would like to offer help bringing horseback riding to the game land as we have a small horse farm. Also, we could host educational events at our barn and have people go out and then see the nature in the game lands. Finally, hunting should be prohibited if these other sports including the MTS trail activities are performed out there.</p>	<p>Thank you for your comments. Horseback riding is allowed on roads open to vehicular traffic. Any type of large events would require prior approval as well as a special use permit. Our management objectives include hiking and other “nonconsumptive” uses, such as horseback riding, it is decidedly toward compatible activities and not to the exclusive use of one group. Encouraging large groups to use the site has the potential to negatively affect site conservation values and user group enjoyment.</p>
<p>As resident bordering the Stones Creek Game Lands, I am truly in favor of the improvements and care being given to the area. The Mountain to Sea trail can do much to help maintain the area. Although significant improvements have been made recently to improve safety on the game lands, I feel that there should be some type of buffer zone between the game lands hunting area and the residents bordering the area. Thanks all and may you all keep up the good work.</p>	<p>Thank you for your comment. There is currently a rule prohibiting hunting within 150 yards of a residence.</p>

<p>1. First and foremost, thank you very much NC Wildlife for allowing the Mountain to Sea Trail (MST) to be a part of Stones Creek Game Lands (SCGL) & Holly Shelter Game Lands (HSGL). What a great opportunity for people to get out and explore Natures Classroom right here in little ole Sneads Ferry !! 2. To ensure safety, could you please post signs alerting everyone that if the gates are open, it's hunting season and please mark a 500 yard buffer around hunting areas away from any houses, as this is very important in SCGL. 3. NCWRC should proudly showcase and grow all native species like Dogwoods, Hickory, Chestnuts, Walnuts, Oaks, Poplar, Pecans, Cedars, Hickory, Cypress, Native Azaleas, Orchids, Carnivorous Plants, Wild Grapes and Blueberries, etc that wildlife depend on. Longleaf Pines are not the only native species. Forest diversity is key to good wildlife habitat. 4. SCGL & HSGL are Natures Classroom and although they are "Game Lands" if parking could be enlarged and moved in a ways, with a split rail fence around a large wooded area (to showcase all the native trees), it could provide areas for parking for school buses, horse trailers, vehicles with bike racks, etc and a place for picnic tables. This is a GREAT opportunity to showcase what NC has to offer to locals, visitors, tourist, bird watchers, naturist, etc. Within the 3000 acres of SCGL and almost 70,000 acres of HSGL, this would not take up much room but will greatly benefit both Game Lands.</p>	<p>Thank you for your comments on the draft Stones Creek Game Land Management Plan. Recently, WRC installed signs alerting/asking game land users "Hunters wear orange, you should too". We will continue to improve signage related to safety especially in areas of high traffic among multiple user groups. Regarding a 500-yard buffer; there is already a rule restricting any shooting within 150 yards of a residence. The additional 350-yard buffer would go against our mission to provide for traditional users. All species listed are present at appropriate sites within Stones Creek Game Land. Most within arm's reach of the MST. The exception would be the pecan. Stones Creek is outside its historic range. Native plant community reestablishment, of which longleaf pine and associated understory species are a component, managed with a prescribed burning regime is a site-appropriate objective of our management. Our acquisition funding sources and conservation easements under the RASP program limit infrastructure expansion outside of the existing footprints, so large parking lots are not a reality. Further dedications and prescribed burning logistics would also prohibit construction of infrastructure in stands. There is potential to work with our Education Section to develop curriculums with maps where specimens of these native plants occur like the birding trail; perhaps as a geocache like object. Unfortunately, we do not have resources to maintain as described. Additionally, there is elevated potential for user conflicts with described scenario.</p>
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<p>As a resident of both the NC mountains (Marion) and the coast (Sneads Ferry), I would like to thank you for allowing the Mountain to Sea trail to come through the Stones Creek and Holly Shelter Game Lands. These areas provide an excellent view of coastal habitat. Since these areas are heavily hunted, I am concerned for the public's safety during hunting season. Please consider marking boundaries within 500 ft of residential development and alerting hikers to wear vests to prevent accidents. Also, please allow these areas to grow naturally, allowing for the ecosystem to develop naturally (eg hardwoods). Maintaining a strictly pine environment is not the natural state for this area and restricts species that would otherwise develop. Also: The parking areas could use improvement with perhaps a sign showing the trails as well as some nature markings. I was a wildlife biology major at NC State, and would gladly work with you to get a volunteer group together locally to assist with these improvements.</p>	<p>Thank you for your comments on the draft Stones Creek Game Land Management Plan. Recently, WRC installed signs alerting/asking game land users "Hunters wear orange, you should too". We will continue to improve signage related to safety especially in areas of high traffic among multiple user groups. Regarding a 500-yard buffer; there is already a rule restricting any shooting within 150 yards of a residence. The additional 350-yard buffer would go against our mission to provide for traditional users. All species listed are present at appropriate sites within Stones Creek Game Land. Most within arm's reach of the MST. The exception would be the pecan. Stones Creek is outside its historic range. Native plant community reestablishment, of which longleaf pine and associated understory species are a component, managed with a prescribed burning regime is a site-appropriate objective of our management. Our acquisition funding sources and conservation easements under the RASP program limit infrastructure expansion outside of the existing footprints, so large parking lots are not a reality. Further dedications and prescribed burning logistics would also prohibit construction of infrastructure in stands. There is potential to work with our Education Section to develop curriculums with maps where specimens of these native plants occur like the birding trail; perhaps as a geocache like object. Unfortunately, we do not have resources to maintain as described. Additionally, there is elevated potential for user conflicts with described scenario.</p>
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<p>Having Stones Creek Game Lands preserved for the Mountain to Sea Trail is a wonderful opportunity for those in Sneads Ferry and surrounding areas. It'll be a great area for extra activities not only for residents in and around the area, but also those visiting the beach. If there were year round camping, I do believe that would draw more attention to SCGL. Especially for the military families that like to get out with their families and children. There's also a lot of homeschooled children in this area and for them to get out into the wilderness and study would be an amazing opportunity. With of course safety precaution signs along the front entrance. Such as hours and hunting season notifications would be very helpful. In addition, I believe they should have all NC native plants and trees within the MST. It will show off what North Carolinas nature has to offer. Picnic tables and better parking would help out for those traveling in larger groups. Thank you for taking the time to consider these options. We're very excited to have this in our area!</p>	<p>Thank you for your comments. Camping on WRC owned lands is only allowed at designated campgrounds which arent offered at Stones Creek GL. The nearest one is provided at the east gate of Holly Shelter GL. We are currently working to add proper signage to alert users that there may be hunting in progress; especially in high traffic areas such as the MST. As with the majority of WRC owned game lands, are primarily in site appropriate locations throughout the lands. Lastly, limits placed on us from dedications and easements would not allow suggested infrastructure.</p>
<p>1. First and foremost, thank you very much NC Wildlife for allowing the Mountain to Sea Trail (MST) to be a part of Stones Creek Game Lands (SCGL) & Holly Shelter Game Lands (HSGL). What a great opportunity for people to get out and explore Natures Classroom right here in little ole Sneads Ferry!! 2. To ensure safety, could you please post signs alerting everyone that if the gates are open, it's hunting season and please mark a 500-yard buffer around hunting areas away from any houses, as this is very important in SCGL. 3. NCWRC should proudly showcase and grow all native species like Dogwoods, Hickory, Chestnuts, Walnuts, Oaks, Poplar, Pecans, Cedars, Hickory, Cypress, Native Azaleas, Orchids, Carnivorous Plants, Wild Grapes and Blueberries, etc. that wildlife depend on. Longleaf Pines are not the only native species. Forest diversity is key to good wildlife habitat. 4. SCGL & HSGL are Natures Classroom and although they are "Game Lands" if parking could be enlarged and moved in a ways, with a split rail fence around a large wooded area (to showcase all</p>	<p>Thank you for your comments on the draft Stones Creek Game Land Management Plan. Recently, WRC installed signs alerting/asking game land users "Hunters wear orange, you should too". We will continue to improve signage related to safety especially in areas of high traffic among multiple user groups. Regarding a 500-yard buffer; there is already a rule restricting any shooting within 150 yards of a residence. The additional 350-yard buffer would go against our mission to provide for traditional users. All species listed are present at appropriate sites within Stones Creek Game Land. Most within arm's reach of the MST. The exception would be the pecan. Stones Creek is outside its historic range. Native plant community reestablishment, of which longleaf pine and associated understory species are a component, managed with a prescribed burning regime is a site-appropriate objective of our management. Our acquisition funding sources and conservation easements under the RASP program limit infrastructure expansion outside of the existing footprints, so large parking lots are not a reality. Further</p>

<p>the native trees), it could provide areas for parking for school buses, horse trailers, vehicles with bike racks, etc and a place for picnic tables. This is a GREAT opportunity to showcase what NC has to offer to locals, visitors, tourist, bird watchers, naturist, etc. Within the 3000 acres of SCGL and almost 70,000 acres of HSGL, this would not take up much room but will greatly benefit both Game Lands. 5. Please include year round camping.</p>	<p>dedications and prescribed burning logistics would also prohibit construction of infrastructure in stands. There is potential to work with our Education Section to develop curriculums with maps where specimens of these native plants occur like the birding trail; perhaps as a geocache like object. Unfortunately, we do not have resources to maintain as described. Additionally, there is elevated potential for user conflicts with described scenario. Currently, camping on WRC lands is only allowed at designated campgrounds.</p>
<p>Thanks for trail through Stones Creek. Growing many kinds of native plants and trees and labeling them would be educational. Clearly marking hunting areas is imperative for the safety of nearby homeowners.</p>	<p>Thank you for your comments. The flora found on Stones Creek GL is occurring in its natural state and appropriate sites. Our boundary is clearly marked and by rule, hunting is not allowed within 150 yards of a residence.</p>
<p>NC Wildlife:Our family is really inspired by the outdoors. We are campers, hikers, bikers, and below-average photographers who enjoy nature.We are pleased with the reports about the Mountain to Sea trail being part of our neighborhood; we live in Sneads Ferry. We have section-hiked most of the Appalachian Trail and are now looking forward to the new MST Trail. One drawback to the Appalachian Trail is the overriding focus on long distance hiking. A lot of the AT is difficult and inconvenient for day hikers or short weekend hikes. The MST appears to be better suited for families and shorter day or weekend trips; that's a big positive. As the trail in this area is laid out and improved we would look forward to more access to families, handicapped, and infirm folks. It appears that North Carolina takes very good care of hunters and fishermen. How about including student groups, bicycle riders, horses and grandparents in your plans for trail use, access, and parking for the Stones Creek Game Lands. Thanks for</p>	<p>Thank you for your comments. Our acquisition funding sources and conservation easements limit infrastructure expansion outside of the existing footprints. We would however, like to work with MST to include those listed as other obligations allow.</p>

<p>listening.(Ps: I'm not against any hunting, I'm an avid spear fisherman)</p>	
<p>Suggestion-Stones Creek Game Lands & Holly Shelter Game Lands are our window to what NC nature has to offer event though they are game lands an expansion of parking could be a huge asset, with a fence around a large designated wooded area to showcase all the native species, it could provide areas for parking for school buses, horse trailers, vehicles with bike racks, etc and a place for picnic tables or benches. This is a GREAT opportunity to showcase what NC has to offer to locals, visitors, tourist, bird watchers, naturist, etc.</p>	<p>Native plant community reestablishment, of which longleaf pine and associated understory species are a component, managed with a prescribed burning regime is a site-appropriate objective of our management. Our acquisition funding sources and conservation easements under the RASP program limit infrastructure expansion outside of the existing footprints, so large parking lots are not a reality. Further dedications and prescribed burning logistics would also prohibit construction of infrastructure in stands.</p>
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<p>“Game Lands” if parking could be enlarged and moved in a ways, with a split rail fence around a large wooded area (to showcase all the native trees), it could provide areas for parking for school buses, horse trailers, vehicles with bike racks, etc and a place for picnic tables. This is a GREAT opportunity to showcase what NC has to offer to locals, visitors, tourist, bird watchers, naturist, etc. Within the 3000 acres of SCGL and almost 70,000 acres of HSGL, this would not take up much room but will greatly benefit both Game Lands.</p>	<p>the RASP program limit infrastructure expansion outside of the existing footprints, so large parking lots are not a reality. Further dedications and prescribed burning logistics would also prohibit construction of infrastructure in stands. There is potential to work with our Education Section to develop curriculums with maps where specimens of these native plants occur like the birding trail; perhaps as a geocache like object. Unfortunately, we do not have resources to maintain as described. Additionally, there is elevated potential for user conflicts with described scenario.</p>
<p>Hi! Thanks so much for the opportunity to voice our ideas for improvements to the public lands in Sneads Ferry. Moving here, we anticipated more outdoor recreating opportunities and areas similar to the abundance in the Western Part of the state. Despite the lack of these areas, I really enjoy the natural setting and Stones Creek in Sneads Ferry is often my only access to wilderness therapy until I travel hours back towards the Mountains. My husband is even planning on hunting there this upcoming season. Needless to say, we are grateful this small patch of land and would love to see it expanded or more areas preserved. Also, Tim Supple has been a great voice for Sneads Ferry residents wishing to preserve the native setting. He's worked really hard to provide meaningful access to residents and tourists who otherwise would just passby without realizing it was there. If there's ever an opportunity to formally recognized him for his work with the Mountain To Sea Trail that runs throughout the area, please consider this a nomination. Since you're taking input for improvement, I'd like to suggest the following for Stones Creek GameLands bearing in mind that it really is one of the last areas that one can really get away from modern distractions despite being preserved</p>	<p>Thank you for your comments on the draft Stones Creek Game Land Management Plan. Recently, WRC installed signs alerting/asking game land users “Hunters wear orange, you should too”. We will continue to improve signage related to safety especially in areas of high traffic among multiple user groups. Regarding a 500-yard buffer; there is already a rule restricting any shooting within 150 yards of a residence. The additional 350-yard buffer would go against our mission to provide for traditional users. All species listed are present at appropriate sites within Stones Creek Game Land. Most within arm's reach of the MST. The exception would be the pecan. Stones Creek is outside its historic range. Native plant community reestablishment, of which longleaf pine and associated understory species are a component, managed with a prescribed burning regime is a site-appropriate objective of our management. Our acquisition funding sources and conservation easements under the RASP program limit infrastructure expansion outside of the existing footprints, so large parking lots are not a reality. Further dedications and prescribed burning logistics would also prohibit construction of infrastructure in stands. There is potential to work with our Education Section to develop</p>

<p>primarily for hunting. I would love to see more native species growing abundantly throughout the area. The entire Southeast used to have dogwoods everywhere and now wild dogwoods are a rarity along with other native trees; poplar, azaleas, Wild grapes, Live Oaks (which the area is known for despite the recent lack of) Pecans, hickory, Chestnuts which are being replanted in the Appalachian areas. The Southern Coast has a unique variety of plants you really can't see anywhere else. I also think there should be better signage. I hesitated to visit the area because I wasn't aware of what areas were safe and when, nor was I aware that the MST transits through them. Most people I talk to are also unaware. Probably my biggest recommendation is to add year round primitive camping sites. There are often times when my husband and I would like to just pack up our hammocks and find somewhere away from noise and light pollution and there's nowhere to do so nearby. Thanks so much for reading these recommendations. Have a great day and a great Autumn season.</p>	<p>curriculum with maps where specimens of these native plants occur like the birding trail; perhaps as a geocache like object. Unfortunately, we do not have resources to maintain as described. Additionally, there is elevated potential for user conflicts with described scenario.</p>
<p>First and foremost, thank you very much NC Wildlife for allowing the Mountain to Sea Trail (MST) to be a part of Stones Creek Game Lands (SCGL) & Holly Shelter Game Lands (HSGL). What a great opportunity for people to get out and explore Natures Classroom right here in little ole Sneads Ferry !! To ensure safety, could you please post signs alerting everyone that if the gates are open, it's hunting season and please mark a 500 yard buffer around hunting areas away from any houses, as this is very important in SCGL. NCWRC should proudly showcase and grow all native species like Dogwoods, Hickory, Chestnuts, Walnuts, Oaks, Poplar, Pecans, Cedars, Hickory, Cypress, Native Azaleas, Orchids, Carnivorous Plants, Wild Grapes and Blueberries, etc that wildlife depend on. Longleaf Pines are not the only native species. Forest diversity is key to</p>	<p>Thank you for your comments on the draft Stones Creek Game Land Management Plan. Recently, WRC installed signs alerting/asking game land users "Hunters wear orange, you should too". We will continue to improve signage related to safety especially in areas of high traffic among multiple user groups. Regarding a 500-yard buffer; there is already a rule restricting any shooting within 150 yards of a residence. The additional 350-yard buffer would go against our mission to provide for traditional users. All species listed are present at appropriate sites within Stones Creek Game Land. Most within arm's reach of the MST. The exception would be the pecan. Stones Creek is outside its historic range. Native plant community reestablishment, of which longleaf pine and associated understory species are a component, managed with a prescribed</p>

<p>good wildlife habitat. SCGL & HSGL are Natures Classroom and although they are "Game Lands" if parking could be enlarged and moved in a ways, with a split rail fence around a large wooded area (to showcase all the native trees), it could provide areas for parking for school buses, horse trailers, vehicles with bike racks, etc and a place for picnic tables. This is a GREAT opportunity to showcase what NC has to offer to locals, visitors, tourist, bird watchers, naturist, etc. Within the 3000 acres of SCGL and almost 70,000 acres of HSGL, this would not take up much room but will greatly benefit both Game Lands.</p>	<p>burning regime is a site-appropriate objective of our management. Our acquisition funding sources and conservation easements under the RASP program limit infrastructure expansion outside of the existing footprints, so large parking lots are not a reality. Further dedications and prescribed burning logistics would also prohibit construction of infrastructure in stands. There is potential to work with our Education Section to develop curriculums with maps where specimens of these native plants occur like the birding trail; perhaps as a geocache like object. Unfortunately, we do not have resources to maintain as described. Additionally, there is elevated potential for user conflicts with described scenario.</p>
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<p>NC Wildlife: I have a home in Sneads Ferry and High Point and have subscribed to your wonderful NC Wildlife Magazine for decades. I am an avid day hiker (including the SCGL), fisherman and past hunter. I have propagated and planted bald cypress and live oaks on my Onslow County land. All this to say I love NC and its Game Lands, State Parks, hiking trails, etc. and these are some of NC's greatest assets! I selfishly would like to preserve and expand these assets for my children and their children (all living in NC). Some important inputs for your consideration are listed below. INPUT: 1. First and foremost, thank you very much NC Wildlife for allowing the Mountain to Sea Trail (MST) to be a part of Stones Creek Game Lands (SCGL) & Holly Shelter Game Lands (HSGL). What a great opportunity for people to get out and explore Nature's Classroom in Sneads Ferry surrounding towns. 2. To ensure safety, could you please post signs alerting everyone that if the gates are open, it's hunting season and please mark a 500 yard buffer around hunting areas away from any houses, as this is very important in SCGL. 3. NCWRC should proudly showcase and grow all native species like Dogwoods, Hickory, Chestnuts, Walnuts, Oaks, Poplar,</p>	<p>Thank you for your comments on the draft Stones Creek Game Land Management Plan. Recently, WRC installed signs alerting/asking game land users "Hunters wear orange, you should too". We will continue to improve signage related to safety especially in areas of high traffic among multiple user groups. Regarding a 500-yard buffer; there is already a rule restricting any shooting within 150 yards of a residence. The additional 350-yard buffer would go against our mission to provide for traditional users. All species listed are present at appropriate sites within Stones Creek Game Land. Most within arm's reach of the MST. The exception would be the pecan. Stones Creek is outside its historic range. Native plant community reestablishment, of which longleaf pine and associated understory species are a component, managed with a prescribed burning regime is a site-appropriate objective of our management. Our acquisition funding sources and conservation easements under the RASP program limit infrastructure expansion outside of the existing footprints, so large parking lots are not a reality. Further dedications and prescribed burning logistics would also prohibit construction of infrastructure in stands. There is potential to</p>

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<p>I moved to Sneads Ferry two years ago from PA Being an avid hunter, was looking at Stones Creek Game. But seeing it closed sometimes, lost interest in it somewhat. Recently I have been helping on marking a trail on the lands. I enjoy this very much, and am looking forward to spending more time in the outdoors. I sold most of my guns in PA, and gave some to grandchildren (adults). But now becoming more familiar with the area, am thinking about taking up hunting once more.</p>	<p>Thank you for your comments.</p>
<p>This game land is too small for dog hunting. All the deer seem to go to the base when run by dogs. I visit this game land often and rarely see deer. Please consider still hunting only. Maybe then the deer will stay. Also some dog hunters drive off of the main roads while running dogs making there own roads, leaving no place for a still hunter to go. Also I have seen dog hunters shoot from the ground using rifles. I stay off game land on</p>	<p>Thank you for your comments. There is currently no minimum size for a game land to be hunted using dogs. We will continue to evaluate this and other lands with regard to the use of dogs for deer hunting. Shooting from the ground is legal in Onslow County. However, driving off authorized roads is a violation, and should be reported to law enforcement.</p>

<p>dog days. PS. I have nothing against dog hunting. I'm a dog hunter in Hofmann Forest. Just don't think it's good for Stones Creek. Thanks</p>	
<p>I would like to see the Stones Creek Game Land be a 3 day a week or a permit only game land. The reason for this recommendation is because it is a small game land and close to a large population and it gets hunted to death.-I would like to see the deer hunting with dogs on the Stones Creek Game Land stopped and it listed as a "Still Hunting" only area. The reason for this recommendation is because the running of deer with dogs jumps over to private property and continues to be a problem with adjacent land owners. Additionally, this action by deer dog hunters does not put hunters in general in the best light with the general public. Thank you for your consideration of my comments</p>	<p>Thank you for your comments. We will consider your recommendations and evaluate the need for this game land to be permitted as a still-hunt only area.</p>
<p>The Land needs to have a formal buffer zone around it and/or adjacent property needs to be purchased as this land is a gem, Still hunting over half of it with the rest open to dog and still hunting. Off road bicycling should be prohibited during hunting season unless riders have Game Land permit and are in orange vest and hat during hunting season.</p>	<p>Thank you for your comments. We are limited to using land acquisition as a buffer. As lands become available, we consider them for acquisition, and if approved, and funding is available, we pursue. We are fortunate that MCB Camp Lejeune acts as a tremendous buffer. Currently deer dog hunting and still hunting are allowed 3 days each. It would be difficult, if not impossible to draw an arbitrary line that would be fair to each group. Lastly, signs are posted to alert the non-hunting public that they too should wear a blaze orange cap at the least.</p>
<p>Hi, My name is Gerald Koch and I'm a 100% disabled vet. I would like to have more access to hunt public land with the aid of a Atv then just the few that are available now. I would also like to have a disabled weekend hunt only somewhere. Where maybe I can meet others who are disabled and we could hunt together.</p>	<p>Thank you for your comments and service. WRC offers a disabled hunter blind just off the Church Rd. on Stones Creek GL. There are also several disabled hunter access locations on Holly Shelter GL. The Commission also offers Tier III disabled hunts where staff is on site to assist with all aspects of the hunt. These hunts are available throughout the state and are offered by the special permit system.</p>



PAT McCRORY
Governor

SUSAN KLUTTZ
Secretary

September 29, 2016

Mr. Brian McRae NC Wildlife Resources Commission 1720 Mail Service Center Raleigh, NC 27699
gamelandplan@ncwildlife.org

Dear Mr. McRae,

North Carolina's Natural Heritage Program appreciates the opportunity to review and provide comments on the draft management plan for Stones Creek Game Land. We have worked closely with regional Wildlife Resources Commission staff in the early phases of writing the management plan, and we thank you for using natural heritage data in developing these management plans.

Because we have already provided public comments and technical guidance, and have collaborated throughout, we offer only one minor technical correction at this time, addition of a definition for DNP, with updated reference to the general statute authorizing Dedication:

P. 69

- DNP Definition: A Dedicated Nature Preserve (DNP) is an ecologically important area which is permanently allocated as a nature preserve under the authority of G.S. 143B 135.260. Dedication of qualifying areas is often required by grant funding agencies such as the Clean Water Management Trust Fund and the former Natural Heritage Trust Fund. WRC Dedicated Nature Preserves must be approved by the Secretary of the Department of Natural and Cultural Resources, the Executive Director of the Wildlife Resources Commission, the Secretary of the Department of Administration, the Governor, and Council of State. The intent of the dedication is to protect and preserve the biodiversity and natural character of the site in perpetuity.

You may also wish to include the Dedicated Nature Preserve Agreement as an Appendix, consistent with other Game Land Management Plans. For your reference, I have attached the most up-to-date amendment of the Stones Creek Game Land Dedication agreement (2012).

Please do not hesitate to contact me or other Natural Heritage Program staff if you have any questions or for additional information.

Sincerely,

Misty Buchanan, Director NC Natural Heritage Program

A handwritten signature in black ink that reads 'Misty Buchanan'.

State of North Carolina | Department of Natural and Cultural Resources 121 W. Jones Street | Raleigh, NC
27603 1651 Mail Service Center | Raleigh, NC 27699-1651 www.ncnhp.org | 919.707.8107





North Carolina Department of Administration

Beverly Eaves Perdue, Governor

Moses Carey, Jr., Secretary

November 7, 2012

Secretary Dee Freeman
Department of Environment and Natural Resources
1615 Mail Service Center
Raleigh, North Carolina 27699-1615

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

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

Dear Secretary Freeman and Mr. Myers:

Pursuant to Article 9A, Chapter 113A of the North Carolina General Statutes, this letter of allocation is executed for the purpose of dedicating the State-owned lands hereinafter described as a North Carolina Nature Preserve. These articles of dedication replace the articles of dedication dated January 19, 2010. The articles were amended to reflect additions of property to the preserve.

This real property is currently administered by the North Carolina Wildlife Resources Commission as a portion of the Stones Creek Game Land and consists of approximately 2,210 acres located in Onslow County, composed of:

- | | |
|--|-------------|
| 1. Stones Creek Game Land tract (Primary Area) | 731 acres |
| 2. Stones Creek Game Land tract (Buffer Area) | 1,479 acres |

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

Mailing Address:
1301 Mail Service Center
Raleigh, N.C. 27699-1301

Telephone (919) 807-2425
Fax (919) 733-9571
State Courier #51-01-00
e-mail: moses.carey@doa.nc.gov

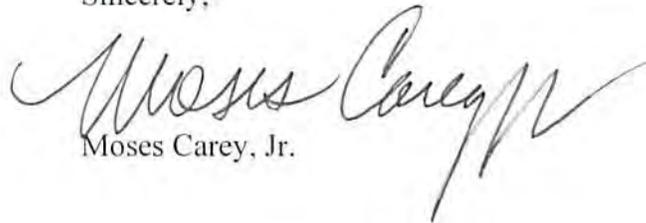
Location:
116 West Jones Street
Raleigh, North Carolina

An Equal Opportunity/Affirmative Action Employer

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

The Governor and Council of State have approved the dedication of the State-owned lands hereinabove described as the Stones Creek Game Land Dedicated Nature Preserve to be held in trust by the Custodian for the uses and purposes expressed in the Nature Preserves Act at a meeting held in the City of Raleigh, North Carolina, on the 7th of August, 2012.

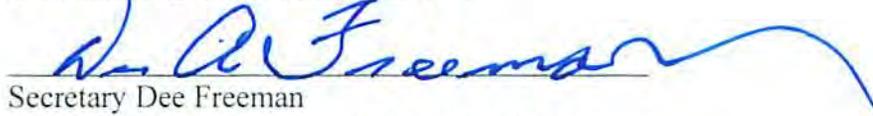
Sincerely,



Moses Carey, Jr.

MC

CONSENTED AND AGREED TO:



Secretary Dee Freeman
Department of Environment and Natural Resources



Gordon S. Myers, Executive Director
Wildlife Resources Commission

EXHIBIT A

STONES CREEK GAM E LAND DEDICATED NATURE PRESERVE STONES CREEK SEGMENT

COUNTY: Onslow

PHYSIOGRAPHIC PROVINCE: Coastal Plain

TOPOGRAPHIC QUAD: Sneads Ferry

SIZE OF AREA: ca. 1,412 acres (primary area 384 acres, including a 165-acre restoration area; buffer area 1,028 acres)

OWNER/ADMINISTRATOR: State of NC, Wildlife Resources Commission

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

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

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

Much of the buffer area is pine plantation, dominated by planted loblolly pine (*Pinus taeda*) and slash pine (*P. elliotii*). Most of this area formerly was longleaf pine communities. Within the buffer areas in this segment are areas that support a mosaic of longleaf pine and pocosin habitat that has been altered by timber management, but contains large areas that continue to support important natural community components, particularly Carolina wiregrass (*Aristida stricta*) in the longleaf pine habitat ground layer. Longleaf pine (*P. palustris*) persists around the edges of former habitat, and is locally dominant. These

areas have moderate to good restoration potential for Xeric Sandhill Scrub, Wet Pine Flatwoods, and possibly Pine/Scrub Oak Sandhill communities in the upland areas. Intervening low flats and broad drains support a mix of Pond Pine Woodland pocosin habitat and overgrown flatwoods and savanna associations. Populations of three rare plant species occur in these areas: scale-leaf gerardia (*Agalinis aphylla*), Venus flytrap, and Carolina goldenrod.

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

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

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

EXHIBIT A

STONES CREEK GAME LAND DEDICATED NATURE PRESERVE HICKS CREEK SEGMENT

COUNTY: Onslow

PHYSIOGRAPHIC PROVINCE: Coastal Plain

TOPOGRAPHIC QUAD: Haws Run, Jacksonville South

SIZE OF AREA: ca. 434 acres (primary area ca. 130 acres, buffer area ca. 304 acres)

OWNER/ADMINISTRATOR: State of NC, Wildlife Resources Commission

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

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

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

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

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

EXHIBIT A

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

COUNTY: Onslow

PHYSIOGRAPHIC PROVINCE: Coastal Plain

TOPOGRAPHIC QUAD: Folkstone

SIZE OF AREA: ca. 364 acres (primary area 217 acres, including a restoration area of 190 acres; buffer area 147 acres)

OWNER/ADMINISTRATOR: State of NC, Wildlife Resources Commission

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

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

The Wet Pine Flatwoods is characteristically lower in plant diversity, but all the typical herb and low shrub species are present. The Pine/Scrub Oak Sandhill and Coastal Fringe Sandhill communities also have all of their characteristic species of scrub oaks, low shrubs, and herbs. Sand live oak (*Quercus geminata*) is dominant in the midstory of the Coastal Fringe Sandhill.

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

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

BOUNDARY JUSTIFICATION: The primary area includes riparian areas needed to protect water quality in Turkey Creek and Kings Creek. The primary restoration area includes the areas with excellent natural community restoration potential, those with intact natural ground cover over most of the area. The

buffer area includes additional areas that provide additional buffering for the creeks and that link the riparian areas to the restoration area.

MANAGEMENT AND USE: The upland area in the primary restoration area is in need of prescribed burning as soon as possible to reduce the expansion of shrub cover and increase the vigor of herbs. A 3 year burn rotation recommended for longleaf pine communities, with more frequent burning appropriate initially. Much of the restoration area may need active planting of longleaf pine to restore the communities. Limited areas may need thinning or removal of planted pines. No special management needs are known for the riparian areas, but these areas should be monitored for invasion of non-native species.

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

1. As used in this Letter, the terms "natural area" and "nature preserve" shall have the same meaning as contained in North Carolina General Statutes, section 113A-164.3.
2. Pursuant to North Carolina General Statutes 113-164.8, all State-owned lands lying within the above designated area are hereby dedicated as a nature preserve to be known collectively as the **Stones Creek Game Land Nature Preserve** (hereinafter "preserve") for the purposes provided in the North Carolina Nature Preserves Act, as amended, and other applicable law, and said State-owned land, shall be held, maintained, and used exclusively for said purposes.
3. **Primary Custodian:** The primary custodian of the preserve will be the North Carolina Wildlife Resources Commission, which will be responsible for managing the preserve in accordance with State Administrative Code 15 NCAC 12H.0300 and .0400.
4. **Primary Classification:** The primary classifications and purposes of the preserve will be conservation, nature education, wildlife management, hunting, fishing, trapping, and other recreational uses authorized by the Primary Custodian. The ecological significance of the preserve is described in Exhibit A.
5. **Management Areas:** For the purposes of management, the preserve shall be considered to consist of a Primary Area (approximately 731 acres) and a Buffer Area (approximately 1,479 acres), as more particularly described in Exhibit A, attached thereto and by this reference made a part hereof. The Primary Area consists essentially of the core natural area encompassing the rare Sandhill Seep, Mesic Mixed Hardwood Forest, Pine Savanna, Wet Pine Flatwoods, Pond Pine Woodland, Tidal Cypress-Gum Swamp, Coastal Plain Small Stream Swamp, Pine/Scrub Oak Sandhill, Xeric Sandhill Scrub, and Coastal Fringe Sandhill natural community types and their associated rare species, and the riparian buffers necessary to protect water quality.

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

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

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

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

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

- B. Con. Impctive Wildlife Uses: Hunting, fishing, and trapping shall be permitted on the preserve subject to regulations and management by the North Carolina Wildlife Resources Commission.
- C. Orientation and Guidance of Visitors: The Custodian reserves the right to orient and guide visitors for educational programs, hunting and fishing uses, scientific research, and for preserve management. Exhibits, programs, and printed materials may be provided by the Custodian in service areas. The Custodian may restrict access to visitors in those instances or in such areas that restrictions may be determined necessary to safeguard sensitive environmental resources in the preserve.
- D. Disturbance of Natural Resources: The cutting or removal of trees, dead or alive, or the disturbance of other natural resources is prohibited except as necessary for removal of hazards to visitors, control of disease that would damage or reduce the significance of the preserve, restoration after severe storm damage, trail clearance and maintenance, or for purposes of maintenance or restoration of natural communities or rare species populations as stipulated in the preserve management plan and that which is consistent with the purposes of these Articles. Specifically, a component of management planning will address restoration of areas (identified as Primary (Restoration) Areas in the Exhibit A map). Longleaf restoration will minimally focus on removal of unnatural canopy components and thinning of dense longleaf to enhance the condition of the ground layer. Site-specific modifications of longleaf restoration plans will be addressed through consultation between Wildlife Resources Commission and Natural Heritage Program staff. Salvage timber cuts which may be necessary due to natural catastrophe will be allowed in both Primary and Buffer Areas, but in a manner that will contribute to the recovery of the prevailing natural conditions of the forest and in consultation with the North Carolina Natural Heritage Program.

The following language is being included in this letter of allocation because the dedicated preserve contains habitat types which may be managed for maintenance or recruitment of groups of the Federally Endangered red-cockaded woodpecker (*Picoides borealis*). In the Recovery Plan for the Red-cockaded Woodpecker (*Picoides borealis*): Second Revision (US Fish and Wildlife Service 2003: Southeast Region, Atlanta, GA; Recovery Plan), a range of management actions is prescribed for this purpose. The Recovery Plan recognizes that a correlation exists between the overall biological health of the natural communi-

ties that comprise RCW foraging and nesting habitat and the fitness of red-cockaded woodpecker groups occupying that habitat. This connection between the birds and the natural characteristics of their environment is not limited to the tree species on which they forage but extends to all forest strata including the forest floor. Group size, composition and reproduction benefit from management strategies that favor diverse and abundant ground cover. Therefore, primary areas should be managed to promote the full range of natural characteristics. Management should focus on prescribed burning. If canopy thinning is needed to meet guidelines, it should be done to the minimum degree possible, unless it is agreed that other treatments would better promote the natural multi-aged, patchy character of longleaf pine communities. Canopy and midstory treatments should be done in ways that minimize disturbance to the ground cover vegetation and soil.

- E. Wild Fire Control/Prescribed Burning: Wild fires may mimic natural processes historically occurring in an ecosystem on a landscape level. When the extent of a wild fire does not threaten human life or structures, it may be allowed to burn with minimal control. If wild fire control is necessary, firebreaks may need to be established. When possible, existing roads and firebreaks will be utilized for wild fire control. When new firebreaks need to be established, environmentally sensitive areas will be avoided when possible. Old firebreaks which affect the natural hydrology of wetlands will be filled and allowed to revegetate. Planning of firebreak restoration should occur in consultation with the North Carolina Natural Heritage Program.
- F. Water Control: The purpose of water control shall be to maintain the preserve's natural water regime. Water levels that have been altered by man may be changed if necessary to restore the preserve to its natural condition. In a preserve with a long history of managed hydrology, water levels may be managed to perpetuate the ecosystems that have evolved around the hydrology or may be restored to natural condition. This decision should be made in consultation with the Natural Heritage Program. Millponds are an example of situations in which water levels have been historically managed.
- G. Pollution and Dumping: There will be no storage or dumping of ashes, trash, garbage, hazardous substances, toxic waste, other unsightly or offensive material, or fill material, including dredge spoil in, on, or under the preserve. No underground storage tanks may be placed within the preserve. No surface or ground waters of the preserve may have pollutants added within the preserve.
- H. Control of Vegetational Succession: Control of vegetational succession may be undertaken if necessary to maintain or restore a particular natural ecosystem type or to preserve endangered, threatened, rare, or other unusual species. Controls will be done in the manner that best imitates the natural forces believed responsible for maintaining the natural ecosystem type, or that minimizes unnatural effects on non-target portions of the ecosystem. Prescribed burning is particularly essential to ecosystems where natural wild fire historically suppressed woody vegetation and promoted herbaceous diversity.
- I. Control of Populations: Any control of animal or plant populations on the preserve shall be for the purpose of correcting those situations where those populations are significantly affecting natural conditions on the preserve, and in accordance with the Custodian's estab-

lished regulations for hunting, trapping, or fishing of designated game animals. The Custodian may, in consultation with the North Carolina Natural Heritage Program, apply biological controls, herbicides and pesticides, and other means deemed necessary or appropriate to control or eradicate exotic or native species of plant or animal that are degrading the natural character of the preserve. Because of potential impacts on native species, no exotic flora or fauna shall be introduced into the preserve.

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

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

- 1) Landscape level function of community type and structure. (Buffer area management may involve timber harvest and other forms of stand manipulation, but will not involve forest canopy type conversion over more than limited areas, other than to restore stands to types suited for the site. Introduction of exotic species known to be invasive in natural communities will be avoided.)
- 2) Maintenance of habitat connectivity and continuity among primary areas.
- 3) Providing for habitat diversity.
- 4) Management needs of rare animal and plant species populations occurring within the buffer area; and
- 5) Protection of soil and hydrologic resources and processes within the primary area and extending into the buffer. (Buffers will be retained along streams, and watersheds of primary areas will be protected from hydrologic alteration.)

8. **Amendment and Modification:** The terms and conditions of this dedication may be amended or modified upon agreement of the Wildlife Resources Commission and Secretary of the Department of Environment and Natural Resources, and approved by the Council of State. Any portion of the tract dedicated pursuant to this instrument may be removed from dedication in accordance with the provisions of North Carolina General Statutes 113A-164.8.

