

**National Coastal Wetlands Conservation Grant Program**

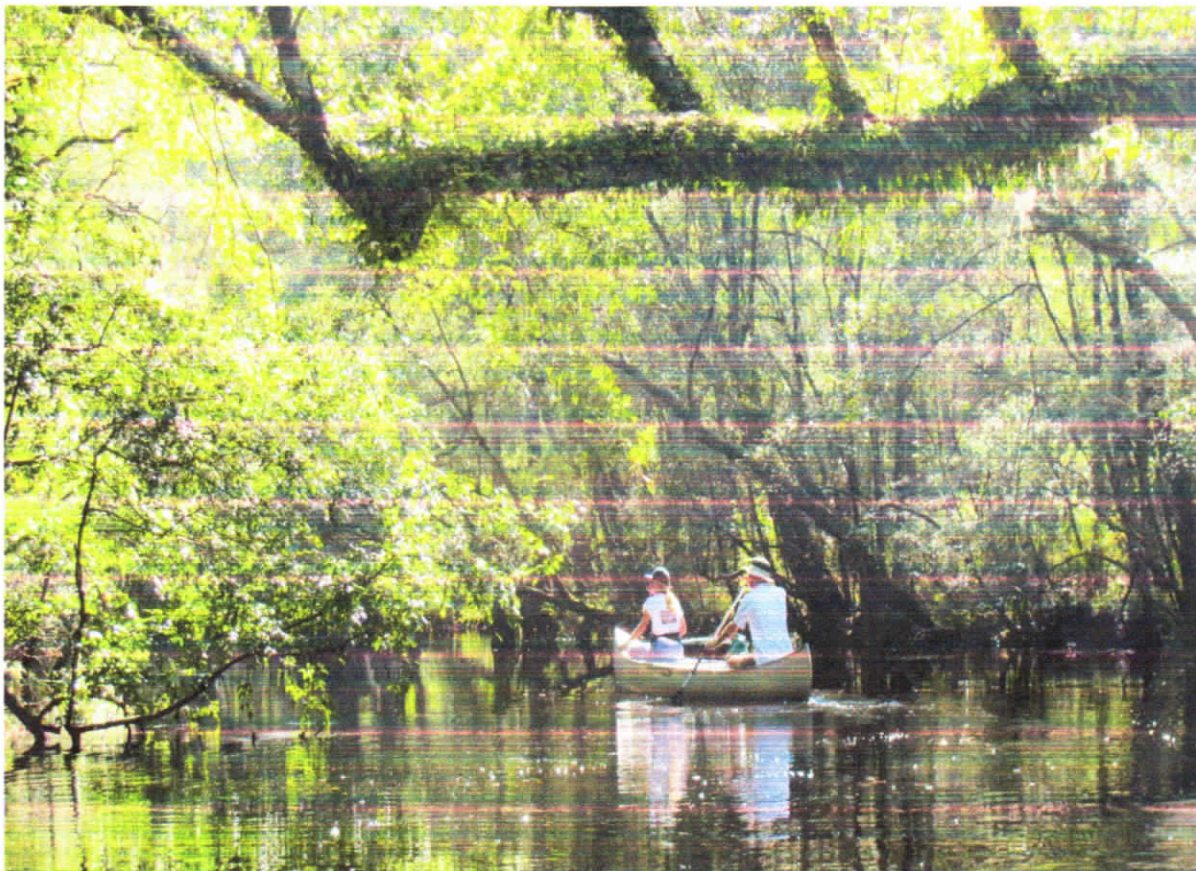
**Waccamaw Partnership Project**

**Columbus County, North Carolina**

**Submitted by**

**North Carolina Wildlife Resources Commission**

**June 29, 2017**



*Photo courtesy of Christine Ellis, Winyah Rivers Foundation*

## **Executive Summary**

The North Carolina Wildlife Resources Commission (NCWRC), in partnership with the North Carolina Coastal Land Trust (NCCLT), is requesting \$1,000,000 in funding from the National Coastal Wetlands Conservation Grants Program (NCWCG) to purchase in fee title a 3,000+acre property (Waccamaw River Partnership Tract) along 7.5 miles of the Waccamaw River in Columbus County, North Carolina (see Figure 1). The owner/seller of the property is Southern Diversified Timber, LLC, a subsidiary of Campbell Global, LLC. The total project cost is [REDACTED]. NCCLT and NCWRC have already raised 80% of the total project expenses with private (33%), state (25%) and other federal funds (22%). This NCWCG grant request represents 16% of the total project costs; the remaining 4% would be covered by other privately-raised funds. The Waccamaw River Partnership Project specifically conserves remnant Atlantic white cedar forest, a rare and very coastal wetland community and protects habitat for 10 federally listed or federal species of concern, 15 state listed or species of concern, and 25 coastal dependent and/or migratory bird species identified as priority species by the Atlantic Coast Joint Venture, South Atlantic Migratory Bird Initiative (SAMBI) and/or the 2015 North Carolina Wildlife Action Plan (NCWAP).

## **Need**

Many scientists believe the Waccamaw River to be one of the Southeast's wildest, most unusual, and most ecologically significant rivers. Originating from Lake Waccamaw, a large Carolina bay in North Carolina, the Waccamaw River winds through wild swamp forests, timberlands and small towns where it empties into the Atlantic Ocean at Winyah Bay in South Carolina. The entire drainage is underlain by limestone and incised by the Pee Dee Aquifer which is alkaline in nature. Consequently, the water chemistry is quite rare along the southeastern coast as most coastal blackwater rivers are acidic. The unique nature of the Waccamaw, including a higher pH, has given rise to a high level of endemism and diversity with seven rare and endemic fish and mollusk species found nowhere else on earth except in the Waccamaw. Due to its unique geology and biodiversity, the conservation community recognizes the Waccamaw River as a globally significant coastal waterway deserving of protection. The North Carolina Natural Heritage Program (NCNHP) lists Lake Waccamaw and the Waccamaw River as aquatic systems of national significance, a designation given to systems with exceptional ecological values. The Waccamaw River is listed as a priority for conservation in the U.S. Fish and Wildlife Service's 1992 Southeast Regional Wetlands Concept Plan, Emergency Wetlands Resources Act.

The acquisition of the 3,000+acre Waccamaw River Partnership Tract, only 15 straight-line air miles from the coast, is strategically located, connecting over 20,000 acres of existing conservation lands. This acquisition supports the mission of the Coastal Wetlands, Planning, Protection, and Restoration Act by helping to conserve a diversity of coastal wetlands (bottomland hardwoods, cypress-gum swamp and remnant Atlantic white cedar forest) along one of the most unique coastal waterways in the Southeast through a public-private partnership. The project would help protect over 1,900-acres of palustrine forested wetlands, two significant natural heritage sites, one nationally significant aquatic community, and considerable waterfowl, waterbird, and landbird habitat. The Waccamaw River Partnership Project specifically protects habitat for 10 federally listed or federal species of concern, 15 state listed or species of concern, and 25 coastal dependent and/or migratory bird species identified as priority species by the Atlantic Coast Joint Venture, SAMBI and/or the 2015 NCWAP. Acquisition will also further the

goals of the Atlantic States Marine Fisheries Commission (ASMFC), the South Atlantic Fishery Management Council (SAFMC) and the Atlantic Coastal Fish Habitat Partnership (ACFHP) for protecting spawning and nursery habitat for anadromous and estuarine-dependent fish species.

In addition, this acquisition will create new public game lands, along with a new canoe/kayak landing for public access to the Waccamaw River Blue Trail. American Rivers, a non-profit organization, designated the entire river in North and South Carolina as a Water or Blue Trail, a designation highly supported by local communities. With this local support along with promotion by the Waccamaw RIVERKEEPER® and Winyah Rivers Foundation, the Waccamaw River achieved national attention as a potential ecotourism destination and is now listed as one of only two North Carolina Sites deemed important in supporting community driven outdoor public recreation in America's Great Outdoors Initiative. Finally, acquisition and protection of the 3,000-acre Waccamaw River Partnership Tract will enhance local water quality through the protection of forested riparian buffers along 7.5 miles of the Waccamaw River and along Gum Branch, a tributary that runs through the property, which not only helps protect habitat for rare and endemic aquatic species but supports the considerable land conservation investment made downstream in North and South Carolina.

### **Objectives**

The objectives of the Waccamaw River Partnership project are to: (1) permanently protect 3,000 acres of land along the Waccamaw River, one of the most unique and biologically significant coastal waterways in the Southeast; (2) conserve habitat for 25 rare plant and animal species including 4 aquatic endemics, species found nowhere else in the world except in the Waccamaw drainage; (3) protect portions of three significant natural heritage areas including the nationally significant Waccamaw River Aquatic Habitat; (4) serve as an anchor to over 20,000 acres of existing conservation lands; (5) create 1,000+ acres of additional state-owned game lands open to the public for fishing, hunting, hiking and wildlife observation; (6) provide 2,000 acres of private nature preserve land for lease to a hunt club that has hunted and fished the property since the 1960's and represents 70 families in the local community; (7) enhance local water quality in the Lumber River Basin through the protection of floodplain forests along 7.5 miles of the Waccamaw River; (8) conserve, enhance and restore a diversity of wetland communities including bottomland hardwoods-evergreen subtype (a rare bottomland hardwoods community that includes pockets of live oak), cypress-gum swamp and Atlantic white cedar forest; (9) provide additional public access to the Waccamaw River Blue Trail, designated by American Rivers, through a new canoe/kayak access and camping area; and (10) boost local economy in rural Columbus County with new ecotourism opportunities focused on the Waccamaw River.

### **Expected Results**

The expected results of the Waccamaw River Partnership project are the permanent conservation of: (1) 3,000-acres of land which will connect to 20,000 acres of existing conservation lands in a coastal landscape corridor; (2) forested riparian buffers along 7.5 miles of frontage along the Waccamaw River; (3) a diversity of valuable wetlands including rare coastal natural communities (Atlantic white cedar forest and bottomland hardwoods evergreen subtype); and (4) habitat for numerous rare fish, wildlife and plant species. This project will result in 1,000-acres of new public game lands and a new canoe/kayak access point on the Waccamaw River. This private-public partnership significantly leverages federal

funds with private and state contributions. Overall, the NCWCG request of \$1,000,000 will be matched with other non-federal funds at 4:1.

### **Approach**

**a) Partner Roles:** If awarded, NCWRC will be recipient of NCWCG funds. NCCLT will take the lead in carrying out the necessary due diligence activities in coordination with NCWRC and NC State Property Office. Both NCWRC and NCCLT will acquire a portion of the 3,000+acre property.

**b) What organization(s) will hold title?** In a simultaneous closing, NCCLT will purchase the entire 3,000+acre property and then will transfer approx. 1,000 acres of the property to NCWRC to be owned in fee title and managed as public game lands (property will be added to the Columbus County Game Lands) and will retain the remaining 2,000+acres in fee title to be managed as a nature preserve subject to a state-held conservation easement that will be recorded after the deed in to NCCLT. NCWRC and NCCLT have agreed upon a logical split of the property that provides both entities separate access to a public road and is separated by an existing soil road (See Figure 2). Overall, the entire 3,000+acres will be in permanent conservation through fee ownership or conservation easement held by the State of North Carolina.

**c) How will long-term management be accomplished?** NCWRC has an endowment to help fund stewardship and habitat management activities on state-owned game lands. NCCLT also has a stewardship endowment that helps offset expenses such as staff time for annual management of its nature preserves and conservation easements. Aside from a stewardship endowment, NCCLT also has liability insurance through Terra Firma Risk Retention Group, LLC, a captive insurance program designed for land trusts to ensure permanence of conservation easements and preserves. The policy helps land trusts cover expenses for any legal challenges associated with conservation properties.

**d) Type of Ownership Interest:** 3,000-acres of land will be acquired in fee simple. NCWRC will own 1,000-acres of the total property in fee simple. NCCLT will own 2,000-acres of the total in fee simple but it will be subject to a state-held conservation easement.

**e) What organization will manage the property?** NCWRC and NCCLT will coordinate and develop management plans for their respective properties and on future enhancement/restoration activities (e.g., prescribed burning, Atlantic white cedar and/or bottomland hardwood planting) when appropriate. Existing natural heritage areas and/or habitat for federal and state listed species will be conserved, enhanced and/or restored. NCWRC will manage their 1,000+acre property as part of the Columbus County Game Lands open to the public for hunting, fishing and passive recreation. NCCLT will lease out their 2,000+acres to a local hunt club that consists of 70 local families who have hunted and fished the property since the 1960's. NCWRC and NCCLT will work together to identify the best location for a future canoe/kayak access and/or camping area to promote public recreational use of the Waccamaw River Blue Trail on either or both of the properties.

**f) What will be involved in the restoration?** Enhancement/restoration plans will be developed, as needed, after property acquisition. Restoration will target approximately 20%

of the pine dominated stands and will likely include thinning and/or removal of loblolly pine, site preparation, and planting of native hardwoods. NCWCG funds are only being requested for acquisition; any restoration work on the property will be funded through existing stewardship funds or other other grant requests.

**g) Is the project ready to implement?** This project is ready to implement. This purchase already has 80% of the funds are approved and/or in hand, while the remaining 20% include this NCWCG request and other grant funds (to be applied for).

### **Project Location**

The entire watershed lies within the Coastal Zone province of North and South Carolina with the river oriented northeast to southwest with a large portion of the river almost paralleling the coast. The 3,000+acre Waccamaw River Partnership Tract is located south of Lake Waccamaw between the Dock Road and Highway 130 bridge crossings of the Waccamaw River in Columbus County, North Carolina (GPS coordinates: 34.137046, - 78.568647). The property lies directly across the river from NCWRC's Columbus County Game Lands (see Figure 3). At the Waccamaw River Partnership Tract, the river forms the boundary between Columbus County (west) and Brunswick County (east). The towns of Lake Waccamaw (approx. 10-12 miles to the northeast) and Whiteville (14-16 miles to the northwest) are the only towns within this primarily rural area. The Waccamaw River Partnership Tract lies within Subbasin 03040206 (Waccamaw Subbasin) of the Lumber River Basin. According to the North Carolina Division of Water Quality's 2010 Lumber River Basinwide Water Quality Management Plan, this subbasin contains "some of the most unique environments in the state. Lake Waccamaw, the largest Carolina bay lake and the second largest natural lake in the state, can be found here. The lake contains three species of endemic fish and four species of endemic mollusk as well as many other rare species."

### **Useful Life**

This project involves land acquisition only, no capital improvements. Land will be conserved in perpetuity through state ownership and dedication under the State Nature Preserves Act (NCWRC's 1,000 acres). A perpetual state-held conservation easement will be recorded for NCCLT's 2,000-acres.

### **Budget**

The total cost of the Waccamaw River Partnership Project is [REDACTED]. This includes [REDACTED] for the fee title acquisition of the 3,000+acres, \$50,000 to cover transactional expenses, and \$150,000 for third party minerals release (minerals will be purchased by previous owner of the property, Plum Creek Timber). This proposal requests \$1,000,000 in funding from NCWCG, which will be matched with private, state and other federal contributions from NCWRC and NCCLT and will only be used for fee title acquisition. A breakdown of project costs and funding partners is listed on Page 7 of this proposal.

**Timeline** - Due diligence activities will commence once a NCWCG grant has been approved. Milestones to achieve during or before the NCWCG grant time frame include: drafting and signing the Purchase and Sales Agreement (by September 2017); NCWCG approval and contract (anticipated in March 2018); due diligence activities completed (anticipated by May 2017); and

closing with above referenced deed transfers to NCWRC and NCCLT (June 2018, but no later than September 2018).

**NEPA/Section 7 Review** –Sufficient detail is provided in this application for required reviews.

### **Eligibility of Proposed Activities**

According to the Notice of Funding Opportunity for Federal Fiscal Year 2018, “acquisition of a real property interest in coastal lands from willing sellers or partners providing that the terms and conditions will ensure the real property will be administered for long-term conservation” is an eligible activity under the NCWCG program. Fee title acquisition of the 3,000-acre Waccamaw River Partnership Tract is proposed with the entire property being protected in perpetuity and managed for its conservation values.

### **State Trust Fund**

Eligibility for the 75:25 (federal/state) share has been previously established for the state of North Carolina and no changes have occurred to effect this eligibility level.

### **Relationship to Other Projects**

The Waccamaw River Partnership project complements existing conservation work along the Waccamaw River in North and South Carolina. South Carolina and U.S. Fish and Wildlife Service have already protected thousands of acres through conservation agreements and established the 27,000-acre Waccamaw River National Wildlife Refuge. In North Carolina, NCCLT has conserved over 1,300-acres adjacent to the 2,100 Lake Waccamaw State Park and downstream NCWRC has acquired over 20,000 acres as part of the Columbus County and Juniper Creek Game Lands. Indeed, this project will add to a 29-mile conservation corridor from the Waccamaw River to The Nature Conservancy’s 17,424-acre Green Swamp Preserve in Brunswick County. This project addresses the goals of the U.S. Fish and Wildlife Service’s Regional Wetlands Concept Plan, the Lumber River Basinwide Water Quality Management Plan, South Atlantic Landscape Conservation Cooperative, NC Coastal Habitat Protection Plan and NC Wildlife Action Plan.

### **Public Involvement and Interagency Coordination**

NCWRC and NCCLT have a long history of partnership on wetland conservation acquisitions in coastal North Carolina and this project builds off a collaboration with state, federal, and non-profit conservation organizations to deliver landscape scale conservation in coastal North Carolina. The project will greatly benefit the public with new game lands for hunting, fishing and wildlife observation as well as new canoe/kayak access to the river, enhanced water quality and fisheries health, protection of scenic values, and enhanced ecotourism opportunities. Both the Charleston, SC and Raleigh, NC Field Offices of U.S. Fish and Wildlife Service have expressed support of this project.

## RANKING CRITERIA

### 1. Wetland Conservation:

The project will protect decreasing coastal wetland types, prevent habitat degradation and restore and enhance wetlands on the property. According to the National Wetlands Inventory (NWI) data (see Figure 4), 99% of the property is wetlands (forested/shrub) and the soil types, Muckalee sandy loam, Meggett fine sandy loam and Lumbee sandy loam, support this designation as they are poorly drained, frequently flooded soils. Approximately 64% of the property consists of cypress-gum swamp, bottomland hardwoods, remnant Atlantic white cedar forest and other wetlands while the remaining 36% is in managed pine stands due to the property's history of timber company ownership. Thus, the Waccamaw River Partnership project will result in the permanent protection of approximately 1,920-acres of decreasing wetland types, specifically, palustrine forested (1,900 acres) and palustrine emergent wetlands and open water habitat associated with old oxbow lakes and beaver ponds (20 acres). Once acquired for conservation, enhancement and/or restoration of some of approx. 20% of existing managed pine stands to wetland hardwood communities including Atlantic white cedar and bottomland hardwood forest will be undertaken. It should be noted that Atlantic white cedar is an endangered coastal ecosystem, a wetland community that occurs in a narrow band along the Atlantic Coast and along a portion of the Gulf Coast to Mississippi ([www.atlanticwhitecedar.org](http://www.atlanticwhitecedar.org)). The acreage of Atlantic white cedar today is estimated to be less than 5% of its original extent; in North Carolina it has been reduced to about 10,000 acres from over 200,000 in the Great Dismal Swamp and Albemarle-Pamlico Peninsula alone (<http://atlantic-white-cedar.org/usfws/awcindex.html>).

The U.S. Fish and Wildlife Service's 1989 National Wetlands Priority Conservation Plan specifically notes that "palustrine emergent, forested and scrub-shrub wetland types. . . will usually warrant priority consideration for Federal and State acquisition" (Page 7). Additionally, the U.S. Fish and Wildlife Service's 1992 Regional Wetlands Concept Plan for the Southeast Region identifies land acquisition priorities with the Waccamaw River specifically listed as a priority for conservation (Page 181). The 1992 Plan notes that North Carolina has lost 46-59 percent of its wetlands overall and 95 percent of its remaining wetlands are in the coastal plain. It also states that "North Carolina reportedly has the fifth largest amount of remaining wetlands within the United States" (Page 175). Thus, prioritizing North Carolina for limited coastal wetland funding makes sense due to both historic wetland losses as well as considerable conservation opportunities.

Palustrine forested wetlands in coastal North Carolina are under considerable threat of logging, and in some cases, conversion to agriculture or even development. The U.S. Fish and Wildlife Service's report *Status and Trends of Wetlands in the Conterminous U.S. 2004-2009* (Dahl 2011), noted a 1.2% decline in forested wetlands across the country with 56% of all wetland losses being attributed to silviculture. Prior to Section 404 Clean Water Act regulations, forested wetlands were ditched and drained to alter the natural hydrology and allow for the planting of fast growing pine species (e.g., loblolly pine). While ditching and draining is no longer an allowable forestry practice, the use of shovel logging has greatly increased the ability of logging crews to cut timber in wetlands and floodplains. The Waccamaw River Partnership Project will result in the permanent protection of 1,900-acres of bottomland hardwood and cypress-gum swamp along the river and creek floodplains from

timbering and possible future development. Additionally, the property does not host a network of ditches and wetland hydrology is relatively intact. According to Allen et. al., 2001, unaltered hydrology is a prerequisite for the restoration of native hardwood forest wetlands.

Habitat Type	Number of Acres	Percentage of Total Area
Palustrine forested wetlands	1,900	63%
Palustrine emergent wetlands in freshwater ponds (and open water habitat)	20	<1%
<b>Total Declining coastal wetlands</b>	<b>1,920</b>	<b>64%</b>
Managed pine stands on wetland soils	1,050	35%
Uplands	30	1%
Total Project Acres	3,000	100%

## 2. Maritime Forest on coastal barriers:

Maritime forests are broad-leaved forests that occur on barrier islands and the mainland coast from Delaware to Texas. While the broad-leaved forests on the Waccamaw River Partnership Tract are not maritime forests, there is a very rare natural community on the property that shares an important maritime forest component, live oak. According to the N.C. Natural Heritage Program, the bottomland hardwood forests on the Waccamaw River Partnership Tract, and elsewhere along the Waccamaw, represent a unique subtype due to the presence of live oak. In fact, Mike Schafale, N.C. Natural Heritage Program ecologist, believes this rare bottomland hardwood forest, evergreen subtype, is only known from the Waccamaw River system and nowhere else in the Southeast.

## 3. Long-term conservation:

NCWRC and NCCLT are partnering to acquire the 3,000+acre Waccamaw River Partnership Tract, which is presently owned by Southern Diversified Timber, LLC, a subsidiary of Campbell Global, LLC. Once acquired, approximately 1,000-acres will be owned and managed in perpetuity for conservation by NCWRC as public game lands and added to the adjacent Columbus County Game Lands. The game lands will be open to the public for hunting, fishing, and wildlife observation. The remaining 2,000-acres will be owned by NCCLT and managed as a nature preserve subject to a State-held perpetual conservation easement. The preserve will be leased out to a local hunt club that has hunted and fished the 3,000-acre property since the 1960's and consists of 70 families in the local community. NCWRC and NCCLT believe this dual-outcome management strategy will contribute to long-term community support for and engagement with conservation agencies working to steward this nationally significant conservation resource. Figure 2 shows the division of the 3,000+acre property into the NCWRC and NCCLT's separate parcels. The Waccamaw River Partnership project complements existing conservation work completed in the area by the partners and helps connect and/or buffer existing public conservation lands.

The 3,000-acre Waccamaw River Partnership Tract lies directly across the river from over 20,000-acres of the NCWRC's Columbus County and Juniper Creek Game Lands in a 29-mile conservation corridor linking up to The Nature Conservancy's 17,000+acre Green Swamp Preserve in Brunswick County. All together this project adds 3,000 acres in permanent conservation adding over 1,000 acres of new public game lands and preserving over 7.5 miles of riparian habitat along a coastal waterway.

<b>Long-term Fee Holder</b>	<b>Benefits in perpetuity (number of acres)</b>	<b>Benefits for 26-99 years (number of acres)</b>	<b>Benefits for 10-25 years (number of acres)</b>
NCWRC Fee title (state owned) NCWCG funds	1,000		
NCCLT Fee title (under state-held conservation easement)	2,000		
Total	3,000		

#### **4. Coastal Watershed Management:**

The Waccamaw River Partnership project is supported by the goals and objectives of a number of ongoing coastal ecosystem or coastal watershed management plans and efforts explained below.

**Lumber River Basinwide Water Quality Management Plan (2010)** – This project meets the overarching objectives of the 2010 Lumber River Basinwide Water Quality Management Plan which seeks to identify water quality problems and restore full use to impaired waters, identify and protect high value resource waters, and protect unimpaired waters while allowing for reasonable economic growth. The Plan identifies non-point source pollution as one of the water quality challenges in the Lumber River Basin, specifically elevated bacteria levels from stormwater run-off associated with development which is leading to the closures of downstream shellfish waters. The Waccamaw River Partnership Tract lies within the Subbasin 03040206 of the Lumber River Basin which is presently a relatively rural area with forestry and agriculture being the primary land uses. According to the Plan, “this subbasin contains some of the most unique environments in the state” (Page 55). However, all of Lake Waccamaw and the Waccamaw River are presently listed as impaired waters due to elevated levels of mercury and non-point source pollution (e.g., sedimentation and run-off from agriculture and forestry practices). Both North and South Carolina have issued a fish consumption advisory for the Waccamaw after detection of high mercury levels in certain fish species. The source of the mercury is unclear; some percentage may occur naturally and some may be deposited from the air as a result of fossil fuel burning. While resolving the mercury issue is problematic, the Plan recommends preserving forested riparian buffers and restoring forested wetlands as one of the most effective methods of controlling non-point source pollution and enhancing local water quality. Additionally, Subbasin 03040206 which includes the Waccamaw River-Juniper Creek area was selected as a targeted local watershed

by the North Carolina Wetlands Restoration Program (now the N.C. Ecosystem Enhancement Program) due to the diversity of rare plants and animals. The N.C. Wetlands Restoration Program's 2003 Lumber River Basin Watershed Restoration Plan, highlights the need for public-private partnerships to protect land and forested buffers along the Waccamaw River and Juniper Creek (Page 4).

**North Carolina Wildlife Action Plan (2015)** - The Waccamaw River Partnership supports the goals of the 2015 Wildlife Action Plan (NCWAP) which specifically identifies southern forested wetlands as a priority habitat for conservation in North Carolina. The NCWAP notes that southern forested wetlands are considered one of the top 21 endangered ecosystems in the United States as "they represent only small fragments of the original millions of acres present before European settlement that have been lost or altered by development, drainage, agriculture and logging" (P. 326). The NCWAP highlights the importance of land conservation and recommends that "land acquisition and easements should be pursued through cooperation with land trusts with an effort to increase the width of riparian buffers and create larger patches of connected habitat. Wherever possible, maintenance or restoration of floodplain forest connectivity should be pursued; floodplain forests are important distribution and dispersal corridors for many species" (Page 331). Finally, the NCWAP points out that the entire South Atlantic freshwater ecoregion (from southern Virginia through central Georgia) is a key region in which to focus aquatic conservation efforts in North America (Page 19) and the Waccamaw River in North Carolina is renowned for its aquatic species diversity. The NCWAP recommends providing "support for land conservation, particularly in riparian areas (acquisition, easements, restoration)" (Page 574) to conserve aquatic species habitat.

**Cape Fear Arch Conservation Collaboration Plan (Revised 2015)**- NCWRC and NCCLT are regular participants in the Cape Fear Arch Conservation Collaboration (CFACC). Created in 2006, the CFACC is a partnership of organizations, agencies and citizens interested in protecting this biologically rich region which spans from Cape Lookout in North Carolina to Cape Romain in South Carolina while balancing the needs of man and nature. The CFACC developed a conservation plan for the region that highlights priority focal areas for conservation. The Plan specifically highlights Lake Waccamaw and the Waccamaw River as a conservation priority and recommends land protection of priority sites within this conservation focus area (Page 25).

**South Atlantic Landscape Conservation Cooperative** (<http://www.southatlanticlcc.org>) - The Waccamaw River Partnership project is supported by the conservation priorities of the South Atlantic Landscape Conservation Cooperative (SALCC). The SALCC is made up of representatives from federal agencies, regional organizations, states, tribes, nonprofits, universities and other groups with the goal to develop and implementing a comprehensive blueprint for sustaining natural and cultural resources for current and future generations within the South Atlantic Landscape which includes portions of six states from Virginia to northern Florida. The newest version of the Blueprint (version 2.1) for the SALCC indicates that the Waccamaw River Partnership Tract is ranked in the category of "highest conservation priority." In the SALCC's 2015 State of the South Atlantic Report, forested wetlands and freshwater aquatic ecosystems are used as indicators of the region's

environmental health. These systems were evaluated and scored in terms of their overall condition (e.g., acres of wetlands and miles of intact riparian buffer). Both ecosystems received only a “C” score (only 59-60% in good condition). The Report highlights the importance of these ecosystems “though historically drained for timber production and agriculture, intact forested wetlands support ecological diversity and enhance water quality by filtering polluted run-off.” The Waccamaw River Partnership will conserve, enhance and restore a large area of forested wetlands and will protect existing forested riparian buffers along 7.5 miles of the Waccamaw River.

**Natural Area Inventory of Columbus County (LeBlond 1995)-** The North Carolina Natural Heritage Program (NCNHP) conducts countywide inventories throughout the state to identify locations of rare plant and animal species along with relatively pristine and/or unique natural communities. In the Columbus County Natural Inventories, NCNHP designated over 16,000 acres along the Upper Waccamaw River Floodplain as a significant natural heritage area of national significance (Page 77). The Waccamaw River Partnership Tract contains a small portion of the Upper Waccamaw River Floodplain natural area and also includes a large portion of the Cross Swamp Significant Natural Heritage Area which according to the NCNHP site report hosts, “one of the best examples of the Blackwater Bottomland Hardwoods remaining in the state. It may be one of the best in the world.” The entire Waccamaw River in North Carolina is also designated a nationally significant aquatic system due to the high number of endemic animal species including four fishes, two freshwater bivalve mollusks, and one freshwater gastropod mollusk (Page 83).

**North Carolina’s Coastal Habitat Protection Plan (2011)** – The goal of the N.C. Coastal Habitat Protection Plan (CHPP) is the long-term enhancement of coastal fisheries associated with coastal habitats. Two major goals of this plan that are met by the proposed Waccamaw River Partnership project include: identify, designate and protect strategic habitats; and 2) enhance and protect water quality. The protection of 3,000-acres and 7.5 miles of frontage on the Waccamaw River Partnership Tract meet these goals and aid in the improvement of water quality and fisheries habitat in coastal North Carolina.

## **5. Conservation of Threatened and Endangered Species:**

Thorough inventories have not been completed for the Waccamaw River Partnership Tract; however, general occurrence of the following species has been noted by NCWRC (D. Allen, Coastal Faunal Diversity Supervisor, Kyle Rachels, District 4 Fisheries Biologist, Brena Jones, Central Aquatic Wildlife Diversity Research Coordinator) and NC Natural Heritage Program (M. Schafale, Ecologist) staff. Additional information on species occurrences is from NC Natural Heritage Program’s 2016 List of Rare Animal Species (Ratcliffe et al., 2015). There are 10 federally threatened, endangered or species of concern that are known or likely to occur on the property. Please note that American alligators (*Alligator mississippiensis*) are known to occur along the Waccamaw River, but are not included in this list since their federal status is threatened due to similarity of appearance with other crocodilians (not biologically threatened but listed for trade purposes only).

Common Name	Scientific Name/Status	Life Cycle	Recorded on Property/Recovery Plan Objectives if applicable
Wood Stork	Mycteria Americana/ T	Foraging during breeding period-known nesting colony at Lays Lake on river approx. 10 miles away. According to Billy Brooks, Recovery Lead, they consider a 13-mile radius around any nesting colony is considered a core foraging area (B. Brooks, pers. com)	Yes, seen flying along the river (J. Allen pers.com.). Likely forage for small fish and crayfish along river banks and within small sloughs, oxbow lakes and beaver ponds on and adjacent to property. Protection of foraging habitat (1997 Recovery Plan Objectives 1.3; 1.4).
Waccamaw Silverside	Menidia extensa/ T	Year round, primarily lacustrine (in Lake Waccamaw) but has been documented downstream in the Waccamaw River	Yes, there are records of this fish near the property (Brena Jones, NCWRC Central Aquatic Diversity Research Coordinator, April 2017) 1993 Recovery Plan Objectives 1.0 and 1.5 protect and acquire essential habitat
Waccamaw Darter	Etheostoma perlongum/ FSC	Year round, occurs primarily in Lake Waccamaw but is also known sparingly downstream in the river	Yes, has been documented in the river near the property (Brena Jones, pers. com. April 2017)
American eel	Anguilla rostrata/ FSC	Year round-American eel are a catadromous species, a species that is born in the ocean then migrates up freshwater rivers as juveniles where they grow into adults before migrating back into the ocean to spawn. According to a 2011 fact sheet developed by U.S. Fish and Wildlife Service, ( <a href="https://www.fws.gov/northeast/newsroom/facts.html">https://www.fws.gov/northeast/newsroom/facts.html</a> ), "American eels, like many other fish species, no longer have access to much of their historical habitat because of dams and other obstructions in rivers. "Contaminants, too, may impair eels, although which contaminants and how much harm they do are as yet unknown, may be difficult to discover, and may most likely affect the eels during their long ocean migration.	Yes, according to Kyle Rachels, NCWRC District 4 Fisheries Biologist, American eels are regularly captured in this section of the river near the property
Wayne's Black-throated	Dendroica virens waynei/FSC	Breeding season – This subspecies is restricted to the South Atlantic Coastal Plain from southeastern	Likely to occur on property as there is available nesting habitat that contains the right

Green Warbler		<p>Virginia to South Carolina. Watts et al., (2011) conducted surveys for this species and found that “forest composition had a significant influence on the distribution of breeding sites. The frequency of plots classified as breeding sites was higher than expected for plots containing <i>Pinus taeda</i> (Loblolly pine), <i>Chamaecyparis thyoides</i> (Atlantic White Cedar), and <i>Taxodium distichum</i> (Bald Cypress). The density of these tree species within survey plots was significantly higher for plots classified as breeding sites compared to plots classified as unoccupied. This response was particularly significant when all three tree species were combined.”</p>	<p>composition of tree species; no breeding bird surveys have been conducted yet on the property.</p>
Carolina pygmy sunfish	<p><i>Elassoma boehlki</i>/recently Petitioned for listing</p>	<p>Year round; species is endemic to a very small area in the corner of coastal NC and SC. They live in small streams/swamps like Juniper Creek.</p>	<p>Yes, according to NC Natural Heritage Program, there are known occurrences of this rare fish species in Juniper Creek which flows into the Waccamaw River across from the property. Brena Jones, WRC Fisheries Biologist commented about the importance of this section of the Waccamaw River as well as Juniper Creek, “Juniper Creek joins the river in that reach, which is home to this species. I found a new locality in a tributary downstream and it is possible that they use the river as a travel corridor when the water is high and they have lots of floodplain habitat to hide in. Protection of any of this land in this stretch of the river near Juniper Creek is important.”</p>

Waccamaw spike	Elliptio waccamawwensis/FSC	Year round; restricted to the Waccamaw River drainage in NC and SC	Yes. There are records of this species in the river near the property. According to NCWRC, all areas of occupied habitat should be protected. Freshwater mussels are sensitive to pollutants and sedimentation and their occurrence is often an indicator of good water quality.
Waccamaw fatmucket	Lampsilis fullerkati/FSC	Year round; another endemic species limited to Lake Waccamaw and Waccamaw river	Likely to occur as there is suitable habitat.
Southeastern myotis	Myotis austroriparius/FSC	Year round; Southeastern bats uses mature bottomland hardwoods throughout the SE Coastal Plain. According to the North Carolina Bat Working Group, the Southeastern bat is closely associated with water and forages over it, flying close to the surface. In NC and other areas lacking caves, Southeastern bats roost in hollow tupelo, gum or cypress trees in bottomland forests.	Likely to occur as there is suitable habitat.
Rafinesque's big-eared bat	Corynorhinus rafinesquii/FSC	Year round. Uses palustrine forested wetlands for roosting, nesting and foraging.	Likely to occur as there is considerable acreage of forested wetlands on the tract.

Status Key: E=Endangered; T=Threatened; and FSC=Federal species of concern

### State-listed Threatened and Endangered Species

NCWRC does not develop recovery plans for state listed species. However, the following species are addressed in the 2015 N.C. Wildlife Action Plan (NCWAP) and are likely to occur on or adjacent to the Waccamaw River Partnership Tract.

Common Name	Scientific Name/Status	Details/Project Meets WAP objectives (Page #)
Mabee's salamander	<i>Ambystoma mabeei</i> /SR	This species ranges from southern Canada south to Mexico City. In North Carolina, Mabee's salamanders occupy the savanna pine barrens in the eastern coastal plain. They typically spend their adult life in soil near bogs, ponds, and bottomland swamps. NC Natural Heritage Program lists this species as occurring on the Waccamaw Partnership Tract. Protection of this important habitat as found on this property

		will continue to provide breeding habitat (Page 49 NCWAP).
Snowy Egret	<i>Egretta thula/SC</i>	This species occupies a great variety of habitats including permanently and seasonally flooded wetlands, streams, lakes, and swamps. Protection of the Waccamaw Partnership Tract will provide significant foraging habitat for this species (Page 72 of NCWAP).
Little Blue Heron	<i>/Egretta cearulea/SC</i>	Little Blue Herons forage in quiet waters ranging from tidal flats and estuaries to streams, swamps, and flooded fields. This project will protect valuable foraging habitat (Page 72).
Star-nosed mole	<i>Condylura cristata/SC</i>	Lives in Atlantic white cedar, pine-hardwoods and non-riverine swamp forests. Project will protect suitable habitat for this secretive mammal (Page 122).
Glossy Ibis	<i>Plegadis falcinellus/SC</i>	The glossy ibis inhabits a wide variety of wetland habitats such as shallow lakes, swamps, marshes, ponds, rivers, floodplains, wet meadows as well as occasionally using coastal lagoons, mudflats and estuaries. This project will protect valuable foraging habitat (Page 72).
Bald eagle	<i>Haliaeetus leucocephalus/T</i>	Nests in large pine trees near open water. There is a known nesting site at Lake Waccamaw State Park upstream. The project will protect foraging habitat and potential nesting habitat (Page 72).
Waccamaw crayfish	<i>Procambarus braswelli/SC</i>	This species is known only from the Waccamaw and the Lumber-Little Pee Dee River basins in North and South Carolina. NC Natural Heritage lists this species as occurring on or near the Waccamaw Partnership Tract. This project will protect important habitat for this very rare burrowing crustacean (Page 89).
Yellow-crowned Night Heron	<i>Nyctanassa violacea/SR</i>	The yellow-crowned night-heron can be somewhat nocturnal, however, it frequently forages during the day.

		Prefers to forage in freshwater areas near swamps and thickets, often on crayfishes; however, they also feed on crabs in salt or brackish channels and shallow waters. This species is more common on NC's southern coast (Brunswick and Columbus Counties). This project will protect important foraging habitat (Page 72).
Glossy crayfish snake	<i>Regina rigida</i> /SR	Found in marshes, cypress ponds and other wetlands which can be found on the Waccamaw Partnership Tract (Page 136).
Black swampsnake	<i>Seminatrix pygaea</i> / SR	Found in swamps, sluggish streams, and ditches with floating or emergent vegetation which can be found on the Waccamaw Partnership Tract (Page 136).
Ironcolor shiner	<i>Notropis chalybaeus</i> /SR	Brena Jones of NCWRC has found occurrences of this fish species near the Waccamaw River Partnership Tract. Protection of riparian buffers associated with this project will enhance local water quality and protect habitat for this fish species (Page 100).
Banded sunfish	<i>Enneacanthus obesus</i> /SR	NC Natural Heritage Program has a current record for this species adjacent to the Property. Protection of riparian buffers associated with this project will enhance local water quality and protect habitat for this fish species (Page 100).
Pod lance, a freshwater bivalve	<i>Elliptio folliculate</i> /SC	Known from Cape Fear, Lumber (including Waccamaw River) and Pee Dee drainages. Water quality is key to the survival of these freshwater mollusks (Page 111).
Timber rattlesnake	<i>Crotalus horridus</i> SC	Occurs in a variety of wetlands throughout the Coastal Plain (Page 136).
Tidewater mucket, a freshwater bivalve	<i>Lampsilis ochracea</i> /SC	The tidewater mucket has been recorded from coastal freshwaters from the Savannah River Drainage in Georgia north into Nova Scotia. In North Carolina, this species has been documented from the

		Chowan, Roanoke, Tar, Neuse, and Waccamaw drainages (Page 111).
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Key to Status: T=Threatened; SR=Significantly Rare; and SC=Special Concern

## 6. Benefits to fish:

The Waccamaw River in North Carolina supports a very diverse fish fauna. According to Menhinick (1991), there are records of the following 42 fish species in the Waccamaw River in Columbus County: Longnose Gar (*Lepisosteus osseus*), Bowfin (*Amia calva*), American Eel (*Anguilla rostrata*), American Shad (*Alosa sapidissima*), Eastern Mudminnow (*Umbra pygmaea*), Chain Pickerel (*Esox niger*), Redfin Pickerel (*Esox americanus*), Golden Shiner (*Notemigonus crysoleucas*), Eastern Silvery Minnow (*Hybognathus regius*), Ironcolor Shiner (*Notropis chalybaeus*), Coastal Shiner (*Notropis petersoni*), Taillight Shiner (*Notropis maculatus*), Yellow Bullhead (*Ameiurus natalis*), White Catfish (*Ameiurus catus*), Broadtail Madtom (*Noturus n. sp.*), Margined Madtom (*Noturus insignis*), Tadpole Madtom (*Noturus gyrinus*), Swampfish (*Chologaster cornuta*), Pirate Perch (*Aphredoderus sayanus*), Lined Topminnow (*Fundulus lineolatus*), Waccamaw Killifish (*Fundulus waccamensis*), Eastern Mosquitofish (*Gambusia holbrooki*), Striped Bass (*Morone saxatilis*), White Perch (*Morone americana*), Mud Sunfish (*Acantharchus pomotis*), Blackbanded Sunfish (*Enneacanthus chaetodon*), Banded Sunfish (*Enneacanthus obesus*), Bluespotted Sunfish (*Enneacanthus gloriosus*), Dollar Sunfish (*Lepomis marginatus*), Redbreast Sunfish (*Lepomis auritus*), Spotted Sunfish (*Lepomis punctatus*), Warmouth (*Lepomis gulosus*), Bluegill (*Lepomis macrochirus*), Pumpkinseed (*Lepomis gibbosus*), Largemouth Bass (*Micropterus salmoides*), Black Crappie (*Pomoxis nigromaculatus*), Banded Pygmy Sunfish (*Elassoma zonatum*), Carolina Pygmy Sunfish (*Elassoma boehlkei*), Everglades Pygmy Sunfish (*Elassoma evergladei*), Yellow Perch (*Perca flavescens*), Sawcheek Darter (*Etheostoma serrifer*), Swamp Darter (*Etheostoma fusiforme*). An additional species, Atlantic sturgeon (*Acipenser oxyrinchus*) is present at least in the lower reaches of the river and is well-documented by observers. Craig Sasser, USFWS, Manager of Waccamaw National Wildlife Refuge, stated “the protection of the 3,000 wetland tract that you are currently working on will not only benefit upstream habitats for anadromous fish such as the Atlantic sturgeon, striped bass and diadromous fish including the American eel, but it will also help protect wildlife corridors for migratory birds and black bears.”

American shad and striped bass (anadromous) and American eel (catadromous) have been documented in the Waccamaw River between the Dock Road and Highway 130 bridge crossings near the Waccamaw River Partnership Tract. These species migrate to and from the ocean and river during portions of their life cycle. Two other anadromous fishes, river herring or, blueback herring (*Alosa aestivalis*), and hickory shad (*Alosa mediocris*) are known to utilize the Waccamaw River downstream of the property (Kyle Rachels, District 4 Fisheries Biologist, NCWRC, pers.com.). All of these anadromous fishes are under the jurisdiction of the Atlantic States Marine Fisheries Commission (ASMFC) and the South Atlantic Fishery Management Council (SAFMC). According to Wilson Laney, Senior Fisheries Biologist of U.S. Fish and Wildlife Service, “acquisition of the tract would further the mission and management objectives of both the ASMFC and the SAFMC, as well as the South Atlantic Landscape Conservation Cooperative.”

As noted earlier, Lake Waccamaw and the Waccamaw River are home to many rare and endemic aquatic species (mollusks and fish). The Waccamaw silverside (*Menidia extensa*), a federally threatened species is known only from Lake Waccamaw and the upper Waccamaw River in Columbus County, North Carolina. While the silverside is found in the upper Waccamaw River mostly during periods of high water, its occasional presence in the river is still significant. Banded sunfish, broadtail madtom, and ironcolor shiner are three other rare fish species that have been documented in the Waccamaw River near the Waccamaw River Partnership Tract. The Carolina pygmy sunfish occurs in Juniper Creek, a major tributary of the Waccamaw River, and is likely to use the mainstem near the Waccamaw River Partnership Tract as a travel corridor. Brena Jones, NCWRC Fisheries Biologist commented that “the entire HUC is in our highest priority (Tier 1) category in the 2015 Wildlife Action Plan (which includes Lake Waccamaw, Waccamaw River and Juniper Creek). . .Protecting land along that corridor is a very high priority for all our division, aquatic and terrestrial.”

## **7. Benefits to coastal dependent or migratory birds:**

The protection of 3,000 acres of the Waccamaw River Partnership Tract by NCWRC and NCCLT along with the future restoration and enhancement of forested wetlands will provide benefits to the coastal dependent and migratory birds of the Lumber River Basin. This tract consists of 1,900-acres of palustrine forested wetlands (bottomland hardwoods, cypress-gum swamp, and Atlantic white cedar forest) along with 20-acres of palustrine emergent wetlands associated with oxbow lakes and beaver ponds that serve as important breeding and/or foraging habitat to a host of coastal migratory birds.

The protection of the 3,000-acre Waccamaw River Partnership Tract assists in reaching the habitat conservation goals of the **Atlantic Coast Joint Venture (ACJV) Waterfowl Implementation Plan (2005)**. The 2005 ACJV Waterfowl Implementation Plan recommends acquiring land and conservation easements within all of the Focus Areas as necessary conservation actions. The Waccamaw River Partnership project supports the goals and objectives of both the 2004 North American Waterfowl Management Plan (NAWMP) and the 2012 North American Waterfowl Management Plan, People Conserving Waterfowl and Wetlands. Acquisition of the Waccamaw River Partnership Tract will conserve essential wetlands and uplands strategically located in an Atlantic Coast Joint Venture waterfowl focus area that the plan outlines as necessary for sustainable waterfowl populations. The proposal will realize this land protection through productive collaborations between non-profit organizations, state and federal agencies; an important principle highlighted in the plan.

The ACJV specifically identified the Waccamaw River in NC as focal area for waterfowl habitat conservation (USFWS 2005). This focus area hosts extensive bottomland hardwood and cypress-gum swamp along with beaver ponds and hardwood sloughs. The Waccamaw River Partnership Tract is situated across the river from a portion of NCWRC’s Columbus County Game Lands which provides additional acreage of permanently conserved bottomland hardwoods and cypress-gum swamp. According to the 2005 ACJV’s Waterfowl Implementation Plan, “the seasonally flooded bottomland hardwood forests on the

Waccamaw River provide wintering waterfowl habitat for a variety of waterfowl including Wood Duck, Hooded Merganser, Mallard, Green-winged Teal and Ring-necked Duck.” Other waterfowl species known to occur along the Waccamaw River are included in the table below. The waterfowl habitat objective goals identified in the ACJV Waterfowl Implementation Plan and the 2006 South Atlantic Migratory Bird Implementation (SAMBI) Plan specifically call for protecting 1,000 acres along the Waccamaw River (Page 37 of the SAMBI Plan, Watson and Malloy 2006). The Waccamaw River Partnership project will contribute greatly towards meeting this habitat objective. According to ACJV, the Waccamaw River Partnership Tract falls within Bird Conservation Region (BCR) 27 which covers the Southeast Atlantic Coastal Plain (ACJV 2014). A primary focus of the Waccamaw River Partnership project is in permanently conserving palustrine forested wetlands. This habitat type has been affected substantially by development in the latter half of the 20<sup>th</sup> century; over 1,000,000 acres were converted in BCR 27 alone. Acquisition of 1,900-acres of palustrine forested wetlands through fee title purchase will discourage further decline in this area of vital waterfowl habitat.

Under the **SAMBI Implementation Plan** (Watson and Malloy, U.S. Fish and Wildlife Service, 2006), the Waccamaw River Partnership Plan falls within Waterfowl and Landbird Focus Areas (Figure 7, Page 42). The Waccamaw River Partnership Tract hosts two of the priority habitats listed in Table 2 of the Implementation Plan including alluvial forested wetlands (bottomland hardwood and swamp forests) and riparian/mixed mesic hardwoods (Pages 18-19). According to the 2006 SAMBI Implementation Plan, under Forested Wetlands (Alluvial) “species in need of conservation attention within the South Atlantic Coastal Plain in decreasing order of potential vulnerability include Swallow-tailed Kites, coastal populations of Black-throated Green Warblers, Swainson’s Warblers and Prothonotary Warblers.” The latter three species are likely to occur on the Waccamaw River Partnership Tract. Swallow-tailed kites are known to breed on the Waccamaw River in South Carolina (e.g., Waccamaw River National Wildlife Refuge). While they have not been documented nesting further upstream, they are closely associated with forested wetlands and show a strong preference for nesting in loblolly pines growing near or on the edges of wetlands. The Waccamaw River Partnership Tract hosts over 1,900-acres of forested wetlands along with mesic pine-hardwood stands dominated by loblolly pine. It may be a matter of time before these birds start showing up further upstream along the Waccamaw (In North Carolina, they have been observed on the Cape Fear River). In addition, the 2006 SAMBI Plan recognizes that “mixed mesic hardwoods collectively are important within the coastal plain from North Carolina to Texas. Priority species within the riparian/mixed mesic hardwood habitat include Swainson’s Warbler, Kentucky Warbler, and Acadian Flycatcher. These species are also likely to occur on the Waccamaw River Partnership Tract.

The **2004 Partners in Flight (PIF) North American Landbird Conservation Plan** notes, “the most imperiled Watch List and Stewardship Species are or were birds of the original bottomland hardwood or southeastern pine forests that require conditions that are rare or absent today.” The Plan notes that restoration and protection of remnant bottomland hardwood forests is critical for such species as Prothonotary Warblers and Swainson’s Warblers. The Waccamaw River Partnership specifically addresses conservation of this priority habitat type: bottomland hardwood forests. In addition, a primary goal and

objective of the 2004 PIF Plan that relates to this proposal is avoiding land conversion of swamps and other non-alluvial transitional forested shrub-scrub wetlands. Acquisition of the Waccamaw River Partnership Tract would help achieve this goal.

According to the **2002 North American Waterbird Conservation Plan (Kuslan et al, 2002)**, the Waccamaw River Partnership project meets the habitat goal, “to protect, restore and manage sufficient high quality habitat and key sites for waterbirds throughout the year. . .” and the coordination and integration goal, “to ensure that coordinated conservation efforts for waterbirds in the Americas continue. . .” Finally, the Waterbird Plan seeks to “implement conservation and management actions that secure important habitats” and “to establish cooperative linkages with other bird conservation initiatives concerned with aquatic habitats.” The Waccamaw River Partnership project focuses on acquiring over 3,000-acres in fee consisting of important upland and wetland habitats adjacent to over 20,000 acres of State-owned lands (Columbus County and Juniper Creek Game Lands).

The following list includes 25 coastal dependent and/or migratory bird species (not included in lists above) that are known or likely to occur on the Waccamaw River Partnership Tract.

<b>Species Common Name</b>	<b>Scientific Name</b>	<b>Project Benefits M=Migration W=Wintering</b>	<b>Priority</b>	<b>Does the project meet the goals of a specific management plan?</b>
American Black Duck	<i>Anas rubripes</i>	M, W	SAMBI-Highest Priority; NCWRC WAP SGCN	Protection of forested wetlands for foraging habitat
Mallard	<i>Anas platyrhynchos</i>	M,W	SAMBI-Highest Priority	Protection of forested wetlands for foraging habitat
Wood Duck	<i>Aix sponsa</i>	B,M,W	SAMBI-**	Protection of large cypress trees for nesting, and flooded forested wetlands for foraging
American Widgeon	<i>Anas americana</i>	M,W	SAMBI- **	Protection of forested wetlands for foraging habitat
Lesser Scaup	<i>Aythya affinis</i>	M,W	SAMBI- Highest Priority	Protection of forested wetlands for foraging habitat
Northern Pintail	<i>Anas acuta</i>	M,W	SAMBI-Highest Priority	Protection of forested wetlands for foraging habitat
American Widgeon	<i>Anas americana</i>	M,W	SAMBI – High Priority	Protection of forested wetlands for foraging
Blue-winged Teal	<i>Anas discors</i>	M,W	SAMBI-High Priority	Protection of forested wetlands for foraging

Green-winged Teal	<i>Anas crecca</i>	M, W	SAMBI-**	Protection of forested wetlands for foraging
Northern Shoveler	<i>Anas clypeata</i>	M, W	SAMBI-**	Protection of forested wetlands for foraging
Gadwall	<i>Anas strepera</i>	M, W	SAMBI-** WAP SGCN	Protection of forested wetlands for foraging
Hooded Merganser	<i>Lophodytes cucullatus</i>	M, W	SAMBI-**	Protection of forested wetlands for foraging
Ring-necked Duck	<i>Aythya collaris</i>	M, W	SAMBI-**	Protection of forested wetlands for foraging
Swallow-tailed Kite	<i>Elanoides forficatus</i>	B	PIF Watch List, Species of Continental Importance; SAMBI Highest Priority; WAP SGCN	Birds have been observed in the nesting season on the Waccamaw River in NC, part of STKI conservation focus area. Protection of potential nesting and foraging habitat.
American Woodcock	<i>Scolopax minor</i>	B, W, M	PIF Water List, SAMBI Highest Priority, U.S. Shorebird Conservation Plan – High Concern	Utilizes cleared pine stands and wet woodlands that can be found on the Waccamaw River Partnership Tract.
Wood Thrush	<i>Hylocichla mustelina</i>	B, M	PIF Watch List, SAMBI High Priority	Nests in upland and transitional wet hardwood forests. A widespread but declining species.
Prothonotary Warbler	<i>Protonotaria citrea</i>	B, M	PIF Watch List; SAMBI High Priority; WAP SGCN	Uses cypress-gum swamp and bottomland hardwood forests; NC has a high percentage (7-8% of the global population).
Swainson's Warbler	<i>Limnothlypis swainsonii</i>	B, M	PIF Watch List; SAMBI High Priority; WAP SGCN	Nests in canebrakes and multi-layered wet hardwood forests. Protection

				of nesting and foraging habitat.
Worm-eating Warbler	<i>Helmitheros vermivorus</i>	B, M	SAMBI High Priority; WAP SGCN	Nests in middle-aged pine with lots of hardwood midstory
Rusty Blackbird	<i>Euphagus carolinus</i>	W, M	SAMBI High Priority, PIF Watch List; WAP SGCN	Uses swamp forests, has declined dramatically-important to protect wintering habitat. Protection of important foraging habitat.
Prairie Warbler	<i>Setophaga discolor</i>	B,M	SAMBI Highest Priority; WAP SGCN	Nests in young dense pine stands
White Ibis	<i>Eudocimus albus</i>	B, M	SAMBI High Priority	Forages and nests in swamp forests.
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	B,M	WAP SGCN	Nests in cypress, swamp forests; Protects possible nesting and foraging habitats
Kentucky Warbler	<i>Geothlypis formosa</i>	B, M	PIF Watch List; SAMBI Highest Priority; WAP SGCN	Nests in forested wetlands and uplands with dense midstory.
Acadian Flycatcher	<i>Empidonax virens</i>	B,M	SAMBI High Priority; WAP SGCN	Nests and forages in hardwood forests and mixed pine-hardwoods.
Yellow-billed Cuckoo	<i>Coccyzus americana</i>	B	SAMBI High Priority	Nests and forages in bottomland and mixed pine hardwood stands.

\*\*SAMBI Game Species of Local or State Management and/or Economic Interest; SGCN=species of the greatest conservation need as identified in the 2015 NC Wildlife Action Plan.

## 8. Prevent or reduce contamination:

This Project will prevent the input of contaminants to wetlands and associated waters through fee title acquisition of the Waccamaw Partnership Tract. As noted above, the Waccamaw River Partnership Tract is located within Subbasin 03040206 03-05-04 of the Lumber River Basin. According to the 2010 Lumber River Basinwide Water Quality Management Plan, Lake Waccamaw and adjacent waters are designated as Outstanding Resources Waters, yet the Lake and entire Waccamaw River in North Carolina are considered impaired mostly due to elevated mercury levels. Addressing the mercury issue is problematic since it may be coming from anthropogenic emissions (e.g., power plants) a distance away, or geogenic sources (released

naturally from disturbed peat soils). Conservation of healthy wetlands, like those proposed to be acquired in the Waccamaw Partnership Tract, prevents future wetland conversion and associated loss of pollutant filtration and sequestration capacity. In short, this avoided conversion prevents the loss of pollutants to surrounding waters. This is particularly important for mercury currently sequestered in wetland soils that could be re-mobilized and exacerbate the existing mercury impairment in the Lumber River Basin. Finally, the Waccamaw River Partnership project will also eliminate any major sedimentation associated with timbering and/or future development.

## **9. Catalyst for future conservation:**

This project will serve as the catalyst for future conservation of additional acreage along the Waccamaw River in North Carolina. NCWRC is already considering fee acquisition of a 300+acre property downstream (Waccamaw River Sportsman Tract). The purchase of this tract will demonstrate the necessary regional support to increase conservation lands across the landscape. In addition, The Nature Conservancy (TNC) has been instrumental in conserving lands along Juniper Creek and transferring them to NCWRC to be managed as public game lands. TNC recently acquired the 1,300+acre Pioneer Tract along Juniper Creek which was transferred to NCWRC and has been negotiating with the owners of a considerably larger property further upstream for a possible conservation acquisition. The Waccamaw River Partnership Tract, if acquired, will represent a sizeable transaction that will likely lead to interest by other landowners along the river.

## **10. Partners in Conservation:**

The Waccamaw River Partnership Project represents a partnership primarily between NCWRC and NCCLT. NCCLT is a nationally accredited, private, non-profit land conservation organization dedicated to conserving lands with scenic, historic, recreational and/or ecological value along the coast of North Carolina. Since its founding in 1992, NCCLT has conserved over 68,000 acres of valuable upland and wetland habitats in 22 coastal counties. Letters of funding commitment from the following partners are attached:

- NCCLT is contributing \$3,145,000 from other federal (NAWCA) and private grants
- Open Space Institute (SE Resilient Landscapes Program) - \$400,000
- North Carolina Clean Water Management Trust Fund - \$1.2 million
- North Carolina Environmental Enhancement Grant Program - \$425,000

## **11. Non-Federal Share Enhanced:**

Yes, the proposal adds to the non-Federal share of the project by contributing additional cash. A total of \$1,000,000 in NCWCG funds is being requested for the Waccamaw River Partnership project with base match calculated to be \$333,334. The non-federal cash contribution to the project is \$ [REDACTED] (state and private sources) with \$ [REDACTED] above the required base match.

A. NCWCG Federal Share	B. Base Match Amount in A divided by 3	C. Cash for consideration	D. Cash above Base match
\$1,000,000	\$333,334	\$ [REDACTED]	\$ [REDACTED]

Overall, the federal share of the total project cost is 38%. If awarded, the \$1.0 million NCWCG grant will provide 16% of the total project cost, while NCCLT will provide 22% through North American Wetland Conservation Act grants. **The total non-federal cash match for the project is 62% (\$ [REDACTED]).**

## **12: Education/Outreach or Wildlife-oriented Recreation:**

NCWRC will own and manage approximately 1,000 acres which will become part of the Columbus County Game Lands and open to the public for consumptive (hunting, fishing) and non-consumptive uses (bird-watching, nature observation). NCCLT will own and manage approximately 2,000-acres which will be leased to a local hunt club that has hunted and fished the property since the 1960's and consists of 70 families in the local community. The hunt club has expressed an interest in working with NCCLT on providing more access to the river to the local community. One of the hunt club members is on the Board of the Winyah Rivers Foundation which is active in protecting the Waccamaw River and promoting passive recreation, e.g., paddling the river. American Rivers designated all of the Waccamaw River in North and South Carolina as a national Water or Blue Trail. The goal of this Blue Trail designation is to provide greater access to the river, i.e., improving family-friendly recreation such as fishing, boating, and wildlife watching and conserving riverside land and water resources. American Rivers produced a map highlighting mile markers, access points, and ecological and cultural features. This project will result in a new canoe/kayak launch or other boat access to the river between Mile markers# 11 and 16 contributing to public enjoyment of the river. NCWRC and NCCLT will work with the Waccamaw RIVERKEEPER®, American Rivers, and Winyah Rivers Foundation, as funding allows, to identify the best site(s) for a new canoe/kayak landing along with a possible camping area.

## **13. Other factors: What other benefits does the project provide?**

**Biodiversity:** The Waccamaw River Partnership Tract lies along 7.5 miles of the Waccamaw River, a river that overall hosts 7 rare and endemic animal species (four fishes, two mollusks and one snail). There are also five other rare aquatic animal species that occur in the river and six rare plant species that occur within the active channel or within transitional habitats along the river. As noted above, this high species diversity and endemism is due in part to underlying geology, i.e., the Cape Fear Arch. The Cape Fear Arch is a region distinguished by unusual geology and the greatest biological diversity along the Atlantic Coast north of Florida. The Cape Fear Arch Region encompasses an area defined by a unique geological feature formed 35-45 million years ago during the Tertiary Age by an uplifting of sand and limestone. The Cape Fear Arch is a little higher in elevation than areas adjacent to the coast to the north and south, and has been above sea level for a longer period of time, even standing as a peninsula at certain times when the rest of the coastal plain was submerged. These factors have given rise to unique natural communities and a diversity of plants and animals, some found nowhere else in the world. Overall, the Cape Fear Arch includes 60 different natural communities; 300 species of animals and plants; 19 federally threatened and endangered species, 22 endemic plants; 19 endemic animals; and 100% of the world's Venus fly traps. The Nature Conservancy recognizes this region, particularly southeastern North Carolina, as one of the nation's "biodiversity

hotspots” (see Figure 5).

In February 2016, the Critical Ecosystems Partnership Fund, an organization based in Arlington, VA, recognized the North American Coastal Plain, a more than 800,000-square-mile area that stretches from Florida to Maine, as the world’s 36<sup>th</sup> biodiversity hotspot. The Critical Ecosystems Partnership Fund is a joint initiative with French, European Union, Japanese and other interests around the world focused on biodiversity conservation of the most biologically rich and threatened areas by non-governmental, private-sector and community groups. In April 2016, an article in Coastal Review Online (<http://www.coastalreview.org/2016/04/coastal-plain-gets-hotspot-map/>), interviewed Alan Weakley, director of the University of North Carolina Herbarium, on how the designation came about, “There are a couple of factors they look at for this, much has to do with the number of species and endemic species found in a particular area. Another factor is the endangerment of the land.” The hotspot designation is meant to bring attention to those areas with more than 70 percent habitat loss. Weakley states for North Carolina, “We’ve lost 86 percent of the habitat, way above that.”

**Climate Change:** Obviously, all coastal properties will be affected to some degree by climate change. NCCLT first examined this 3,000+acre property with regards to varying degrees/estimation of sea level rise (1 foot, 2 feet, and 4 feet inundation levels) and this property will not be affected by these levels of sea level rise. This property is not considered to be terribly vulnerable to sea level rise due in part to the underlying geology, i.e., Cape Fear Arch, which makes this region of the coast a bit more elevated than some other coastal regions such as the Albemarle-Pamlico Peninsula. NCCLT also examined the 3,000+acre Waccamaw River Partnership Tract for climate resiliency using The Nature Conservancy’s new climate resiliency model (<https://www.conservationgateway.org/>). Resilience indicates the level to which a system can sustain diverse species and maintain ecological processes despite disturbance and climatic change. While the Waccamaw River Partnership Tract scored average for resilience, landscape diversity and local connectedness, NCCLT believes the 3,000+acre property, especially once purchased for conservation, will be resilient to climate change as it will be specifically managed to enhance and restore native forest communities and biodiversity. After conducting an on-the-ground and aerial photo history comparison of the 3,000+acre Waccamaw River Partnership Tract with a similar sized state protected game lands tract (which scored above average for resiliency) directly across the river, NCCLT found similar soils, site management history, wetlands type and percentage, landscape and species diversity. An analysis of The Nature Conservancy’s resilience data indicated that the game lands tract clearly scored higher due to tract ownership, i.e., by a conservation entity not a timber company. Using this climate resiliency case study, NCCLT made a compelling case to the Open Space Institute which subsequently awarded a \$400,000 Southeast Resilient Landscapes Fund grant for the Waccamaw River Partnership project. Overall, NCCLT and NCWRC support the following adaptation strategy to deal with climate change, which is to conserve large diverse landscapes and to make landscape linkages that may allow for species migrations.

### **Department of the Interior’s America’s Great Outdoors Initiative:**

Communities in Columbus and Brunswick County recognize the Waccamaw River as an important resource to their region as it contributes to the area’s quality of life and serves as a

local economic driver offering opportunities for water-based recreation, tourism, and education. With this local support along with promotion by the Waccamaw RIVERKEEPER®, Winyah Rivers Foundation, and American Rivers groups, the Waccamaw River achieved national attention as a potential ecotourism destination and was listed as one of only two North Carolina Sites deemed important in supporting community driven outdoor public recreation in America's Great Outdoors Initiative.

### 13B. Other considerations/tie-breakers:

1. Is the habitat imminently threatened? ☒ Yes ☐ No

The property is owned by a timber investment group that is interested in selling the property. The current owner, Southern Diversified Timber, LLC, has signed a voluntary, non-binding registry agreement with NCNHP to conserve special natural areas on the property. If this property is not purchased for conservation, timbering in the more sensitive forested wetland areas (e.g., bottomland hardwoods, cypress-gum swamp, and Atlantic white cedar) may occur.

2. Does the site have unique and significant diversity? ☒ Yes ☐ No

Unique Biodiversity	Supportive Evidence
Hosts portions of three significant natural heritage areas due to the number of rare and endemic species– Waccamaw River is designated as a nationally significant aquatic habitat.	NCNHP Inventory of the Natural Areas and Rare Species of Columbus County, NC
The Waccamaw River is one of 4 critically important blackwater rivers in the Southeast warranting conservation attention due to its high aquatic biodiversity and endemism.	Biodiversity of the Southeastern United States: Aquatic Communities (Hackney et al. 1992)
Biodiversity/Index Score of 9-10 in wetlands along Waccamaw River on property	NCNHP Biodiversity and Wildlife Habitat Assessment

3. What are the costs per acre? According to the 2017 appraisal prepared by Realty Services of Eastern North Carolina, Inc., the cost per acre is approximately \$[REDACTED]/acre for fee title acquisition.

4. Are there new sources of funds, lands, or services being applied to this project? (As opposed to lands already owned by the State or third party that are being offered as match). Yes, cash match is being provided by NC Clean Water Management Trust Fund, Attorney General's Environmental Enhancement Grant Program, and a multitude of private sources contributing to NCCLT for the project.

5. What percentage of the funds, lands, or services is new? 58% of the total project funds are new and come from non-federal sources as noted above.

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