

# PEE DEE NATIONAL WILDLIFE REFUGE

Wadesboro, North Carolina



Review and Approvals

of the

**ANNUAL NARRATIVE REPORT**

for

**Calendar Years 1997 and 1998**


      3/18/03            5-02-03

**Refuge Manager**

**Date**

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      5/6/03

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# Introduction

The Pee Dee National Wildlife Refuge (NWR) is located adjacent to the once-famous “Lockhart Gaddy Wild Goose Refuge.” Mr. Gaddy was an avid goose hunter who used live decoys to hunt Canada geese in fields along the Pee Dee River. In 1934 he retired his shotgun and decided instead to provide food, shelter, and a sanctuary area for these majestic birds. The following autumn, Mr. Gaddy’s live decoys attracted nine wild Canada geese to his private pond, and by the early 1950’s, the flock had grown to an estimated 10,000. Bird watchers from all over the United States and several foreign countries visited the Gaddy Goose Refuge to feed and observe the geese. Following the deaths of Mr. and Mrs. Gaddy, the Refuge was closed to the public in the early 1970’s.

During the early 1960’s, the number of both geese and ducks began to decline in south-central North Carolina. Fortunately, lands adjacent to the Pee Dee River and Brown Creek offered excellent potential for waterfowl habitat development. Agricultural land for grain, green browse, and field impoundment construction was available, as well as hardwood bottoms suitable for developing green-tree reservoirs. With local and state support, the Pee Dee National Wildlife Refuge was established in October 1963 to provide wintering habitat for migratory waterfowl. Acquisition was authorized by the Migratory Bird Conservation Act of February 18, 1929 and Statutes of North Carolina (NC), 1958, Section 104.10. The refuge acreage has remained 8,443 acres for a number of years, with 7,514 acres in Anson County and 929 acres in Richmond County.

The topography of the refuge is typical of the southern Piedmont with gently rolling hills surrounding the Pee Dee River and Brown Creek bottoms. Relief varies from approximately 185 feet to 330 feet above mean sea level. The Pee Dee River and Brown Creek flow through the refuge in a southeasterly direction.

Forest cover comprises approximately 6,100 acres of the refuge, including 2,900 acres of bottomland hardwood and 3,200 acres of pine and pine-hardwood forests. The upland pine habitat is managed to support the endangered red-cockaded woodpecker, and the mixed pine-hardwood stands are managed to maintain a diversity of species (both plant and animal) in the uplands. The refuge permanently protects one of the last Piedmont levee floodplain and bottomland hardwood forests left in NC. This forest is considered by the NC Natural Heritage Program as, “the best example of this wetland habitat type in the southern Piedmont of NC.” It occurs along the Brown Creek corridor to the confluence of the Pee Dee River. By preserving this natural community in its unspoiled natural state, in 1982, the NC Natural Heritage Program and the refuge entered in a Letter of Intent and Agreement to Register and Protect the Pee Dee Refuge Natural Area within the NC Registry of Natural Heritage Areas. This pristine floodplain is very important to resident birds as well as well as neotropical migratory songbirds. The riparian corridor provides habitat and migratory routes for birds as well as terrestrial mammals. Brown Creek provides habitat for aquatic resources such as freshwater mussels, anadromous fish, amphibians and reptiles.

The refuge also contains approximately 1,500 acres of agricultural and open land managed for wildlife including eight cropland and two moist soil unit impoundments that are seasonally flooded to provide a wintering refuge for thousands of ducks, a small population of the Southern James

Bay Canada geese and some tundra swans. Our wetland impoundments attract and benefit the Federally threatened bald eagle, shorebirds, wading birds and a host of other birds and wildlife.

The diversity of habitats and management programs enables the refuge to support a broad spectrum of wildlife species including more than 168 birds, 48 amphibians and reptiles, 28 mammals, and 20 fish species.

Responding to the Service's emphasis on ecosystem management, Pee Dee NWR has become the leader in the Yadkin/Pee Dee Rivers Focus Area designated within the Savannah-Santee-Pee Dee Ecosystem. This initiative has brought together a variety of private and governmental groups to support landscaped scale natural resource conservation along the most important river corridor in the Piedmont of North Carolina.

## **Climatic Conditions**

According to the National Oceanographic and Atmospheric Administration (NOAA), typical weather conditions for south-central North Carolina are summers which are warm to hot with high humidity and winters that are generally mild. The average annual temperature in Anson County is 62 degrees Fahrenheit. The coldest month is January with a 43 degree average, and the warmest month is July with an average temperature of 79 degrees. Precipitation is evenly distributed throughout the year and is subject to come in any form. The average annual precipitation for Anson County is 47.04 inches. The following Table 1 reveals in 1997, rainfall was 7.99 inches below normal and in 1998 was 12.38 inches above normal.

**Table 1. Pee Dee NWR Headquarters Rain Gauge: 1997 and 1998 Monthly Precipitation (inches)**

<u>1997 Precipitation (in)</u>		<u>1998 Precipitation (in)</u>	
January	3.84	January	8.89
February	4.03	February	5.87
March	2.43	March	13.8
April	5.30	April	2.22
May	2.98	May	1.98
June	1.99	June	0.50
July	11.52	July	5.03
August	0.0	August	3.01
September	2.96	September	8.55
October	0.0	October	3.35
November	4.00	November	1.71
December	<u>0.0</u>	December	<u>4.51</u>
Totals:	39.05		59.42

# 1

## Monitoring and Studies

### 1a

#### Surveys and Censuses

The refuge mammal list contains 28 species and 14 “hypothetically present” species including Southern and Least Shrew, Evening Bat, Pine Vole, Mole Salamander, and Carolina Anole. Amphibians and Reptiles number 22 and 26 species, respectively, including spotted salamander, American toad, pickerel frog, river cooter, box turtle, rough green snake, and copperhead. The refuge waters are also full of fish such as channel catfish, largemouth bass, and redear sunfish.

Biological surveying and censuses are conducted each year for waterfowl and in 1997 and a new research project started to monitor neotropical migratory songbirds and resident birds known as MAPS (Monitoring-Avian-Productivity-Survivorship). Additional bird censuses were conducted including the annual Christmas Bird Count and the Spring count recognizing the International Migratory Bird Day. The following data summarizes the results of this work.

#### Waterfowl

During the winter of each year waterfowl surveys were conducted approximately every two weeks between September 1 and March 23. Waterfowl survey results revealed totals according to species and some were estimated in total for all species utilizing the refuge for that one duck day usage. Therefore the following estimates are the total number of waterfowl counted throughout this winter season.

Winter 1996-1997 total waterfowl counted = 50,970.

The winter waterfowl survey of 1997-1998 was conducted approximately the same intervals as the previous winter. However, the data reveals waterfowl surveys were conducted from September until December, 1997. These surveys were conducted by refuge volunteers and the data was not permanently recorded so it cannot be included in the annual totals.

Winter 1997 total waterfowl counted = 8,023 (estimated)

### **Christmas Bird Counts**

The 1997 Christmas Bird was sponsored by the Friends of the Pee Dee NWR and was a huge success with over 45 people participating in the event. Observers counted all birds from sunrise to sunset. Lunch was provided by the Friends of the Pee Dee Wildlife Refuge. This was the second annual Christmas Bird Count conducted on the refuge. Rare birds listed worthy of noting were: Smiths Longspur, Henslow's Sparrow, American Tree Sparrow, Lincoln Sparrow and Lark Sparrow. The 1998 Christmas Bird Count was held with a smaller than normal crowd attending showing up due to extreme weather conditions.

**Table 2. 1997 and 1998 Christmas Bird Counts**

<b><u>Year</u></b>	<b><u># Species</u></b>	<b><u># Individuals</u></b>	<b><u># Observers</u></b>
1997	107	366,345	45
1998	90	19,551	22

**Table 3. Spring Counts- International Migratory Bird Day**

<b><u>Year</u></b>	<b><u># Species</u></b>	<b><u># Individuals</u></b>	<b><u># Observers</u></b>
1997	51	150	10

### **Monitoring, Avian, Productivity and Survivorship (MAPS) Summary of banding migratory birds 1996 - 1998**

The following is a summary of the bird banding data from 1996 to 1998 of passerines or land birds conducted on the Pee Dee NWR MAPS station. Migratory birds banded include resident songbirds and neotropical migratory birds. Raptors, hummingbirds or threatened and endangered species are not banded at this station. The decrease and variations in captures are due to very hot and dry weather in 1998. The MAPS station is conducted by FWS biologist, Laura Fogo, however, it is also dependant upon dedicated volunteers. The refuge has consistently received help from the following volunteers to assist running the MAPS station: Steve and Sherry Carpenter, Cynthia Little, Barbara Gearhart, Susan Campbell, Doug Howell, Bruce Sorrie, Deb Sue Griffin, Don Serriff, Vanessa Girton, and Jeff Claffy. The following PDNWR and Carolina Sandhills NWR summer interns also assisted: Gene Fox, Glenn Lowder, Mike Weir, Mike Martin, Stephanie Pessin and Richard Myers.

List of species most often caught:

Wood Thrush, Black and White Warbler, Northern Parula, Blue-gray gnatcatcher, Acadian Flycatcher, White-eyed Vireo, Red-eyed Vireo, Hooded Warbler, Common Yellowthroat, Kentucky Warbler, Carolina Wren, Northern Cardinal,

Birds captured, but not as frequently: Ovenbird, Worm-eating Warbler, Blue Grosbeak, Blue Bird, Blue Jay, red-bellied Woodpecker, Downy Woodpecker.

Other migratory birds caught: Canada Warbler

1996: new: 145  
unbanded: 10  
recaptures: 33  
Total captures: 188

1997: new: 132  
unbanded: 7  
recaptures: 40  
Total captures: 180

1998: new: 49  
unbanded: 2  
recaptures: 13  
Total captures: 64



Male summer tanager captured at the Pee Dee MAPS station

**1b**  
**Studies and Investigations**

Nothing to Report

## 2

# Habitat Restoration

### 2a

## Wetland Restoration: On-Refuge

The refuge applied for and was awarded a Grant Agreement from National Fish & Wildlife Foundation for a project to restore 300 acres of wetlands and floodable cropland habitat by installing and replacing water control structures and pumps, repairing dikes and ditches and developing moist-soil and floodable cropland land impoundments. The project started in late 1997 with dike construction at Griffin Low-grounds.



Dike Construction at Griffin Low-Grounds

## **2b**

### **Upland Restoration: On-Refuge**

Nothing to Report

## **2c**

### **Wetland Restoration: Off-Refuge**

Nothing to Report

## **2d**

### **Upland Restoration: Off-Refuge**

Nothing to Report

## **3**

### **Habitat Management**

#### **General Summary**

The refuge is typical of the southern Piedmont with gently rolling hills surrounding the Pee Dee River and Brown Creek bottoms. Bottomland hardwood floodplains, mixed pine-hardwoods, upland pines, and natural regeneration of old fields comprise the forested areas. Open, early successional habitats on the refuge include cooperative no-till farm fields, fallow fields, native warm season grass fields and moist soil units. The permanent, seasonal wetland and deep water habitats on the refuge are located on the Pee Dee River, Brown, Pressley, Hurricane, Flat Fork and Dumas Creeks, Arrowhead Lake, man-made ponds, beaver ponds, waterfowl field impoundments, green-tree reservoirs, and the Brown Creek bottomland hardwood swamp and associated vernal pools within its floodplain. Seventy-three percent of the refuge is covered by forest of which 2,933 acres are hardwood and 3,203 acres are pine and pine-hardwood mix (see Table 5).

**Table 5. Pee Dee NWR habitat types**

<u>Type</u>	<u>Acres</u>	<u>%</u>
Bottomland Hardwood Forest	2,933	35
Pine and Pine-Hardwood Forest	3,203	38
Agricultural Lands	1,152	14
Old Fields/Other Fields	840	10
Permanent Water	100	1
Other Lands	<u>215</u>	<u>2</u>
<b>Total:</b>	<b>8,443</b>	<b>100</b>

Wetland management includes protection of bottomland hardwood forests, maintenance of artificial and beaver-constructed ponds, and seasonal flooding of 10 field impoundments and a green-tree reservoir. Impoundments are drained slowly and early (March-April) in an attempt to promote the growth of desirable wetland plant foods for waterfowl. Water management regimes are implemented to benefit shorebirds and wading birds. The Pee Dee River and Brown Creek occasionally flood low lying fields and bottomland hardwood areas.

The natural communities known as the Piedmont levee floodplain and Piedmont bottomland hardwood swamp forest along Brown Creek, important habitat for all riparian migrants and aquatic resources, make up one of the largest contiguous tracts of this community type in the North Carolina Piedmont, and has been designated as a State Natural Heritage Area.

**Table 6. Permanent or seasonal wetland and riverine areas on Pee Dee NWR  
(excluding some streams).**

<u>Name</u>	<u>Type</u>	<u>Approx. Acres</u>
<b>Wetlands and Streams</b>		
Brown Creek Bottomlands	Bottomland Hardwood Forest	2,933
Pee Dee River	River	2.5 mi
Arrowhead Lake	Artificial Permanent Pond	25
Andrews Pond	Artificial Permanent Pond	13
Ross Pond	Artificial Permanent Pond	8
Sullivan Pond	Artificial Permanent Pond	3
Little Pond	Artificial Permanent Pond	1
Shop Pond	Artificial Permanent Pond	2
Farm Pond	Artificial Permanent Pond	1
Sullivan GTR	Green Tree Reservoir	140
Richmond Lowgrounds	Field Impoundments	100
Griffin Lowgrounds	Field Impoundments	130
Colson Lowgrounds	Field Impoundments	10
Sullivan Impoundment	Field Impoundments	30
Ringneck Impoundment	Field Impoundments	15
Anson Beaver Pond & Thoroughfare Creek	Beaver-Constructed Wetland	30
Richmond Beaver Ponds (2)	Beaver/man-made wetlands	<u>21</u>
<b>Approximate Total Acreage (not including the Pee Dee River):</b>		<b>3,462</b>

### 3a

## Manage Water Levels

The refuge's man-made permanent ponds, green tree reservoirs, and multiple field impoundments are maintained and supported by dike and levee systems. Water levels within the field impoundments are controlled by approximately 30 water control structures. In order to adequately flood the field impoundments, refuge management is dependent on utilizing a large mobile pumping unit which pumps water from the Pee Dee River into adjacent Griffin Low Ground impoundments. A gator centrifugal pump, with water from Brown Creek, is utilized to flood the Sullivan Impoundment. Pond water levels throughout the refuge are maintained and regularly monitored by refuge staff.

### 3b

## Management of Moist Soil Units

There are two moist soil units on the refuge, Sullivan's Impoundment and Ringneck Impoundment. Bob Noffsinger, Wildlife Habitat Management Biologist, USFWS, assists the refuge with the management and wetland vegetation monitoring of these two sites. The following data summarizes each unit according to Noffsinger's 34-1 meter square plots at 80 foot intervals each season of 1997 and 1998.

#### 1997 Moist Soil Units

Sullivan Moist Soil Unit percentage of vegetative composition: Seventy percent good waterfowl plant foods, up 29% from 1996, 24% fair, 6% non-food.

Ringneck Moist Soil Unit percentage of vegetative composition: After two good years, the unit declined from 68% good foods to 34%. Fair foods -38% and non-foods-28%, an increase of 10%.

Recommendations for both units included gradual drawdown in March and April, discing in late April early May, then try to bring moist soil levels back with ditches 3/4 to full.

#### 1998 Moist Soil Units

Sullivan Moist Soil Unit percentage of vegetative composition: Good food-30%, fair foods- 53%, non-foods-17%. Discing was not accomplished as scheduled.

Ringneck Moist Soil Unit percentage of vegetative composition: Vegetation was dominated by sneezeweed (*Helenium autumnale*).

Recommendations were the same as in 1997 with the management of water levels and to install some new water level gauges.

**3c**  
**Graze, Mow, and Hay**

During 1997 and 1998 refuge cooperative farmer Buck Wheless harvested approximately 43 acres of hay each year. Mr. Wheless owed the refuge a total of \$180 for the 1997 haying year, in turn the refuge agreed to allow Mr. Wheless to provide the refuge with 72 square bales of wheat straw estimated at \$2.52 per bale, as payment in full.

The 1998 haying year refuge share (25%) was agreed by the refuge and Mr. Wheless to be as follows:

1. Mr. Wheless was allowed to harvest a Spring hay cutting (100%) on four fields.
2. Mr. Wheless was allowed to harvest a fall hay cutting (100%) on those same fields.

**3d**  
**Farming**

The total land under cultivation in 1997 and 1998 was approximately 1,170 acres and 881 acres. Corn acres totaled 761 acres and 455 acres, respectively. Soybean acres totaled 409 acres and 426 acres, respectively. In 1997 there were 71 acres of double-cropped wheat harvested in the spring, and 32 acres harvested in 1998. In 1997 and 1998 there were 43 acres of hay harvested each year, respectively.

Cooperative Farming Agreements and all contracts were reviewed and signed by refuge management and cooperative farmers on March 1997 and February 1998. Each year a meeting is established between refuge managers and cooperative farmers to discuss the upcoming harvest season and shares. The following information outlines the acreage of corn, soybeans, winter wheat goose browse, and hay for each harvest season.

**Table 7. Cooperatively Farmed Acreage in 1997**

	<u>Corn</u>	<u>Soybeans</u>	<u>Wheat</u>	<u>Hay</u>	<u>Total</u>
Terry Blalock	140	117	0	0	257
Bobby Currie	217	0	30	0	247
Sikes Farms	154	0	41	0	195
John Springer	250	292	0	0	542
Buck Wheless	0	0	0	43	43
<b>Total</b>	<b>761</b>	<b>409</b>	<b>71</b>	<b>43</b>	<b>1284</b>

**Table 8. Cooperatively Farmed Acreage in 1998**

	<u>Corn</u>	<u>Soybeans</u>	<u>Wheat</u>	<u>Hay</u>	<u>Total</u>
Terry Blalock	140	117	0	0	257
Bobby Currie	121	107	32	0	260
Sikes Farms	79	75	0	0	154
John Springer	115	127	0	0	242
Buck Wheless	0	0	0	43	43
<b>Total</b>	<b>455</b>	<b>426</b>	<b>32</b>	<b>43</b>	<b>956</b>

**3e**  
**Forest Cutting**

**Table 9. Timber Receipts for all Forest Cutting on Pee Dee NWR for 1997 and 1998.**

<u>Year</u>	<u>Compartment</u>	<u>Acres</u>	<u>Cords</u>	<u>Bd. Ft.</u>	<u>Revenue</u>	<u>Treatment</u>	<u>Permittee</u>
1997	9-Sale-9/1/97	55	67	116,778	\$29,138	Thinning	Canal Wood Corp.
1998	8-Sale-8/1/98	427	680	575,679	\$149,787*	Thinning	Canal Wood Corp.
1998	3-Sale-3/1/98	94	111	165,017	\$36,000**	Thinning	Canal Wood Corp.

\* In addition provided 1,000 tons of gravel delivered and tailgate spread on timber access roads

\*\* In addition provided 600 tons of gravel delivered and tailgate spread on timber access roads

**3f**  
**Prescribed Burning**

Prescribed burning on Pee Dee NWR has been utilized as a management tool on approximately 1,700 acres of pine forests and open fields. A four-year burning cycle is generally followed, with approximately 425 acres burned each year. Objectives of the prescribed burning program include: (1) creating, restoring, and enhancing habitat for the endangered red-cockaded woodpecker, (2) decreasing the likelihood of a devastating wildfire, and (3) enhancing upland habitat for a wide spectrum of plant life and wildlife species indigenous to the southern pine forest.

**Table 10. Prescribed Burn Data for 1997 and 1998.**

<b>1997</b>		<b>1998</b>	
<u>Compartment</u>	<u>Acres</u>	<u>Compartment</u>	<u>Acres</u>
8	340	9	115
5	260		
4	186	<b>Total:</b>	<b>115 Acres</b>
2	142		
2	15		
2	18		
2	22		
2	17		
4	133		
<b>Total:</b>	<b>1,133 Acres</b>		

**3g**  
**Control Pest Plants**

Pesticides used by refuge cooperative farmers during 1997 and 1998 were applied to approximately 1200 acres and 900 acres, respectively. Approximately 10 chemicals were used in the treatment of pest plants on refuge crop fields.

A small quantity (less than 0.5 gallon) of herbicides were used by the refuge staff to control vegetation around structures, signs, and fences.

## 4

# Fish and Wildlife Management

### 4a

#### **Bird Banding**

There were no wood ducks banded on the Pee Dee NWR during 1997 and 1998.

### 4b

#### **Disease Monitoring and Treatment**

Nothing to Report

### 4c

#### **Reintroductions**

Nothing to Report

### 4d

#### **Provide Nest Structures**

The Pee Dee NWR supports a large population of migratory waterfowl utilizing the Atlantic and Mississippi Flyways, and is considered a very important wintering area for several species and nesting grounds for wood ducks. Mallards and wood ducks make up the majority of the refuge population, which can exceed 50,000 birds during the fall and winter. The refuge staff and interns, along with the help of organizations which include Ducks Unlimited, Friends of the Pee Dee NWR, and local volunteers have erected and maintained a number of artificial wood duck nesting boxes. This has greatly enhanced the nesting productivity of the wood duck on the refuge. During 1997 and 1998 the Pee Dee NWR maintained forty-three wood duck boxes. During the nesting season of 1997, Chris Colson, Catawba College intern, monitored wood duck nesting boxes. The results revealed 225 successful hatches and 233 unsuccessful hatches. Colson commented that some of his data was inaccurate based on the fact that some of the boxes were not cleaned out the previous season. Therefore, this data should not be used in comparison with previous years' data.

The refuge also supports an abundant population of blue birds during the summer months. Anson County is known as the "Blue Bird Capital of the World." With a large population of blue birds in the county and on the refuge, we make every effort possible to erect and maintain a number of blue bird boxes. This effort has also enhanced the nesting productivity of the blue bird on the refuge.

**Table 11. Pee Dee NWR Bluebird Nest Box Productivity**

	<b><u># of Nest Boxes</u></b>	<b><u>Total # of Eggs</u></b>	<b><u>Total # of fledglings</u></b>
<b>1997:</b>	<b>29</b>	<b>99</b>	<b>49</b>
<b>1998:</b>	<b>29</b>	<b>No data was recorded</b>	

**4e**

**Predator and Exotic Control**

Approximately 15 beavers were removed during both 1997 and 1998 by firearms. Plugging of water control structures and ditches, destruction to levees, and extended flooding of timber are among the problems associated with a higher-than-desirable refuge beaver populations, therefore they must be kept in control.

## **5**

# **Coordination Activities**

### **5a**

## **Interagency Coordination**

Nothing to Report

### **5b**

## **Tribal Coordination**

Nothing to Report

### **5c**

## **Private Land Activities**

### **Yadkin-Pee Dee Focus Area and Private Lands Biologist**

In 1997, the Savannah-Santee-Pee Dee (SSPD) Ecosystem team jointly decided to hire a temporary Private Lands Fish and Wildlife Biologist for a three-year term to serve as a fully operating field biologist based and supervised out of the Pee Dee National Wildlife Refuge and function primarily within the Yadkin-Pee Dee Focus Area of the SSPD Ecosystem. The Yadkin-Pee Dee Focus Area is located primarily within a 14 county area of the Yadkin-Pee Dee River Watershed.

Laura M. Fogo was hired in 1997 for the position of private lands biologist. She is from Biscoe, Montgomery County, North Carolina which is located within the focus area. Fogo is a graduate from East Carolina University with a Bachelors of Science Degree in Resource Management and Minor in Biology.

Duties of the private lands biologist include coordinating all evolving and private lands related activities to determine their effects on fish and wildlife resources and the restoration and protection opportunities for important resources including threatened and endangered species. She actively engages in correspondence with private land owners and corporations within the focus area to accomplish large, landscaped scale land protection projects. Duties within the SSPD focus area also include the management of PDNWR's Farmers Home Administration Conservation Easements, grant coordinator for the Partners for Fish and Wildlife Program, NC Partners Program, and fee-title land acquisition. The following is a list of projects Ms. Fogo has provided technical assistance or grant funding through previously mentioned programs.

### **1997-1998 Partners for Fish and Wildlife**

- William Hatley: Waterfowl impoundment (6 acres) and wetland/floodplain and riparian protection, approximately 19 acres, on Pee Dee River in Stanly County. Private Lands biologist, Fogo has provided technical support for this existing project for moist soil/cropland management to benefit migratory waterfowl, geese and shorebirds.

### **1998 Partners for Fish and Wildlife**

- 1998: Providing technical assistance to the Raleigh Field Office for stream restoration at a State Historic Site known as Town Creek Indian Mound, in Montgomery County.

### **1998 Partners for Fish and Wildlife**

- Hilton Cochran: Became project manager for Raleigh Field Office of existing Partners agreement for Uwharrie and Little River riparian buffer restoration. Project was amended twice because of land ownership complications with the landowners. Before FY 99, the remaining funds were utilized on sole ownership property of Mr. Cochran to restore four acres of longleaf pine habitat located near Candor, in Montgomery County.

### **1998 NC Partners Projects:**

- Catawba College Preserve, Rowan County, NC: Restoration of 21.2 acres of floodplain wetlands, enhancement of 3.2 acres of wetlands, a total of 24.5 acres within the project. It includes a 4.5 acre waterfowl impoundment. A 130 acre conservation easement with the Land Trust for Central North Carolina was secured. This project and partnership with the PDNWR supports an excellent educational component with the Center for the Environment at the college for students which in turn, assists the PDNWR with waterfowl surveys and internships.



Catawba College Waterfowl Impoundment

- Kevin Robinson, Davie County, NC: Restoration of 3.5 acres of drained wetlands. A managed moist soil unit was designed and constructed. It currently benefits migratory waterfowl, shorebirds and Mississippi Flyway Canada Geese.

**Technical Assistance/Special Partnership Projects:**

- **1998: Clarke Creek, Cabarrus County-** Land Trust for Central NC: Technical assistance in processing North American Wetlands Conservation Act (NAWCC) \$45,000 grant for 37 acre land acquisition for great blue heron rookery and wetland protection. In addition, the NC Clean Water Management Trust Fund (CWMTF) granted \$50,000 = Total \$95,000.



Clarke Creek Great Blue Heron Rookery, Cabarrus County, NC

- **1998: Little River, Poison and Barnes Creek, Montgomery County-** The Land Trust for Central NC and USFS. Technical assistance was given by private lands biologist serving on steering committee for this high priority area within Yadkin-Pee Dee Focus Area for large landscape scale protection and stream restoration. A \$ 20,000 grant from the NC Clean Water Management Trust Fund for this watershed was given to conduct a baseline study. An additional \$75,000 was granted to assist the USFS land exchange program. Over six Federal Species of Concern (FSC) freshwater mussels depend on this corridor as well as an undescribed cattsifly and other important aquatic species.
- **1998: Stevens and Goose Creek, Mecklenburg & Union Counties-** Fogo provided technical assistance to the North Carolina Wildlife Resources Commission (NCWRC) for a \$71,677 EPA 319 grant. Also technical assistance was provided with a letter of support for a 1.9 million CWMTF grant which was obtained for land acquisition for the habitat of the Federally endangered Carolina Heelsplitter, and other state rare mussels.

## 5d Oil and Gas Activities

Nothing to Report

## 5e

### **Cooperative/Friends Organizations**

Friends of the Pee Dee National Wildlife Refuge, refuge volunteer organization, met every other month at the refuge with approximately 50 paid members attending. The members led by Friend's president, Bob Kluttz, have assisted the refuge on many occasions, including, the Christmas Bird Count, International Migratory Bird Day, Fishing Week, National Wildlife Refuge Week and weekly winter waterfowl surveys.

# **6**

## **Resource Protection**

### **6a**

#### **Law Enforcement**

There were two collateral refuge law enforcement officers on Pee Dee NWR for 1997 and 1998, Refuge Manager Michael R. Ielmini and Assistant Refuge Manager David Viker. Assistance was given to refuge law enforcement by North Carolina Wildlife Resource Commission and Carolina Sandhills NWR.

These two station law enforcement officers attended annual law enforcement refresher at Pat Thomas Law Enforcement Academy in Florida.

### **6b**

#### **Wildfire Preparedness**

A major effort at Pee Dee NWR in wildfire preparedness is to ensure that the fuel levels of vegetation are kept under control. Pee Dee NWR control burned 1,133 acres in 1997 and 115 acres in 1998. Due to this fuel reduction effort, no wildfires were reported for either year on Pee Dee NWR. Pee Dee staff members maintain fire breaks on a regular basis on refuge interior and exterior boundaries.

### **6c**

#### **Management Permits and Economic Uses**

Nothing to report.

### **6d**

#### **Containment Investigation and Cleanup**

Nothing to report.

### **6e**

#### **Management of Water Rights**

Nothing to report

**6f**  
**Management of Cultural Resources**

Annual refuge management plans were reviewed for compliance with environmental and cultural resource mandates.

**6g**  
**Federal Facility Compliance Act**

The Federal Facility Compliance Act was applied throughout the year to safely store and properly dispose of potentially hazardous materials.

**6h**  
**Land Acquisition**

Nothing to Report

**6i**  
**Wilderness and Natural Areas**

Nothing to Report

**6j**  
**Threats and Conflicts**

Nothing to Report

**Alaska Only**

## 8

**Public Education and Recreation**

## 8a

**Provide Visitor Services**

Public use on Pee Dee NWR in a very vital part of community development in this area of North Carolina. By being able to reach over 5 million people in a 250 mile radius makes the refuge an important part of economic development in the Yadkin Pee Dee Focus Area. Growing beyond meeting the needs of hunters and fisherman, the refuge has proven to be a quiet place for hikers, joggers, photographers and bird watchers. With the addition of the Gaddy Covered Bridge the public can now access a part of the Griffin Lowgrounds for waterfowl observation and photography.

**Hunting:**

Hunting remains a very popular sport on Pee Dee and serves as both a management tool for some species and provides good recreational opportunities for the public. The refuge offers public hunting opportunities for deer (muzzleloader, modern gun and archery), mourning doves, squirrels, raccoon/opossum, quail, and rabbit. The deer quota gun hunt provides the refuge with recreation fee money from special use permit fees. The proceeds from the rec fee money is used for maintenance of public use facilities and enhancement of hunting areas.

**Table 12. Summary of 1997 Pee Dee NWR Deer Hunts**

<b>Type of Hunt</b>	<b>Dates</b>	<b>Harvest</b>
Archery Hunt	September 13 - October 4	NA
Youth Hunt	October 17	9
Muzzleloader Hunt	October 23 - 25	50
Modern Gun Hunt I	November 6 - 8	29
Modern Gun Hunt II	November 13 - 15	<u>22</u>
	<b>Total:</b>	<b>110</b>

**Table 13. Summary of 1998 Pee Dee NWR Deer Hunts**

<b>Type of Hunt</b>	<b>Dates</b>	<b>Harvest</b>
Archery Hunt	September 12 - October 3	NA
Youth Hunt	October 18	8
Muzzleloader Hunt	October 23 - 25	26
Modern Gun Hunt I	November 5 - 7	27
Modern Gun Hunt II	November 12 - 14	26
Modern Gun Hunt III	November 19 - 21	<u>17</u>
	<b>Total:</b>	<b>104</b>



**Hunter Norman harvested this trophy Pee Dee buck on a 1998 quota hunt.**

**Fishing:**

Fishing is a popular sport on the lakes and ponds throughout Pee Dee. Public use on these areas grow every year. The refuge fishing season opens on March 15 and closes on October 15. The first week In June the refuge celebrates National Fishing Week by hosting the annual fishing rodeo for children at Sullivan Pond. The events were hosted by local merchants, North Carolina Wildlife Resources Commission and Friends of the Pee Dee Wildlife refuge. Each year during the rodeo we discover a number of children who would have never been able to enjoy the fishing experience had it not been for the fishing rodeos. Grand prizes were given to the children who caught the largest, most and the smallest fish. All children attending the events were given a certificate of attendance, a small fishing tackle box and everyone was served a free hotdog lunch.



1997 Fishing Rodeo Prize Winners



1998 Fishing Rodeo Participants

Fishing ponds and lakes open on the Pee Dee NWR include Sullivan Pond, Sullivan Impoundment, Ross Pond, Little Pond, Brown Creek, Arrowhead Lake, Beaver Ponds, Andrews Pond, and the Pee Dee River. A variety of fish can be taken on Pee Dee NWR. The most popular are catfish, crappie, bream, and bass.

**Bird Watching:**

Visitors enjoy birdwatching year around on the refuge. Several species of migratory waterfowl, including ducks, geese and swans in the winter months, along with other species including the bald eagle, resident songbirds, and game birds such as wild turkeys, mourning dove and quail. During the Spring and Summer months neotropical migratory songbirds make Pee Dee NWR their home. Annually, a Spring bird count and Christmas bird count is held by refuge staff, the Friends of the PDNWR and volunteers. The Spring count is held in concert with International Migratory Bird Day in May. In May of 1998 refuge staff displayed an educational booth concerning birds at the NC Zoo. The National Audubon Society has been conducting the annual Christmas bird count since 1900. The refuge has been conducting the Christmas count since 1995. The following table reveals the results from such counts.

**Table 14. Spring and Christmas Bird Counts**

**1997 Spring Count**

<u>No. of Species</u>	<u>No. of Individuals.</u>	<u>No. of Participants.</u>	<u>No. of Hrs.</u>
51	150	10	3 hrs.

**1997 Christmas Bird Count**

<u>No. of Species</u>	<u>No. of Individuals.</u>	<u>No. of Participants.</u>	<u>No. of Hrs</u>
107	366,345	45	266

**1998 Christmas Bird Count**

<u>No. of Species</u>	<u>No. of Individuals.</u>	<u>No. of Participants.</u>	<u>No. of Hrs</u>
90	19,551		

**Wildlife Observation:**

Interest in wildlife observation increases each year on the Pee Dee NWR. We recorded in our guest book a number of visitors from across the United States and several foreign countries. Many of them are interested in finding our red-cockaded woodpecker and a variety of neotropical migrants. In addition to bird watching, many visitors take advantage of our wildlife drive in search for deer, turkey, and other obvious species of wildlife. The Gaddy Covered Bridge along with an observation blind in the Sullivan Pond area, visitors can view the waterfowl without disturbing the birds.

**Other Wildlife Oriented Recreation Activities:**

Many visitors enjoy a combination of observing wildlife and the quiet serenity of the woods. Many of the refuge roads apart from the specific wildlife foot and driving trails are being used more for family type drives and for walking. Photography also continues to be a high refuge use.

**Camping:**

No camping is allowed on the Pee Dee NWR.

**Off-Road Vehicles:**

The refuge issued several disabled persons special use permits to allow an ATV in open hunting areas during a specified hunt or to photograph and observe wildlife.

**Interpretive Foot Trails:**

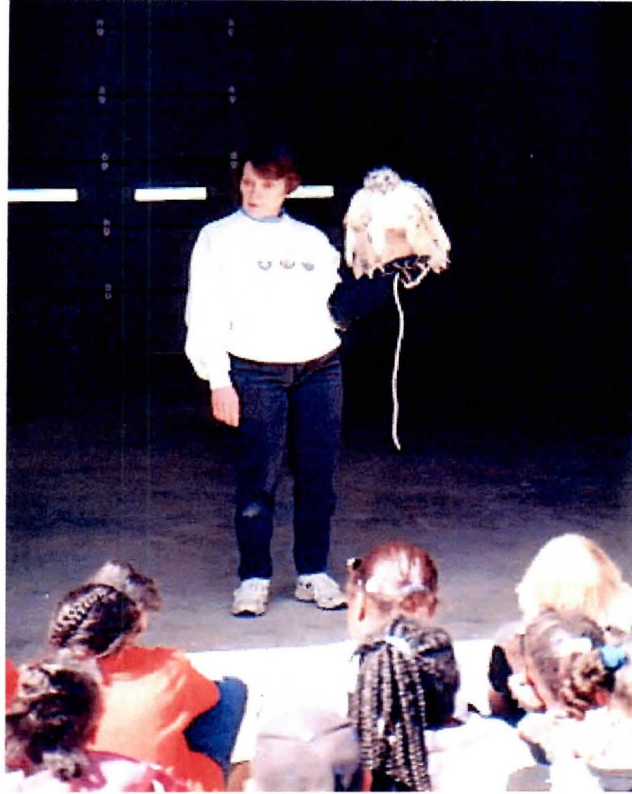
Pee Dee NWR has a 1/4 mile foot trail available to the public. This trail begins at the wildlife drive parking lot, and ends at the Sullivan Pond. The trail is a foot trail which has a number of interpretive stops for the public to become educated on their surroundings. The trail receives good use from both those interested in wildlife and from walkers.

**Interpretive Tour Routes:**

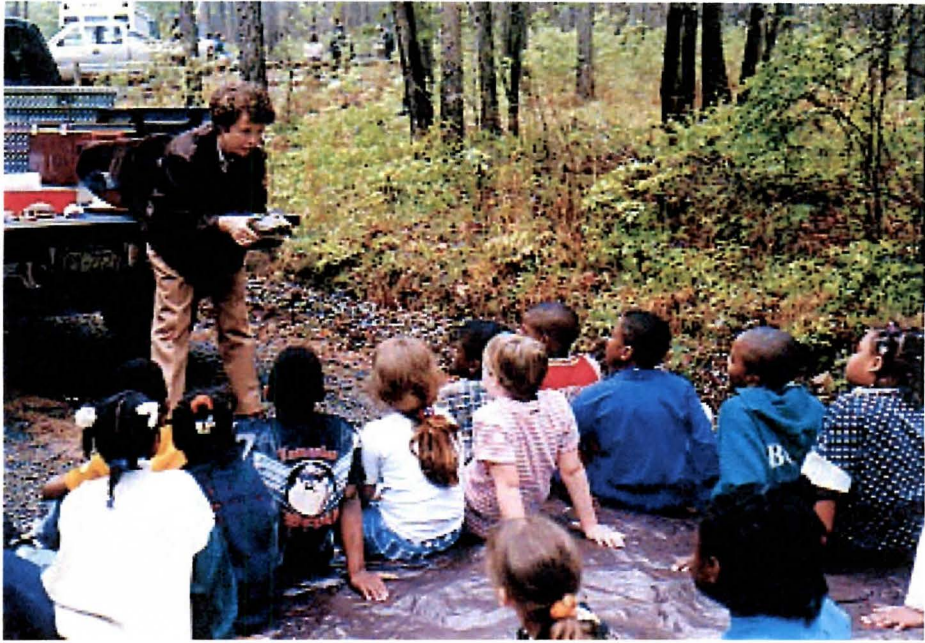
The Pee Dee NWR wildlife drive is approximately 2.5 miles long. The drive is a self-guiding auto tour route that is accessed from the Pee Dee Headquarters and loops around to end at the same location. The drive has approximately 6 stops which allow the public to view interpretive displays along the drive.

## **8b Outreach**

Outreach is a very important part of the day to day activities at Pee Dee. Many different programs are held at the refuge on an annual basis. The longest running annual event is the 4H Environmental Field Days. This event allows the second and third grade students from every elementary school in the county to come to the refuge for a day full of activities hosted by the USFWS, U.S. Forest Service, North Carolina Wildlife Resources Commission, Carolina Raptor Center and local volunteers. Local home school groups also use the refuge as a living classroom. Refuge personnel also travel to elementary schools and home school groups to present programs on wildlife habitat, refuge management practices and a variety of other wildlife topics.



Lessie Davis handles an albino red-tailed hawk.



Janet Faulkner with turtle during 4H Environmental Field Days



Kids fishing at Sullivan Pond

A video project, ***From this Earth***, started in 1996 was completed in 1997. Upon completion, approximately 2,525 of the videos were distributed to the seven county Yadkin/Pee Dee Lakes Focus Area schools, libraries and media centers.

Office Assistant Faulkner traveled to Richmond and Cabarrus Counties to assist with Richmond County Soil and Water Conservation Field Days and Cabarrus County Soil and Water Field Days. A total of 1500 students attended these events.

Office Assistant Faulkner represented the refuge at the North Carolina State Fair each year at the endangered species booth, approximately 10,000 people attended the fair.

Office Assistant Faulkner and Biologist Fogo represented the refuge to help celebrate International Migratory Bird Day at the NC Zoo. 5,000 people attended.

Office Assistant Faulkner and local 4H leader Janinie Rywick hosted summer day camp at the refuge the second week in July, 1998.

Biologist Fogo assisted in teaching wetland plants and functional values for the Piedmont Wetlands Workshop held by the Natural Resource Conservation Service and U.S. Army Corps of Engineers.

Forestry Club from Anson County High School held Forestry Contest on refuge in 1997 & 1998.

Biologist Fogo represented the refuge at the NC Zoo for a heritage festival and National Wildlife Refuge week in October 1998.

The refuge along with the Anson County Chamber of Commerce held its first annual Anson County Deer Tournament in December 1998. The refuge helped by hosting the weigh-in station for the tournament.

## 9

# Planning and Administration

### 9a

## Comprehensive Management Planning

Pee Dee's habitat management is carried out under comprehensive management plans. Annual management plans were prepared for forest management, fire management, and water control management.

### 9b

## General Administration

The following staff members were at Pee Dee NWR for:

### 1997

Refuge Manager: Mike Ielmini

Assistant Refuge Manager: David Viker

Administrative Assistant: Janet Watson

Equipment Operator: Harold Patterson

Equipment Operator: Mack Rogers

Maintenance Worker: Dewitt Faulk

Private Lands Biologist: Laura Fogo

### 1998

Refuge Manager: Vacant

Assistant Refuge Manager: Vacant

Administrative Assistant: Janet Watson

Equipment Operator: Harold Patterson

Equipment Operator: Mack Rogers

Maintenance Worker: Dewitt Faulk

Private Lands Biologist: Laura Fogo

After the departure of Refuge Manager, Mike Ielmini in early 1998, two acting refuge managers were chosen to handle day to day activities as Pee Dee until the hiring process for the new refuge manager could be completed. Whit Lewis from Tennessee River National Wildlife Refuge and Jerry Fringelli from Santee National Wildlife Refuge served one month assignments each as acting refuge manager then Scott Lanier, Refuge Manager of Carolina Sandhills National Wildlife Refuge, acted as manager for the remainder of 1998.

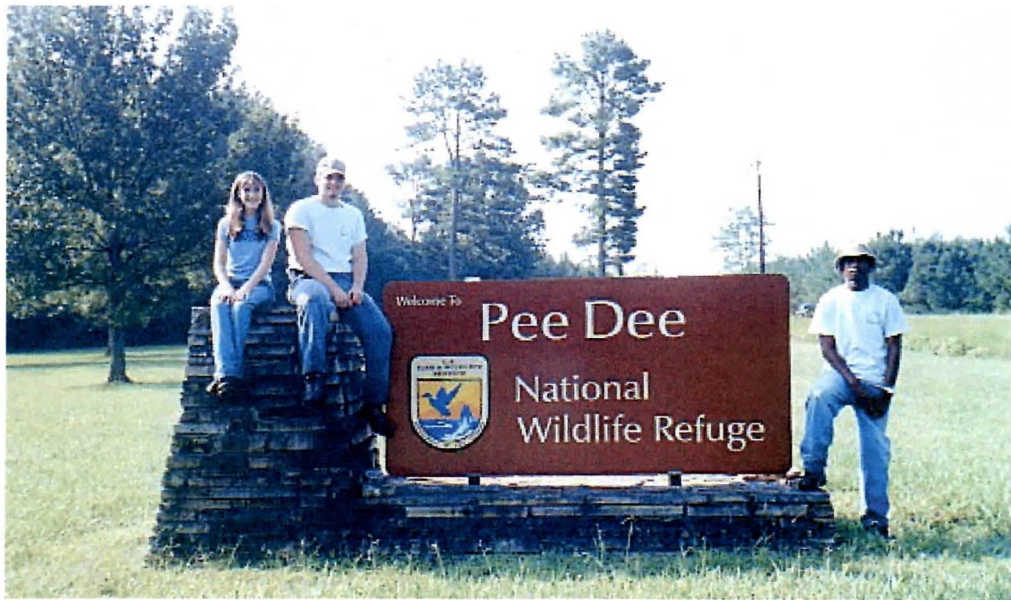
During 1997 and 1998 the refuge utilized the Youth Conservation Corps (YCC) by hiring local youths for the summer months. The YCC's completed several projects during their six week

employment period, including installation of water gauges, mailing out hunt applications for quota gun hunts, grounds maintenance, painting boundary lines, painting buildings, blue bird box maintenance and various other tasks. These local students were honored at the end of the summer with a cook-out with all of the refuge staff attending.



1998 YCC crew members Tripp Hatley and Robert McLean

The refuge is very fortunate to have a couple of local volunteers that assist the refuge staff with several important projects. Audrey Patterson and Jessica Faulkner are always available to lend a hand with activities at the hunt check station and assisting office personnel during the summer quota gun hunt process.



Jessica Faulkner and the 1998 YCC crew



Audrey Patterson receives a special award for her volunteer efforts.

## Feedback Page