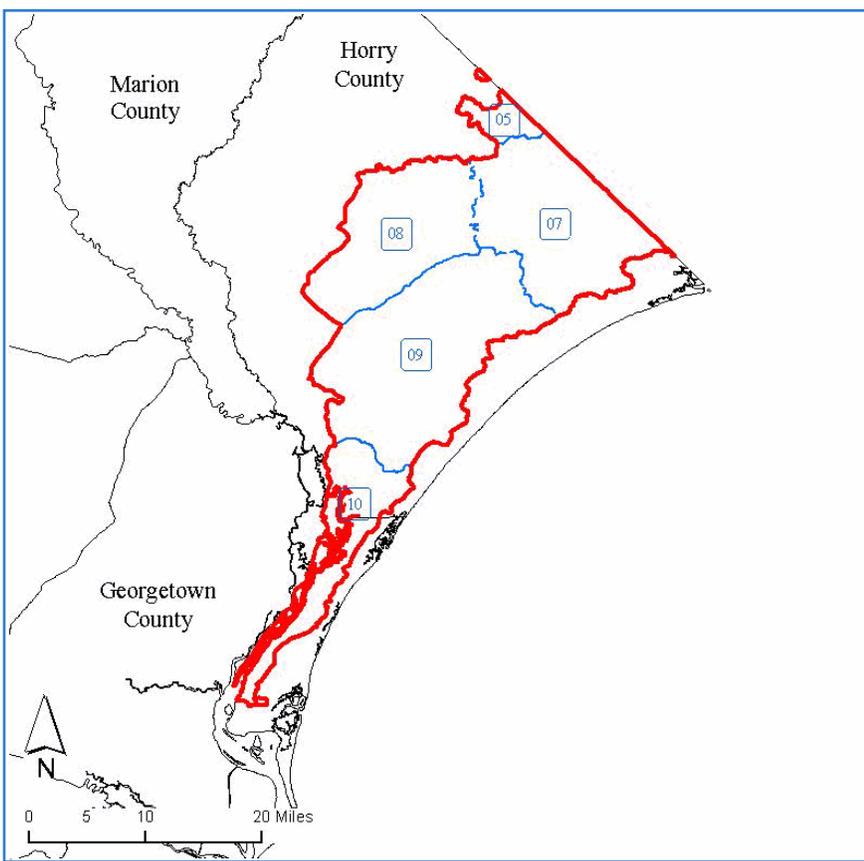


# WACCAMAW Subbasin

August 31, 2007

## An Assessment of the Waccamaw Subbasin

Hydrologic Unit Code (8 Digit): 03040206



WATERSHED (10-digit HUC)  
(E.g., 01 = 0304020601)

- 05 Seven Creeks
- 07 Buck Creek-Waccamaw River
- 08 Kingston Lake
- 09 Socastee Swamp-Waccamaw River
- 10 Outlet Waccamaw River-Atlantic Intracoastal Water

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## EXECUTIVE SUMMARY

### Watershed Description

The river rises in southeastern North Carolina and flows generally southwest, parallel to the coastline and separated from the ocean by approximately 15 miles. It enters South Carolina and flows southwest across Horry County and is then joined from the northwest by the Great Pee Dee River. At Georgetown, it receives the Black River from the north, then enters the ocean at Winyah Bay, approximately five miles north along the coast from the mouth of the Santee River. Along its upper course, the Waccamaw is a slow-moving blackwater river surrounded by vast wetlands, but its lower course is surrounded by sandy banks and old plantation homes, providing an important navigation channel with a unique geography, flowing roughly parallel to the ocean. In its lower reaches, the Waccamaw forms part of the Atlantic Intracoastal Waterway, which joins the river from the northeast at Bucksport, South Carolina. The subbasin (on the South Carolina side) drains 590 square miles or 378,172 acres.

The upper, eastern part of the subbasin runs through Carolina Flatwoods (63) and the lower subbasin near Winyah Bay lies in the Southern Coastal Plain (75) ecoregions (Figure 1). A brief description of the Level III ecoregions in this watershed is available in this document's appendix. A more detailed description of the Level III and Level IV Common Resource Areas (Ecological Regions) is available online (See Griffith *et al.* 2002 in References section).

# EXECUTIVE SUMMARY

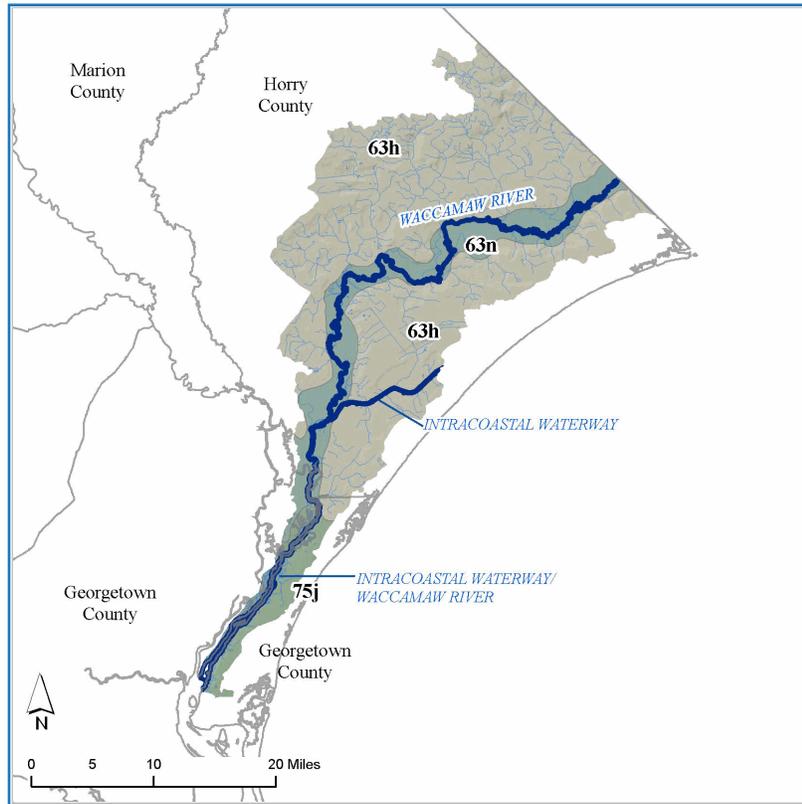


FIGURE 1:  
LEVEL IV ECOLOGICAL REGIONS

- 63h Carolina Flatwoods
- 63n Mid-Atlantic Floodplains and Low Terraces
- 65l Atlantic Southern Loam Plains
- 75j Sea Islands/Coastal Marsh

# EXECUTIVE SUMMARY

## Land Use/Land Cover

The lower reaches of the subbasin are mainly urban and covered by Myrtle Beach and its surrounds. Farmland covers the northern and western part of the subbasin; almost all farmland is devoted to cropland. Note that almost all of the farmland in this subbasin is in Horry County, the top tobacco producer and one of the top soybean and corn for grain producing counties in the state.

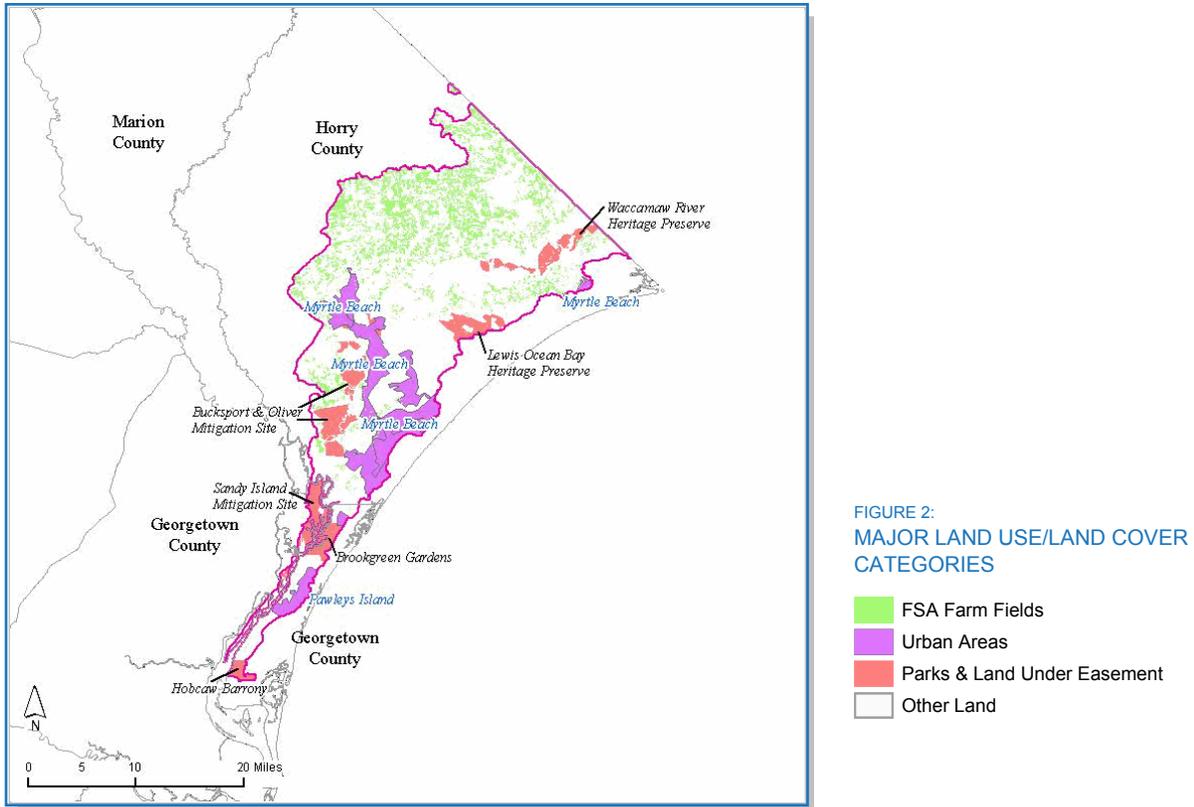


FIGURE 2:  
MAJOR LAND USE/LAND COVER  
CATEGORIES

Table 1:  
MAJOR LAND USE/LAND COVER CATEGORIES

	Acres	% of Watershed
Watershed (Total)	378,172	-
Urban Area	40,733	11%
Parks/Land Under Easement (not NRCS)	35,287	9%
Farm Service Agency Designated Farm Fields	52,830	14%

Table 2:  
AGRICULTURAL LAND USE: FSA ACREAGE AND ESTIMATED FARM FIELD USE FROM THE 2002 AG CENSUS  
(NASS Whole County Data Used. Cropland includes: Field Crops, Orchards, and Specialty Crops.)

County	FSA Fields (Acres)	% Pasture (Estimated)	% Cropland (Estimated)	% Hayland (Estimated)
Georgetown	59	13%	80%	7%
Horry	52,771	9%	87%	4%

---

## EXECUTIVE SUMMARY

### Summary of Resource Concerns

The following is a summary of resource concerns for the watershed. Each resource concern has a more detailed analysis provided in its corresponding section.

#### *Soils*

Land capability limitations are dominated by wetness in this subbasin and are typical of an area within the Coastal Plain. Hydric soils or partially hydric soils comprise 92% of the subbasin and are the key resource concerns. Erosion is not a major resource concern.

#### *Water Quantity*

Awaiting SCDNR's 2007 state water assessment.

#### *Water Quality*

Fecal coliform and dissolved oxygen impairments.

#### *Plant Condition*

The most prominent crops in the subbasin include tobacco, soybeans, corn for grain, and sod harvested.

#### *Fish, Wildlife, and Native Plants*

According to SC DNR's "Comprehensive Wildlife Conservation Strategy: 2005 - 2010" (see SCDNR 2005 in References section), the following applies to this subbasin: Biologists have identified habitat protection as one of the most important actions to ensure the protection of South Carolina priority species. Loss and fragmentation of habitat have been identified as a major threat to many of the species listed as threatened and endangered in South Carolina.

#### *Domestic Animals*

Domestic livestock populations in the subbasin are modest, especially when compared to the human population in the Myrtle Beach urban areas.

#### *Economic and Social Factors*

Coastal urban sprawl from Myrtle Beach and the surrounding areas would impact other resource concerns.

# EXECUTIVE SUMMARY

## Progress on Conservation

Table 3:  
**A SUMMARY OF NRCS APPLIED CONSERVATION TREATMENTS (ACRES)**  
 (See Appendix for NRCS Conservation Practices used for Conservation Treatment Categories.)  
 (Applied practice data is reported on a fiscal year basis commencing on October 1st)

Conservation Treatments	2004	2005	2006	Total
Buffers and Filter Strips	163	19	30	212
Conservation Tillage	82	-	-	82
Erosion Control	53	112	24	189
Irrigation Water Management	-	-	-	-
Nutrient Management	-	22	42	64
Pest Management	-	-	42	42
Prescribed Grazing	-	50	14	64
Trees and Shrubs	15	-	11	26
Wetlands	-	-	-	-
Wildlife Habitat	178	55	25	258

Table 4:  
**LANDS REMOVED FROM PRODUCTION BY FARM BILL PROGRAMS (WHOLE COUNTY DATA SHOWN)**

County	Conservation Reserve Program (ac) 2005	Conservation Reserve Program (ac) 1986 - 2005	Grassland Reserve Program (ac) 2005	Farmland & Ranch Protection Program (ac) 2005	Wetland Reserve Program (ac) 2005
Georgetown	2,557	35,260	-	100	4,166
Horry	7,060	51,256	-	752	1,582

Table 5:  
**APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL)**  
 (See SCDHEC 2007 (a) in Reference Section.) - SCDHEC Contact: Matt Carswell - (803) 898-3609

TMDL Document	Number of Stations	Parameter of Concern	Status	WQMS ID Standard Attained
AIWW-Waccamaw River	8	Dissolved Oxygen	Completed & Approved	-

Table 6:  
**OTHER PLANS, ASSESSMENTS, AND PROJECTS IN THE WATERSHED**

Organization	Description	Contact	Telephone
SCDHEC	Watershed Water Quality Assessment: Pee Dee River Basin (2000)	Roger Hall	803-898-4142

## RESOURCE CONCERNS

### Other Watershed Considerations

Urban growth and sprawl is one of the more pressing environmental issues in this subbasin. To see more on this issue, please refer to the South Carolina Sea Grant website at:

<http://www.scseagrant.org/Content/?cid=135>

# RESOURCE CONCERNS

## Soils

The majority (82%) of land in this Coastal Plain subbasin has limitations due to wetness (Table 7). The wetness is associated with hydric soils in riparian areas throughout the subbasin (Figure 5). Droughtiness is a major concern in about 14% of the area (Table 7) and occurs mostly in the sandy soils on stream terraces and sand dunes in Georgetown County (Figure 1). Erosion is not a resource concern as 98% of the land is classified as not highly erodible (Table 9). Almost 61% of the land in the Waccamaw subbasin is either prime farmland (26%) or statewide important farmland (36%) and occurs on the upland areas of the subbasin (Figure 3, Table 8).

Table 7:  
**LAND CAPABILITY CLASSES** (See NRCS 2007 [a] and [b] in References section.)

Percentages are based on the whole watershed (378,172 ac).

<b>Land Capability Class 1</b>	<b>Acres</b>		<b>Percent</b>			
1 - Slight limitations	2,963		1%			
<b>% Land by Subclass Limitation</b>						
<b>Land Capability Classes 2-8</b>	<b>Erosion (e)</b>		<b>Wetness(w)</b>		<b>Droughtiness (s)</b>	
	<b>Acres</b>	<b>Percent</b>	<b>Acres</b>	<b>Percent</b>	<b>Acres</b>	<b>Percent</b>
2 - Moderate limitations	2,446	1%	96,086	25%	13,401	4%
3 - Severe limitations	-	-	60,834	16%	29,588	8%
4 - Very severe limitations	756	0%	45,069	12%	8,367	2%
5 - No erosion hazard, but other limitations	-	-	22,530	6%	-	-
6 - Severe limitations; unsuitable for cultivation; limited to pasture, range, forest	-	-	32,363	9%	671	0%
7 - Very severe limitations; unsuitable for cultivation; limited to grazing; forest, wildlife habitat	-	-	51,705	14%	-	-
8 - Miscellaneous areas; limited to recreation, wildlife habitat, water supply	-	-	28	0%	-	-

# RESOURCE CONCERNS

## Prime Farmland

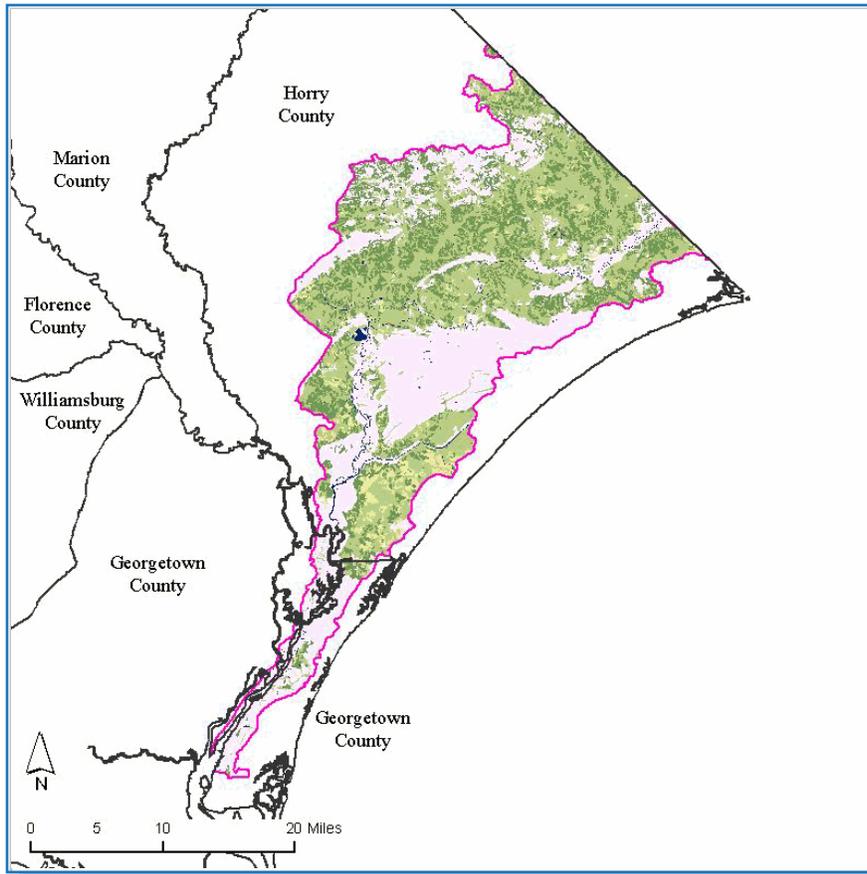


FIGURE 3:  
PRIME FARMLAND  
(See NRCS 2007 [a] and [b] in  
References section.)

Table 8:  
PRIME FARMLAND

Prime Farmland Categories	Acres	Percent of Land
All areas are prime farmland	81,734	22%
Farmland of statewide importance	135,080	36%
Not prime farmland	145,597	39%
Prime farmland if drained	15,405	4%
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	0	0%
Prime farmland if irrigated	0	0%
Prime farmland if irrigated and drained	0	0%
Prime farmland if protected from flooding or not frequently flooded during the growing season	0	0%

# RESOURCE CONCERNS

## Highly Erodible Land

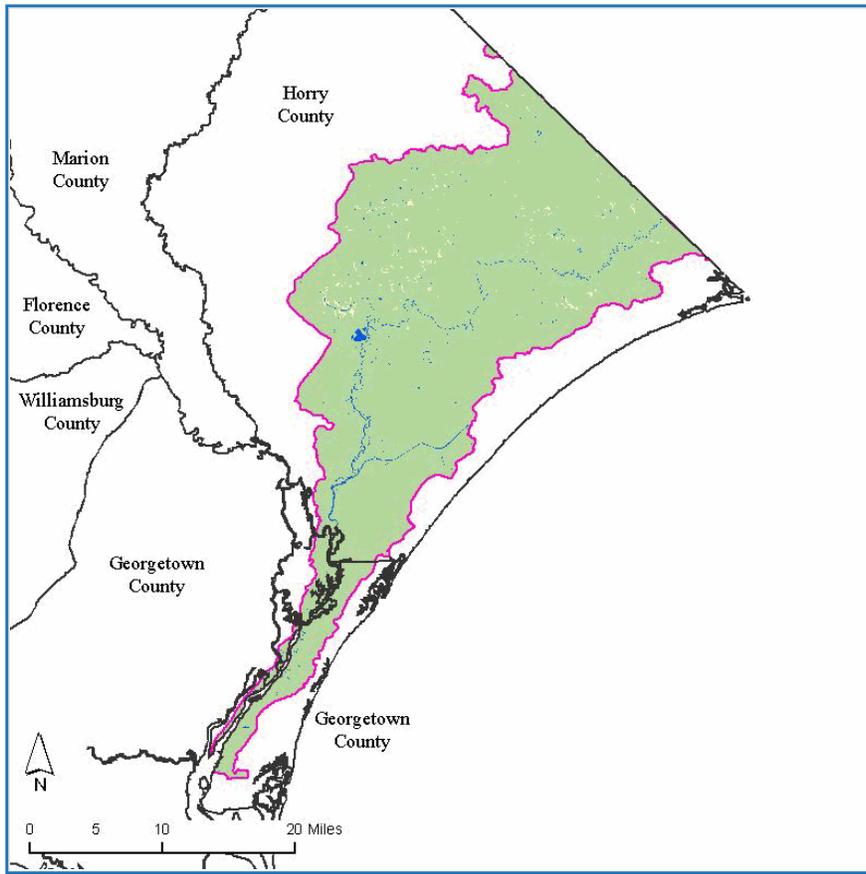


FIGURE 4:  
HIGHLY ERODIBLE LAND  
(See NRCS 2007 [a] and [b] in  
References section.)

Table 9:  
HIGHLY ERODIBLE LAND

Highly Erodible Land Categories	Acres	Percent of Watershed
Highly erodible land	0	0%
Not highly erodible land	371,434	98%
Potentially highly erodible land	2,559	1%

# RESOURCE CONCERNS

## Hydric Soils

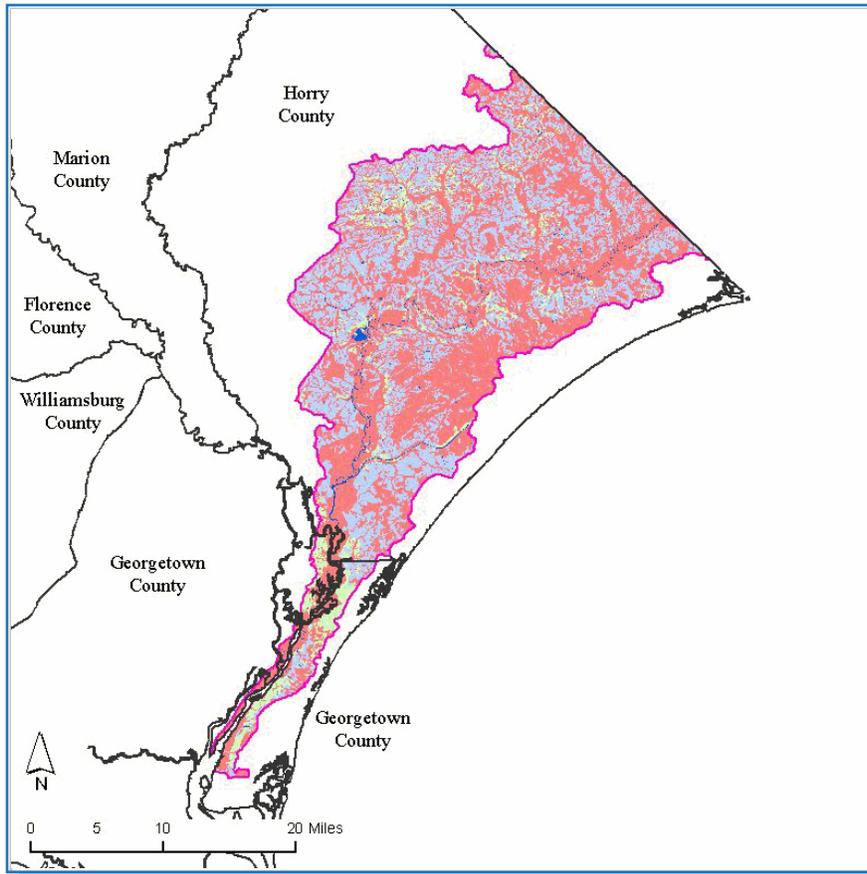


FIGURE 5:  
HYDRIC SOILS  
(See NRCS 2007 [a] and [b] in  
References section.)

Table 10:  
HYDRIC SOILS

Hydric Soils Categories	Acres	Percent of Watershed
All Hydric	210,169	56%
Not Hydric	31,620	8%
Partially Hydric	136,026	36%

# RESOURCE CONCERNS

## Water Quantity

Narrative awaiting SCDNR's new state water assessment.

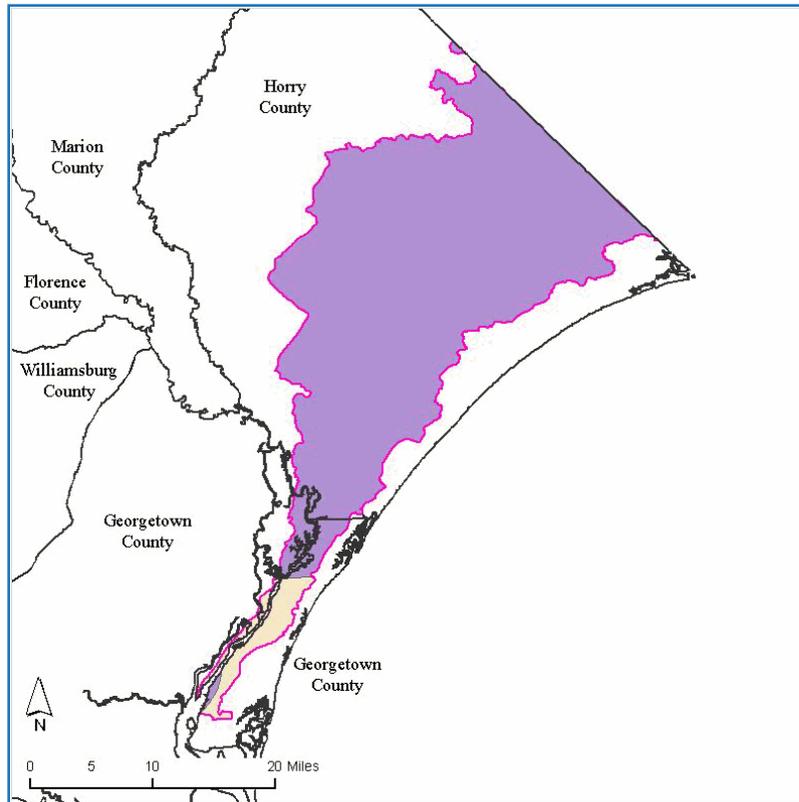


FIGURE 6:  
WATERSHED RELATIVE TO CAPACITY  
USE AREAS, NOTICE OF INTENT  
AREAS, AND CONES OF DEPRESSION

Table 11:  
CAPACITY USE, NOTICE OF INTENT, AND CONES OF DEPRESSION AREA IN WATERSHED  
(See SCDHEC 2007 [c] and SCDNR 2004 in References Section.)

Area	Percent of Watershed
 % Watershed in Cone of Depression and Capacity Use (CU) Area	4%
 % Watershed in SCDHEC Capacity Use (CU) Area	96%
 % Watershed in SCDHEC Notice of Intent (NOI) Area	0%

# RESOURCE CONCERNS

## Water Quantity Cont.

Table 12:  
INDICATORS OF IRRIGATION WATER USAGE (WHOLE COUNTY DATA ARE USED)  
(See NASS 2002 and SCDNR 2004 in References Section)

County	Total Irrigated Water Used MGD	Total NASS Cropland (ac)	Cropland Under Irrigation (ac)	Percent Cropland Under Irrigation	Water Use Gal/Ac/Day for Irrigated Land
Georgetown	4.79	15,152	1,325	8.7	3,615
Horry	3.14	101,336	741	0.7	4,238

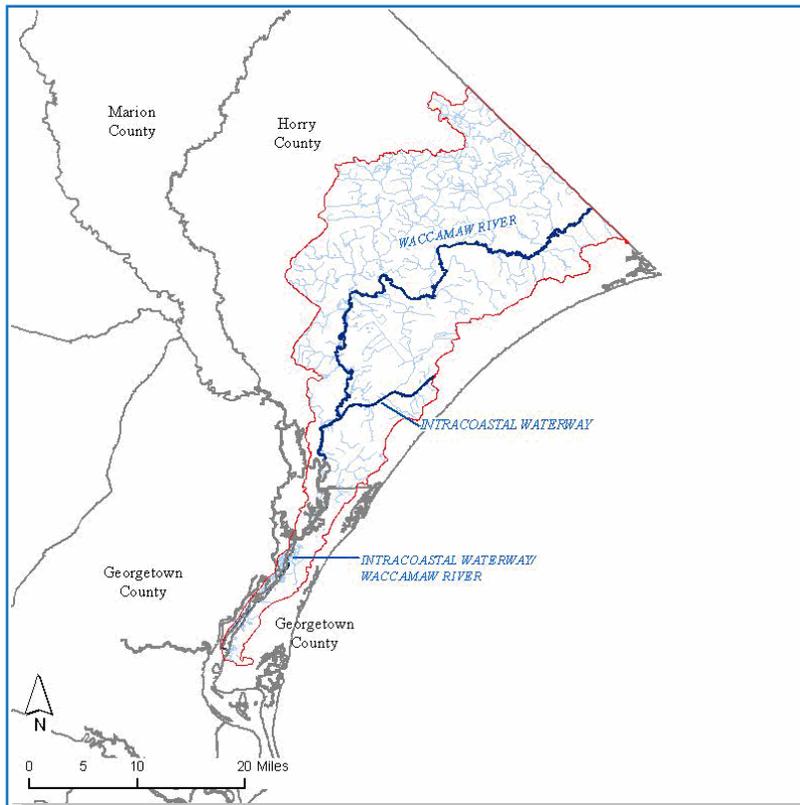


FIGURE 7:  
NRCS ASSISTED FLOOD CONTROL STRUCTURES IN WATERSHED

- Flood Control Structure
- Main River
- Hydrography

Table 13:  
NRCS IMPLEMENTED FLOOD CONTROL STRUCTURES

Number of Structures (in Watershed)	Maximum Storage (AcFt)	Number of Structures by Hazard Class			
		High	Low	Significant	Unclassified
0	-	0	0	0	0

# RESOURCE CONCERNS

## Water Quality

The number of surface water quality impairments is shown in Table 15 resulting in a "303(d)" listing of that Water Quality Monitoring Site (WQMS). Table 5 indicates what progress has been made to address surface water quality through the Total Maximum Daily Load (TMDL) process. Once a TMDL plan is approved, the WQMS is removed from the 303(d) list even though the standard may not have been attained. Note that standards for total nitrogen, total phosphorus, and chlorophyll-a only exist for lakes; therefore, no stream in the state can be listed for any of these three parameters.

The dissolved oxygen concern will be addressed through ongoing TMDLs (Table 5, Table 15).

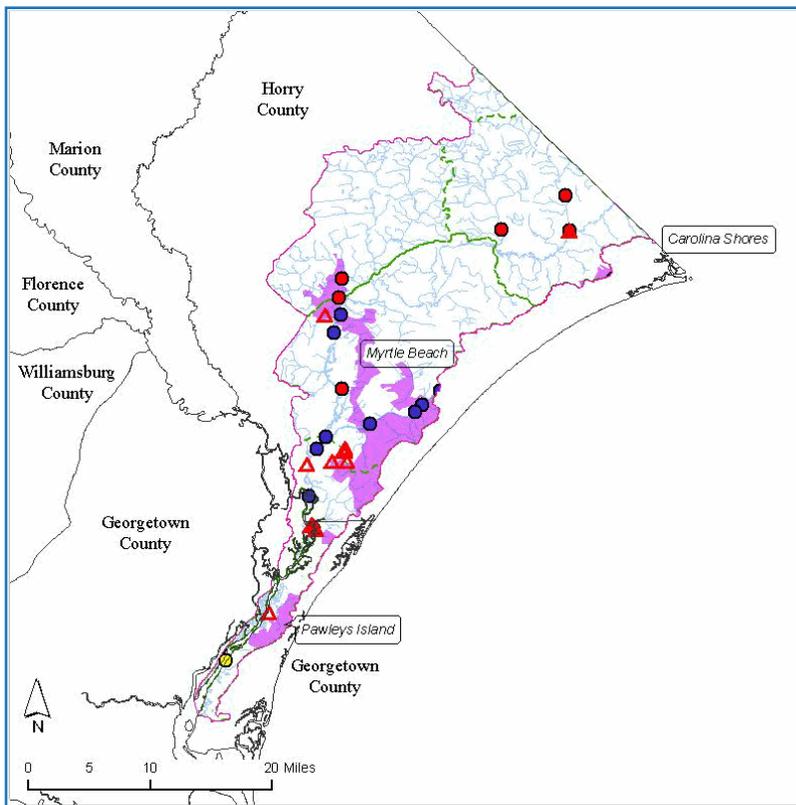


Table 14:  
**WATER QUALITY MONITORING SITES**

Permanent Water Quality Monitoring Sites (WQMS)	16
Random Water Quality Monitoring Sites (WQMS)	7

FIGURE 8:  
**PERMANENT WATER QUALITY MONITORING SITES**

- WQMS (No Impairment)
- WQMS (303d Listed)
- WQMS (Approved TMDL)
- ▲ Waste Water Treatment Plant
- Hydrography
- Hydrologic Unit Code 10 Boundary

Table 15:  
**NUMBER OF MONITORING SITES SHOWING SURFACE WATER QUALITY IMPAIRMENTS**  
(See SCDHEC 2006 in References for the state 303(d) list.)

Recreational Use Standard		Fish Tissue Standard		Shellfish Harvest Standard	
Parameter	Impairments	Parameter	Impairments	Parameter	Impairments
Fecal Coliform	4	Mercury	13	Fecal Coliform	NA
		PCB's	0		
Aquatic Life Use Standard					
Parameter	Impairments	Parameter	Impairments	Parameter	Impairments
Biological	1	Dissolved Oxygen	0	Total Phosphorus	0
Chlorophyll A	0	Ammonia Nitrogen	0	pH	0
Chromium	0	Nickel	2	Turbidity	0
Copper	2	Total Nitrogen	0	Zinc	1

# RESOURCE CONCERNS

## Plant Condition

### *Plants of Economic Importance*

Plants of economic importance are shown in Table 16. The crops shown in this table are from NASS data where the top five crops, by acres, in each county are displayed. The timber statistics (see Clemson Extension Forest Services 2003 in References) indicate the relative importance of the timber industry within the state and the importance of the timber industry compared to agriculture within the county.

The most prominent crops in the subbasin include tobacco, soybeans, corn for grain and sod harvested.

### *Native Plant Species*

According to SC DNR's "Comprehensive Wildlife Conservation Strategy: 2005 - 2010" (see SCDNR 2005 in References section), the following applies to this subbasin: Coastal Plain pine and hardwood forests typically extend into the Coastal Zone, but vary due to coastal influences or land management practices that are characteristic of the Coast. The types of forest include Pine Woodland, Bottomland Hardwoods, Upland Oak-hickory forest, Southern Mixed Hardwood Forest, Marl Forest and Calcareous Cliff, and Cypress-tupelo swamp types. Cypress-tupelo swamps within the Coastal Zone may be influenced more by tidal activity than by river flows, but the water is typically fresh.

In the forests of the immediate Coastal Zone, barrier islands and inland dune systems, characteristic trees include live oak, laurel oak, cabbage palmetto, southern magnolia and southern red cedar. These evergreen-dominated forests are salt-tolerant and often support shrub thickets with yaupon holly, red bay and wax myrtle.

Table 16:  
**WHOLE COUNTY DATA OF PLANTS OF ECONOMIC IMPORTANCE IN SUBBASIN**  
 (See: USDA NASS 2002 & Clemson University Forest Extension Services 2003 in References section)

Plant	Counties
All Cotton	Georgetown
All Wheat for grain	Horry
Corn for grain	Georgetown, Horry
Forage - land used for all hay and haylage, grass silage, and greenchop	Horry, Georgetown
Sod harvested	Georgetown
Soybeans	Horry, Georgetown
Tobacco	Horry
Timber, Top 10 Rank in SC	Georgetown, Horry
Timber Revenues Exceed Ag. Revenues	Georgetown

Table 17:  
**FEDERALLY LISTED THREATENED AND ENDANGERED PLANT SPECIES IN WATERSHED**  
 (See USFW 2006 in References section.)

Common Name	Latin Name	Status
Canby's dropwort	<i>Oxypolis canbyi</i>	Endangered
Chaff-seed	<i>Schwalbea americana</i>	Endangered
Pondberry	<i>Lindera melissifolia</i>	Endangered
Sea-beach amaranth	<i>Amaranthus pumilus</i>	Threatened

## RESOURCE CONCERNS

### Fish and Wildlife

The river's extensive wetlands offer habitat for a diverse group species, including the Carolina pygmy sunfish and the American black bear. A portion of the habitat has been acquired by The Nature Conservancy. Land along the Waccamaw, the lower Pee Dee and Little Pee Dee has been acquired, there will be further acquisitions in formation of the new Waccamaw National Wildlife Refuge.

For additional information, the SC Department of Natural Resources has completed a "Comprehensive Wildlife Conservation Strategy: 2005 - 2010" (see SCDNR 2005 in References section).

In 2005, mercury advisories were issued for 57 water bodies in South Carolina. Higher concentrations of mercury in fish tissue tend to occur in the Coastal Plain of South Carolina with relatively lower concentrations (and therefore fewer advisories) in the Piedmont. For more details on fish advisories, please refer to the SCDHEC fish advisory website at: <http://www.scdhec.gov/environment/water/fish/>

Table 18:

#### FEDERALLY LISTED THREATENED AND ENDANGERED WILDLIFE SPECIES IN WATERSHED (See USFW 2006 in References section.)

Common Name	Latin Name	Status
Leatherback sea turtle	<i>Dermochelys coriacea</i> *	Endangered
West Indian manatee	<i>Trichechus manatus</i>	Endangered
Red-cockaded woodpecker	<i>Picoides borealis</i>	Endangered
Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened
Wood stork	<i>Mycteria americana</i>	Endangered
Kirtland's Warbler	<i>Dendroica kirtlandii</i>	Endangered
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i> *	Endangered
Green sea turtle	<i>Chelonia mydas</i> *	Threatened
Piping plover	<i>Charadrius melodus</i>	Threatened, Critical Habitat

Table 19:

#### FEDERALLY LISTED THREATENED AND ENDANGERED AQUATIC SPECIES IN WATERSHED (See USFW 2006 in References section.)

Common Name	Latin Name	Status
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	Endangered

# ECONOMIC & SOCIAL FACTORS

## Domestic Animals

Domestic livestock populations in the subbasin are modest, especially when compared to the human population in the Myrtle Beach urban areas.

Table 20:  
**WHOLE COUNTY GRAZING ANIMAL POPULATION DATA FROM 2002 AG. CENSUS**  
 (See NASS 2002 in References section. "D" in table = "Cannot be disclosed".)

County	Cows/Calves	Grazing/Forage (ac)	County Rank in State
Georgetown	1,373	1,959	44
Horry	8,425	8,996	23

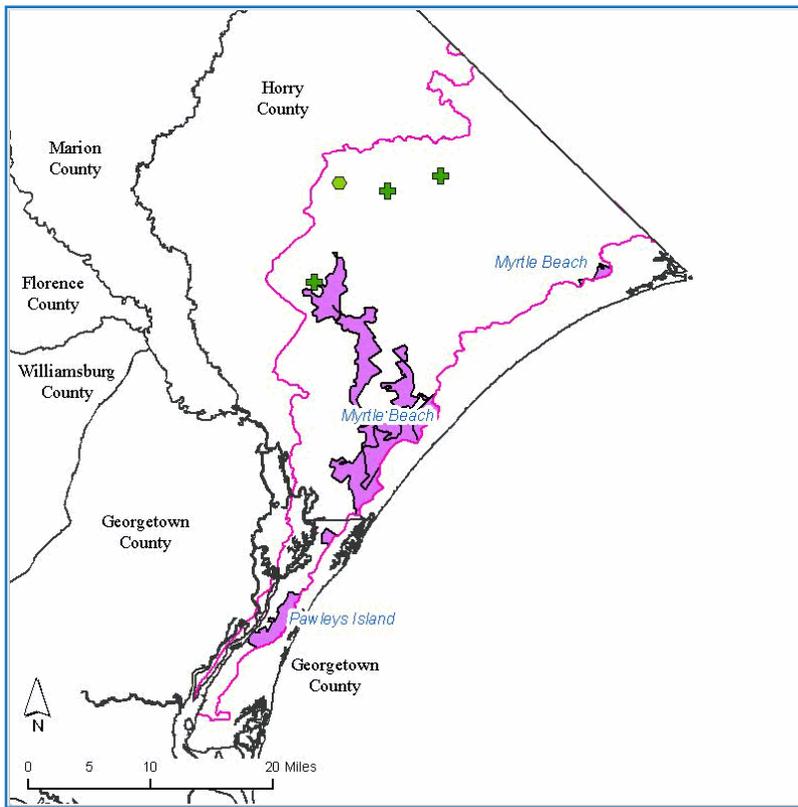


Table 21:  
**CONFINED ANIMAL POPULATION** [As given by SCDHEC] (Au = Animal Unit = 1,000 lbs)

Beef Live Weight (Au)	-
Dairy Live Weight (Au)	-
Horse Live Weight (Au)	-
Poultry Live Weight (Au)	232
Swine Live Weight (Au)	273
Turkey Live Weight (Au)	-

FIGURE 9:  
**TYPE AND SIZE OF CONFINED ANIMAL OPERATION**

Permit Design Count (Live Weight AU)	Symbol	Animal Type
0 - 163	Green Square	Beef
164-372	Yellow Square	Dairy
373 - 680	Orange Square	Other
681 - 1360	Red Square	Poultry
1361 - 7076	Black Square	Swine
	Black Triangle	Turkey

\* Weighted averages are estimated based on agricultural land use area.

## REFERENCES

The number of full-time farmers is *higher* than the state average of 47% and farm sizes are similar to the state average of 197 ac (Table 22), suggesting average to above average expected levels of participation in conservation programs. Farm sizes *decreased* by an estimated 7% between 1997 and 2002, whereas on average, farm sizes decreased by 13% across the state for the same period. Loss of cropland between 1997 and 2002 is estimated at 13% (SC average cropland loss is estimated at 8%) suggesting an impact of coastal urban sprawl from Myrtle Beach and the surrounding areas.



The relative importance of crop and livestock commodity groups in the watershed is shown in Tables 24 and 25; a *qualitative* indication of the relative importance of timber is provided on Table 16.

For more economic and farm information from the 2002 Agricultural Census, more detailed reports for all South Carolina counties can be found at:

<http://www.nass.usda.gov/census/census02/profiles/sc/index.htm>

Table 22:  
2002 FARM CENSUS DATA (WHOLE COUNTY DATA SHOWN) (SC average farm size = 197 ac)

County	Total Number of Farms	% Full Time Farmers	% Farms > 180 (ac)	Average Farm Size (ac)
Georgetown	226	46%	28%	242
Horry	988	54%	24%	191
<b>Weighted Avg*</b>	<b>988</b>	<b>54%</b>	<b>24%</b>	<b>191</b>

Table 23:  
2002 FARM CENSUS ECONOMIC DATA (WHOLE COUNTY DATA SHOWN) (Results in \$1,000)

County	Market Value of Ag Products Sold	Market Value of Crops Sold	Market Value of Livestock, Poultry, and Their Products	Farms with sales < \$10,000
Georgetown	23,942	21,967	1,975	173
Horry	54,451	38,571	15,880	677
<b>Weighted Avg*</b>	<b>54,451</b>	<b>38,571</b>	<b>15,880</b>	<b>677</b>



Table 24:  
VALUE OF CROP COMMODITY GROUPS - COUNTY RANK IN STATE  
(See NASS 2002 in References section. "D" in table = "Cannot be disclosed".)

County	Value of All Crops	Grains & Oilseeds	Tobacco	All Cotton	Vegetables & Melons	Fruits, Nuts, & Berries	Nursery, Etc.	Christmas Trees & Woody Crops	Hay & other Crops
Georgetown	11	25	9	21	41	(D)	4	(D)	43
Horry	3	5	1	(D)	11	14	25	(D)	26

Table 25:  
VALUE OF LIVESTOCK AND POULTRY COMMODITY GROUPS - RANK IN STATE  
(See NASS 2002 in References section. "D" in table = "Cannot be disclosed".)

County	Value of Livestock, poultry	Poultry, Eggs	Cattle & Calves	Milk & Dairy	Hogs & Pigs	Sheep & Goats	Horses, etc.
Georgetown	39	41	44	(D)	9	(D)	37
Horry	19	24	23	(D)	2	10	11

## REFERENCES

- Clemson University Extension Forest Service. 2001. *Cash Receipts from Timber Harvests - 2001 Ag and Timber Comparison*. Compiled by A. Harper. Available at:  
[http://www.clemson.edu/extfor/forest\\_data/](http://www.clemson.edu/extfor/forest_data/)
- Griffith, G.E., Omernik, J.M., Comstock, J.A., Schafale, M.P., McNab, W.H., Lenat, D.R., MacPherson, T.F., Glover, J.B., and Shelburne, V.B., 2002, Ecoregions of North Carolina and South Carolina, (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000). Available at:  
[http://www.epa.gov/wed/pages/ecoregions/ncsc\\_eco.htm](http://www.epa.gov/wed/pages/ecoregions/ncsc_eco.htm)
- National Resource Inventory (NRI) 1997. Estimates of water erosion from Cropland by 8-digit HUC. Available at:  
<http://www.nrcs.usda.gov/technical/land/erosion.html>
- NatureServe 2006. Distribution of native fish species by watershed. NatureServe. Available at:  
<http://www.natureserve.org/getData/>
- South Carolina Department of Health and Environmental Control (SCDHEC) 2006. Listing of Impaired Waters (or 303(d) list). Available at:  
[http://www.scdhec.gov/environment/water/docs/06\\_303d.pdf](http://www.scdhec.gov/environment/water/docs/06_303d.pdf)
- South Carolina Department of Health and Environmental Control (SCDHEC) 2007 (a). Total Maximum Daily Load Documents. Available at:  
<http://www.scdhec.gov/environment/water/tmdl/tmdlsc.htm>
- South Carolina Department of Health and Environmental Control (SCDHEC) 2007 (b). Watershed Water Quality Assessments. Available at:  
<http://www.scdhec.gov/environment/water/shed/>
- South Carolina Department of Health and Environmental Control (SCDHEC) 2007 (c). Water use and reporting Program (Capacity Use) SCDHEC. Available at:  
<http://www.scdhec.net/environment/water/capuse.htm>
- South Carolina Department of Natural Resources (SCDNR) 2005. Comprehensive Wildlife Conservation Strategy (2005 - 2010). Columbia, SC. SCDNR. Available at:  
<http://www.dnr.sc.gov/cwcs>
- South Carolina Department of Natural Resources (SCDNR) 2002. SC GAP Analysis and Dynamic Mapping. Columbia, SC. SCDNR. Available at:  
<http://www.dnr.sc.gov/GIS/gap/mapping.html>
- South Carolina Department of Natural Resources (SCDNR) 2004. South Carolina Water Plan, Second Edition (January 2004). Columbia, SC. SCDNR. Available at:  
<http://www.dnr.sc.gov/water/hydro/wtrplanerrata.html>
- USDA Farm Services Agency in South Carolina (FSA-SC) 2006. CRP Data. Columbia SC. USDA/FSA
- USDA Natural Resources Conservation Services (NRCS) 2007 (a). National Soil Information System (NASIS). USDA/NRCS. County Soils Data (tabular) information available at:  
<http://soildatamart.nrcs.usda.gov/>

## APPENDIX

USDA Natural Resources Conservation Services (NRCS) 2007 (b). Soil Survey Geographic (Ssurgo) Database. USDA/NRCS. County Soils Data (spatial). Available at:

<http://soildatamart.nrcs.usda.gov/>

USDA Natural Resources Conservation Services in South Carolina (NRCS-SC) 2006. GRP, FRPP, and WHP. Columbia, SC. USDA/NRCS.

USDA National Agricultural Statistical Service (NASS) 2002. 2002 Census of Agriculture. Washington, DC: USDA/NASS.

US Fish and Wildlife Service (USFWS) 2007. USFWS Threatened and Endangered Species System (TESS). Available at:

[http://ecos.fws.gov/tess\\_public/StartTESS.do](http://ecos.fws.gov/tess_public/StartTESS.do)

US Fish and Wildlife Service (USFWS) 2006. South Carolina Distribution Records of Endangered, Threatened, Candidate and Species of Concern, October 2006. Available at:

[http://www.fws.gov/charleston/docs/etcountylist\\_10\\_06.htm](http://www.fws.gov/charleston/docs/etcountylist_10_06.htm)

## APPENDIX

### Level III Common Resource Area (Ecological Region) Descriptions

#### Middle Atlantic Coastal Plain (63)

The Middle Atlantic Coastal consists of low elevation, flat plains, with many swamps, marshes, and estuaries. Forest cover in the region, once dominated by longleaf pine in the Carolinas, is now mostly loblolly and some shortleaf pine, with patches of oak, gum, and cypress near major streams. Pine plantations for pulpwood and lumber are typical, with some areas of cropland. In South Carolina, the Middle Atlantic Coastal Plain is divided into three level IV ecoregions: Carolinian Barrier Islands and Coastal Marshes (63g), Carolina Flatwoods (63h), Mid-Atlantic Floodplains and Low Terraces (63n).

#### Southeastern Plains (65)

The Southeastern Plains are irregular with broad interstream areas have a mosaic of cropland, pasture, woodland, and forest. In the past centuries, human activities (logging, agriculture and fire suppression) removed almost all of the longleaf pine forests. Elevations and relief are greater than in the Southern Coastal Plain (75), but generally less than in much of the Piedmont (45). The ecoregion has been divided into three level IV ecoregions within South Carolina: Sand Hills (65c), Atlantic Southern Loam Plains (65l), and Southeastern Floodplains and Low Terraces (65p). Note: The Atlantic Southern Loam Plains (65l) is a major agricultural zone, with deep, well-drained soils, and is characterized by high percentages of cropland.

#### Southern Coastal Plain (75)

The Southern Coastal Plain extends from South Carolina and Georgia through much of central Florida, and further along the Gulf coast. It is a heterogeneous region also containing barrier islands, coastal lagoons, marshes, and swampy lowlands along the Gulf and Atlantic coasts. The South Carolina portion of the Southern Coastal Plain contains two level IV ecoregions: Floodplains and Terraces (75i), and Sea Islands/Coastal Marsh (75j).

### NRCS Conservation Practices used for Conservation Treatment Categories in Table 3

Report Category	Practice Codes
Buffer and Filter Strips	332, 391, 393, 412
Conservation Tillage	324, 329, 329A, 329B, 344, 484
Erosion Control	327, 328, 330, 340, 342, 561, 585, 586
Irrigation Water Management	441, 449
Nutrient Management	590
Pest Management	595
Prescribed Grazing	528, 528A
Trees and Shrubs	490, 612, 655, 656, 66
Wetlands	657, 658, 659
Wildlife Habitat	644, 645

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## APPENDIX

### Hydrologic Unit Numbering System

In 2005, the NRCS in cooperation with the U.S. Geological Survey, the South Carolina Department of Health and Environmental Control, and the U.S. Forest Service updated the South Carolina part of the USGS standard hydrologic unit map series. The report, "Development of a 10- and 12- Digit Hydrologic Unit Code Numbering System for South Carolina, 2005", describes and defines those efforts. The following is from the Abstract contained in that report: "A hydrologic unit map showing the subbasins, watersheds, and subwatersheds of South Carolina was developed to represent 8-, 10-, and 12-digit hydrologic unit codes, respectively. The 10- and 12-digit hydrologic unit codes replace the 11- and 14-digit hydrologic unit codes developed in a previous investigation. Additionally, substantial changes were made to the 8-digit subbasins in the South Carolina Coastal Plain. These modifications include the creation of four new subbasins and the renumbering of existing subbasins." The report may be obtained at [http://www.sc.nrcs.usda.gov/technical/HUC\\_report.pdf](http://www.sc.nrcs.usda.gov/technical/HUC_report.pdf). See Table 2 in the report for a cross-reference of old to new 8-digit HUC.

This subbasin profile uses the new HUC 8 numbering system with its modified and newly created subbasins. The NRCS reports implemented practices by 8-digit Hydrologic Unit Code. All NRCS reported Conservation Practices were reported using the older numbering system. 2005 and 2006 data were converted to the new HUC 8 numbering system through the Latitude and Longitude data reported with the applied practice. The use of these differing numbering systems has resulted in some NRCS implemented practices being credited in this report to an 8-digit HUC as reported by the NRCS but not correctly credited in the new numbering system. Likewise, the newly created 8-digit HUC will not be credited with the 2004 applied practices.