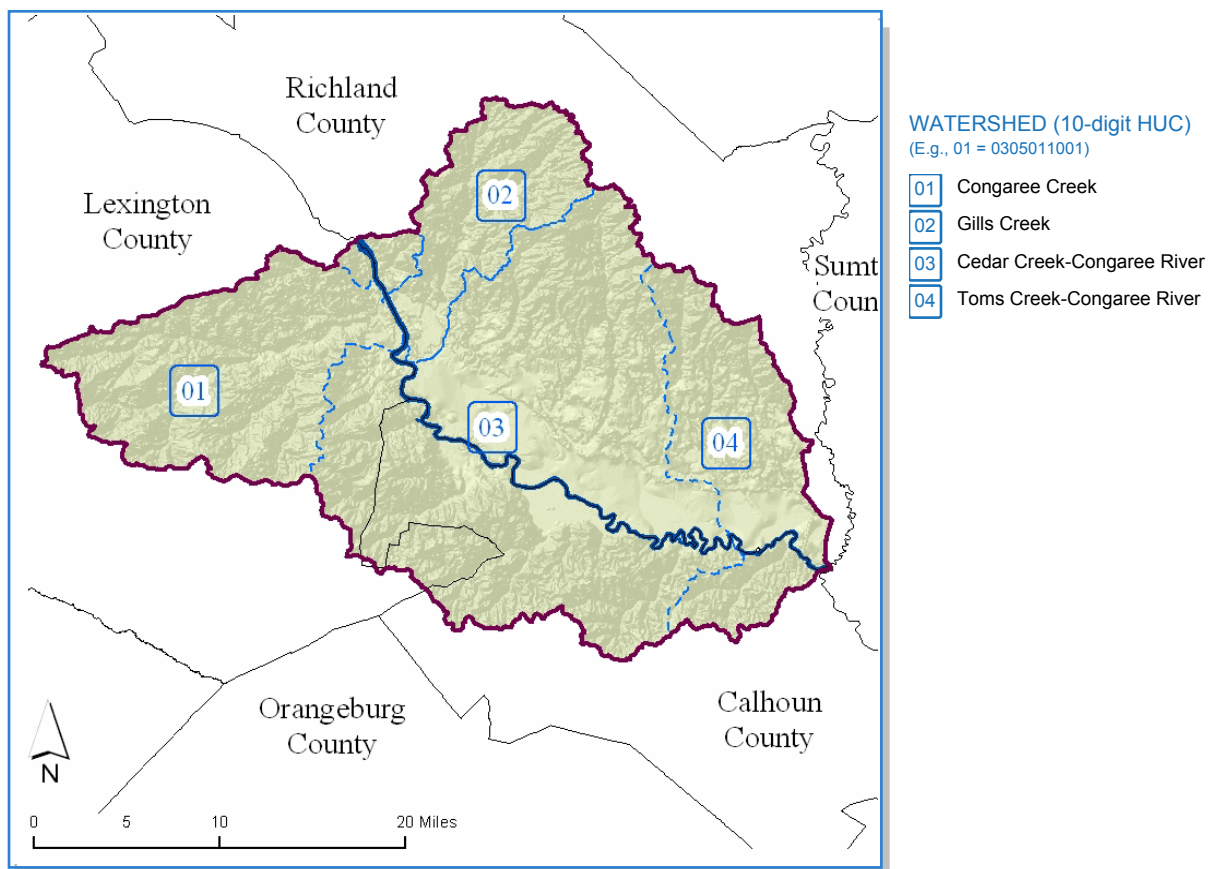


CONGAREE Subbasin

May 17, 2010

An Assessment of the Congaree Subbasin

Hydrologic Unit Code (8 Digit): 03050110

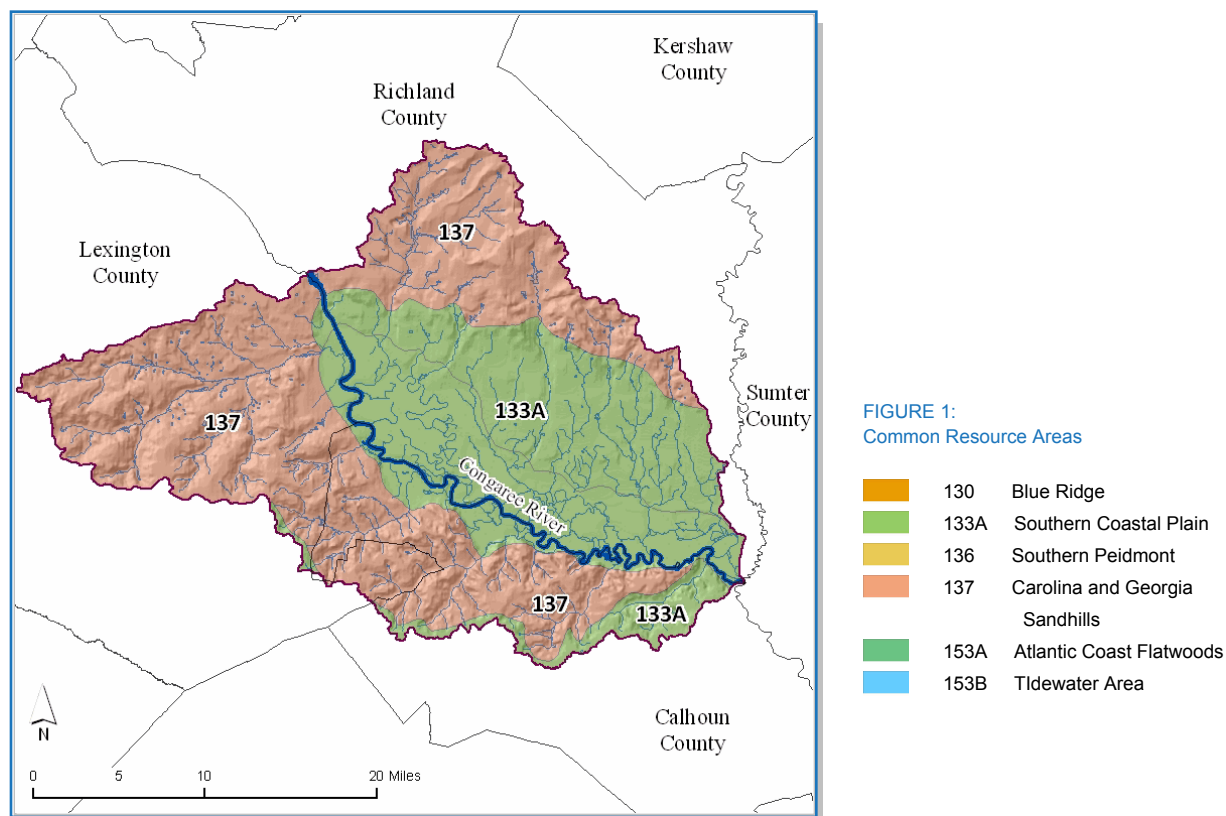


EXECUTIVE SUMMARY

Watershed Description

The Congaree River is formed in Columbia by the confluence of the Saluda and Broad Rivers near the Piedmont fall line. The river is short (47 miles) but wide as it serves as the final outlet channel for the entire Lower Saluda and Lower Broad subbasins, before merging with the Wateree River just north of Lake Marion to form the Santee River. The subbasin extends just downstream of the confluence of the Saluda and Broad Rivers to just before the confluence with the Wateree River. Significant tributaries to the Congaree are Congaree Creek, Gills Creek and Toms Creek.

The Congaree subbasin lies in the Southern Coastal Plain (133A) Common Resource Area (CRA) (Figure 1). A brief description of the Southern Coastal Plain CRA is available in this document's appendix. Descriptions of the Common Resource Areas is available from the old Soil Conservation Service handbook (USDA-SCS 1981). More recent and detailed descriptions of Level III and Level IV ecoregions (Ecological Regions), which are equivalent to the CRAs, is available online (See Griffith *et al.* 2002 in References section). A brief description is available in the document's appendix.



EXECUTIVE SUMMARY

Land Use/Land Cover

The northern or upstream segment of the subbasin is covered by the Columbia and West Columbia urban areas. Fort Jackson and McEntire Air Base and the Congaree National Park are located in the subbasin. The bulk of agricultural land is in the south of the subbasin. A significant proportion of the agricultural land is dedicated to rowcrops, especially where the land overlaps the fertile Southeastern Loam Plains (Figure 1 & 2; Table 2).

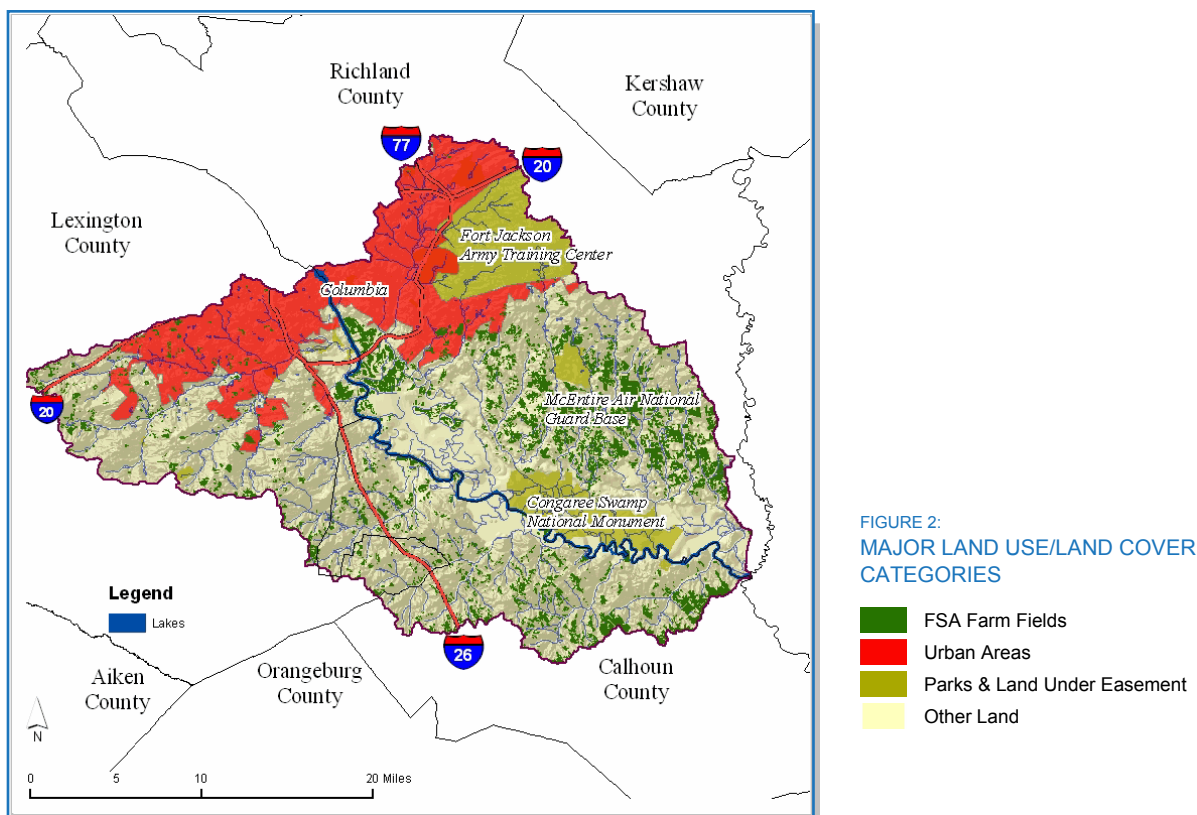


Table 1:
MAJOR LAND USE/LAND COVER CATEGORIES

	Acres	% of Watershed
Watershed (Total)	441,008	-
Urban Area	85,763	19%
Parks/Land Under Easement (not NRCS)	47,797	11%
Farm Service Agency Designated Farm Fields	45,334	10%

Table 2:
AGRICULTURAL LAND USE: FSA ACREAGE AND ESTIMATED FARM FIELD USE FROM THE 2007 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)
Calhoun	12,202	9%	85%	6%
Lexington	6,396	12%	64%	24%
Richland	26,736	10%	78%	12%

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 droughtiness, wetness, and erosion in the Congaree subbasin and all are key resource concerns. Droughty, sandy soils in the Sand Hills occur in about 39% of the subbasin. Hydric soils or partially hydric soils comprise 32% of the subbasin. Highly erodible (13%) and potential highly erodible soils (21%) are confined to sloping soils in the Sand Hills portion of the subbasin.

Water Quantity

The entire subbasin overlays the coastal plain aquifers. Irrigation usage in Lexington and Calhoun County is an order of magnitude higher than the surrounding counties.

Water Quality

Fecal coliform impairments (recreational).

Plant Condition

-

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

Livestock populations are modest in comparison to human populations in the subbasin.

Economic and Social Factors

The upstream segment of the subbasin is urbanized; about one fifth of the subbasin is covered by the Columbia metropolitan area.

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	2004-2006	2007	2008	Total
Buffers and Filter Strips	2	-	-	2
Conservation Tillage	3,640	-	-	3,640
Erosion Control	6,187	162	473	6,511
Irrigation Water Management	520	444	-	964
Nutrient Management	4,664	262	272	5,188
Pest Management	4,506	57	252	4,620
Prescribed Grazing	30	34	-	64
Trees and Shrubs	2,863	177	3	3,217
Wetlands	3,600	-	-	3,600
Wildlife Habitat	3,376	278	2,056	3,932

Table 4:

LANDS REMOVED FROM PRODUCTION BY FARM BILL PROGRAMS (WHOLE COUNTY DATA SHOWN)

County	Conservation Reserve Program (ac) 2008	Conservation Reserve Program (ac) 1992 - 2008	Grassland Reserve Program (ac) 2009	Farmland & Ranch Protection Program (ac) 2005	Wetland Reserve Program (ac) 2005
Calhoun	5,864	184,397	-	-	3,708
Lexington	905	28,532	-	-	2,490
Richland	353	6,572	-	-	-

Table 5:

APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL)

(See SCDHEC 2010 (a) in Reference Section.) - SCDHEC Contact: Matt Carswell - (803) 898-3609

TMDL Document	Number of Stations	Parameter of Concern	Status	WQMS ID Standard Attained
Congaree Creek	4	Fecal Coliform	Completed & Approved	-

Table 6:

OTHER PLANS, ASSESSMENTS, AND PROJECTS IN THE WATERSHED

Organization	Description	Contact	Telephone
USGS	Santee National Water Quality Assessment (NAWQA) project	Celeste A. Journey	803-750-6141
SCDHEC	Watershed Water Quality Assessment: Saluda River Basin (2004)	Roger Hall	803-898-4142

EXECUTIVE SUMMARY

Other Watershed Considerations

The Congaree National Park, one of the main recreational attractions of the river, is located about halfway down the river's course. The 22,200 acre park contains some of the last remaining old growth bottomland hardwood forest in North America. Recreational opportunities include hiking, biking, bird watching, botanical interests, and canoeing.

RESOURCE CONCERNS

Soils

The Sand Hills make up the major portion of the Congaree subbasin and, as such, droughtiness is the major resource concern occurring in about 39% of the area (Figure 1, Table 7). Low soil organic matter in these sandy soils is a soil health concern. About 21% of the land area in this Coastal Plain subbasin has limitations due to wetness (Table 7). Most of the wetness is associated with hydric and partially hydric soils along streams in riparian areas. Erosion is a resource concern on sloping areas in the Sand Hills area of the subbasin (Figure 3). About 34% of the land is classified as highly erodible or potentially highly erodible (Table 7). Only 37% of the land in the Congaree subbasin is either prime farmland (26%) or statewide important farmland (12%) and occurs mostly in the Atlantic Southern Loam Plains in the Richland County portion of the subbasin (Figure 3, Table 8).

Soil resource concerns can be further defined using USDA land capability classes (Klingebiel and Montgomery, 1961). Land capability classification is a system of grouping soils into one of 8 classes on the basis of their capacity to produce common cultivated crops and pasture without deteriorating the soil over a long period of time. The risk of soil damage or limitation in use are progressively greater from Class 1 to Class 8. Soils in classes 1-4 are capable of supporting adapted plants such as cultivated crops, pasture plants, and woodland. Soils in classes 5-7 are typically unsuitable for cultivated crops but can support native plants such as pasture and forest. Class 8 soils are suitable only for wildlife, recreation, or water supply. Within each class (2-8) are subclasses signifying limitations due to erosion (e), wetness (w), and limited plant available water capacity (s).

RESOURCE CONCERNS

Land Capability Class

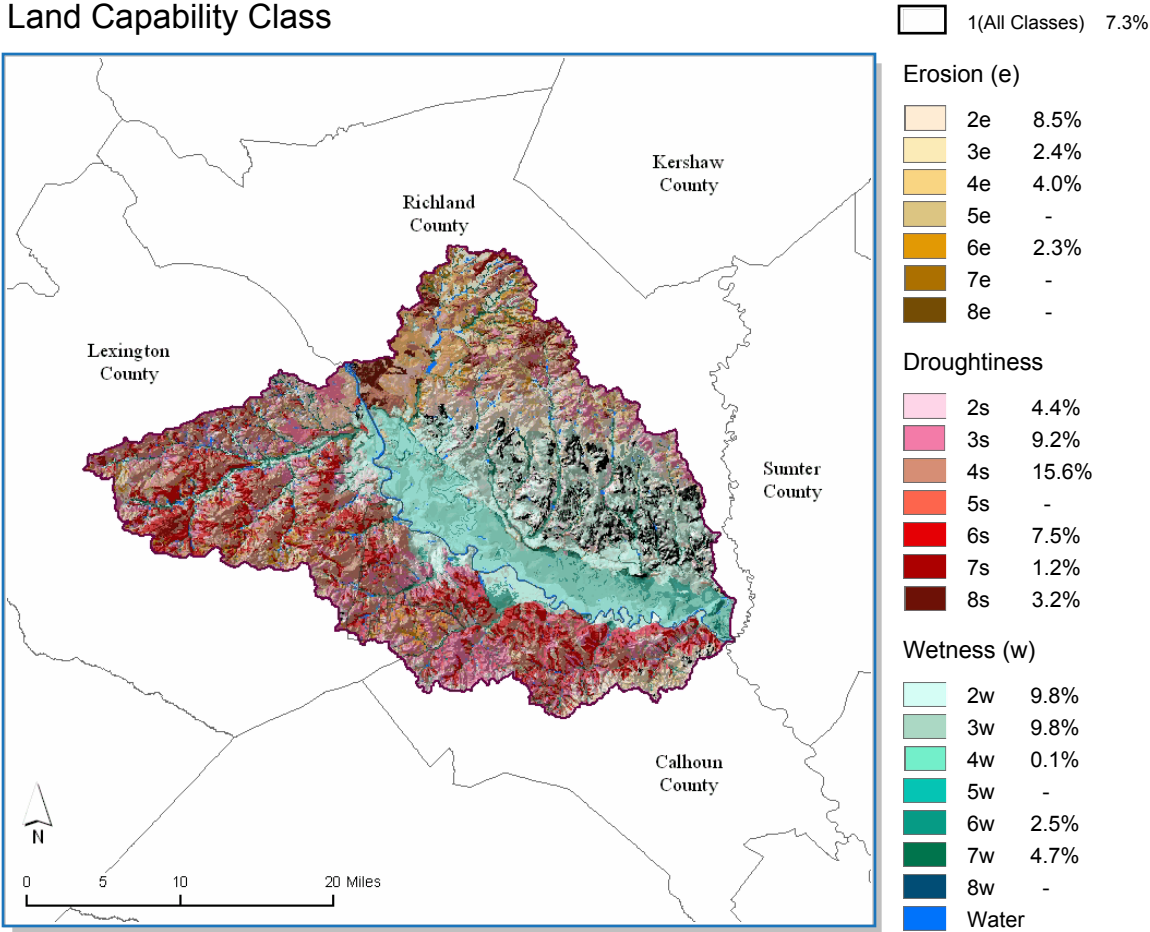


FIGURE 3:
LAND CAPABILITY CLASS
(See NRCS 2007 [a] and [b] in References section.)

Table 7:
HIGHLY ERODIBLE LAND AND HYDRIC SOILS

Highly Erodible Land Categories

Highly erodible land
Potentially highly erodible land
Not highly erodible land

Percent of Watershed

10%
17%
52%

Hydric Soils Categories

All Hydric
Partially Hydric
Not Hydric

Percent of Watershed

11%
21%
68%

Total Subbasin Acres 441,008

RESOURCE CONCERNS

Prime Farmland

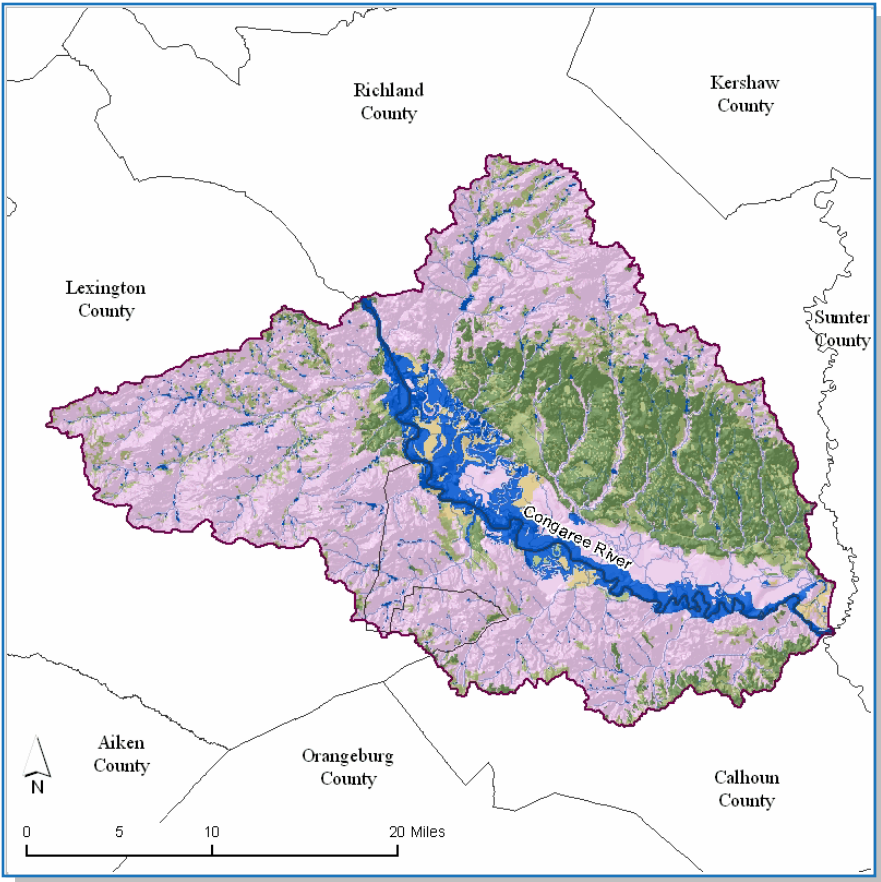


FIGURE 4:
PRIME FARMLAND
(See NRCS 2007 [a] and [b] in
References section.)

Table 8:
PRIME FARMLAND

Prime Farmland Categories	Acres	Percent of Land
All areas are prime farmland	74,191	17%
Farmland of statewide importance	53,411	12%
Not prime farmland	275,741	63%
Prime farmland if drained	1	0%
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	7,919	2%
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	29,746	7%

RESOURCE CONCERNS

Water Quantity

This subbasin is entirely located in the coastal plains which is underlain by a layer of unconsolidated sand, limestone and clay, which is shallow closer to the fall line but which thickens towards the coast (in some cases to depths of over 3,000 feet). This layer or aquifer stores about 95% of the total volume of groundwater of the state and wells can yield as much as 3000 gpm (gallons per minute) of water. Almost the entire subbasin is located in the SCDHEC Notice of Intent (NoI) area (Figure 5). Distribution of surface water over time is typically uneven with the highest flows occurring over the winter months and the lowest flows in the summer months. Naturally, water demand for irrigation is typically highest when surface water supply is lowest. These seasonal effects may be exacerbated by drought conditions.

Irrigated water demand in Lexington and Calhoun Counties is an order of magnitude higher than in the other counties due to the prime cropland located in the Southern Coastal Plain CRA (Table 10). Another agricultural use of water is for livestock rearing (grazing and confined) and while this use is less intensive than irrigation, it is more widespread.

RESOURCE CONCERNS

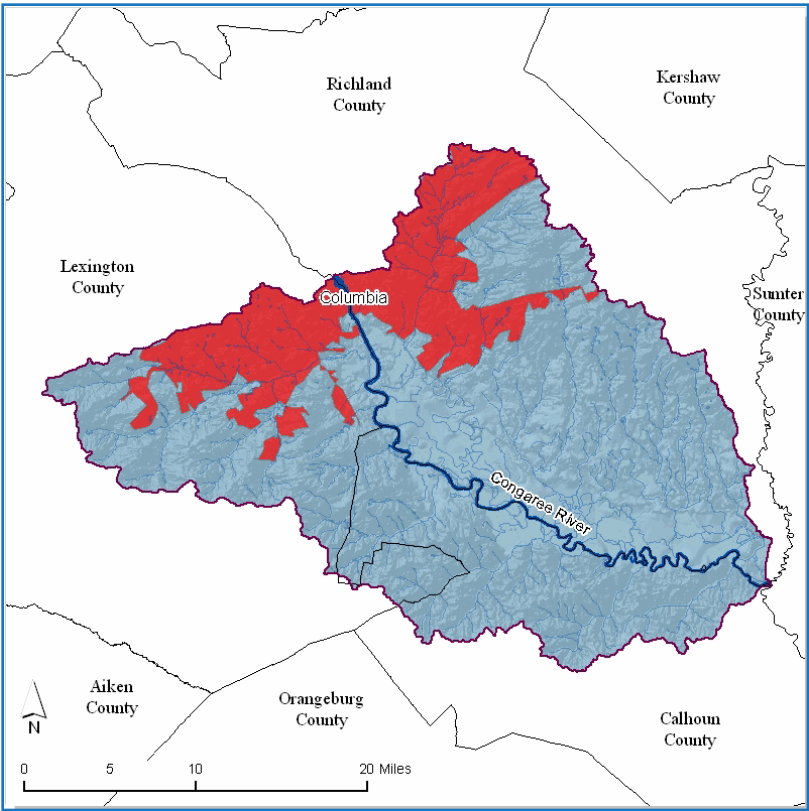






FIGURE 5:
WATERSHED RELATIVE TO CAPACITY
USE AREAS, NOTICE OF INTENT
AREAS, AND CONES OF DEPRESSION

Table 9:
CAPACITY USE, NOTICE OF INTENT, AND CONES OF DEPRESSION AREA IN WATERSHED
(See SCDHEC 2007 [b] and SCDNR 2004 in References Section.)

Area	Percent of Watershed
 % Watershed in Cone of Depression and Capacity Use (CU) Area	0%
 % Watershed in SCDHEC Capacity Use (CU) Area	0%
 % Watershed in SCDHEC Notice of Intent (NOI) Area	100%
 Urban Area	

RESOURCE CONCERNS

Water Quantity Cont.

Table 10:
INDICATORS OF IRRIGATION WATER USAGE (WHOLE COUNTY DATA ARE USED)
(See NASS 2007 in References section. "(D)" in table = "Cannot be disclosed")

County	Total NASS Cropland (ac)	Cropland Under Irrigation (ac)	Percent Cropland Under Irrigation
Calhoun	60,867	10,030	16.50%
Lexington	45,913	11,078	24.10%
Richland	23,472	1,425	6.10%

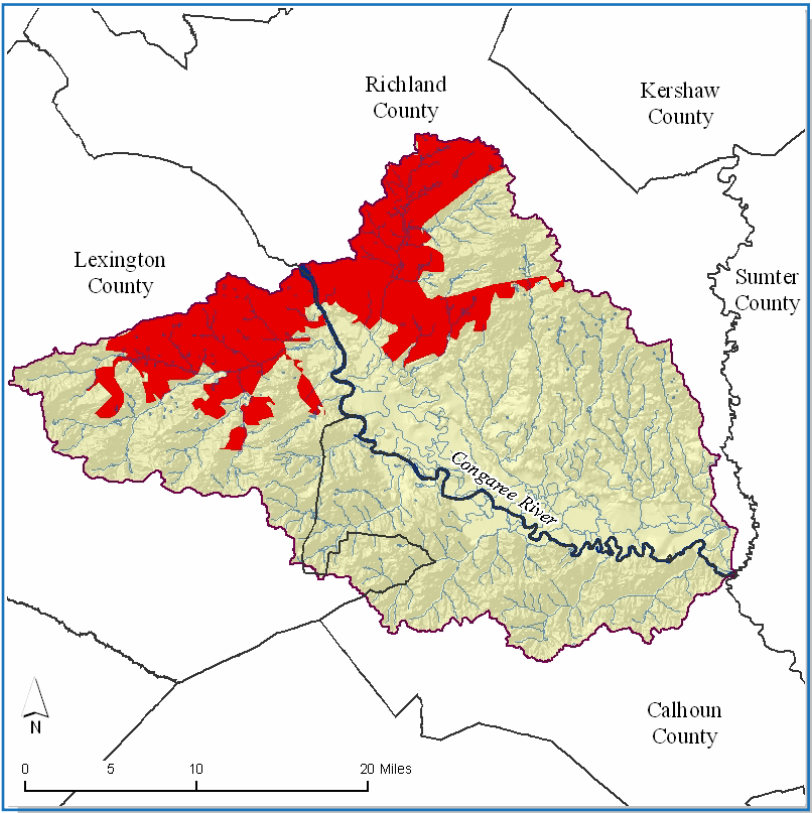


FIGURE 6:
NRCS ASSISTED FLOOD CONTROL
STRUCTURES IN WATERSHED

- Flood Control Structure
- Main River
- Hydrography

Table 11:
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 13 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 most frequent impairments are fecal coliform, dissolved oxygen and biological (aquatic life) criteria (Table 15).

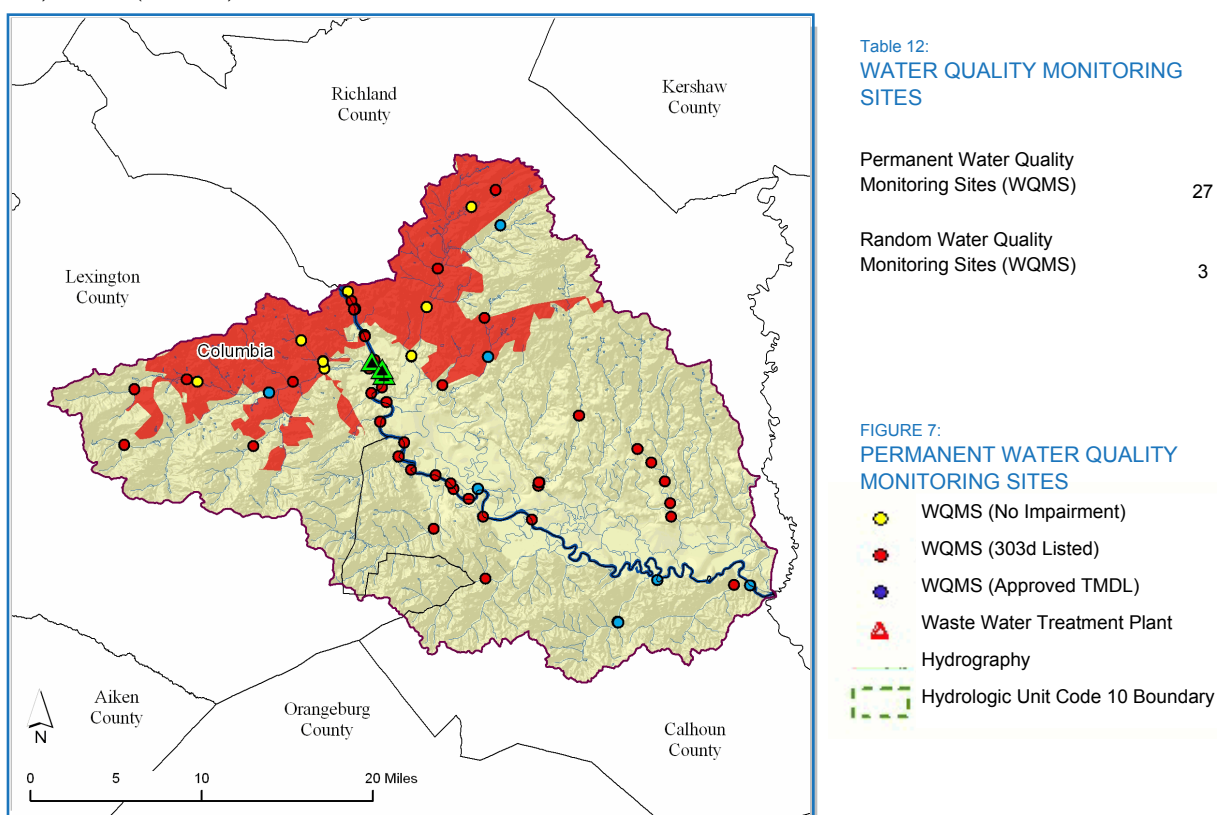


Table 13:
NUMBER OF MONITORING SITES SHOWING SURFACE WATER QUALITY IMPAIRMENTS
(See SCDHEC 2008 in References for the state 303(d) list.)

Recreational Use Standard		Fish Tissue Standard		Shellfish Harvest Standard	
Parameter	Impairments	Parameter	Impairments	Parameter	Impairments
Fecal Coliform	11	Mercury	5	Fecal Coliform	NA
		PCB's	0		
Aquatic Life Use Standard					
Parameter	Impairments	Parameter	Impairments	Parameter	Impairments
Biological	4	Dissolved Oxygen	3	Total Phosphorus	0
Chlorophyll A	0	Ammonia Nitrogen	0	pH	0
Chromium	0	Nickel	0	Turbidity	0
Copper	2	Total Nitrogen	0	Zinc	0

RESOURCE CONCERNS

Plant Condition

Plants of Economic Importance

Plants of economic importance are shown in Table 14. 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.

Lexington County is the top producer in the "all vegetables harvested" category and ranks top county in the nation for collard production.

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: in the sandhills, plants are a complex of xeric pine and pine-hardwood forest types adapted to sandy soils, typically found fluvial sand ridges. Historically, a canopy of longleaf pine and a sub canopy of turkey oak prevail, interspersed with scrub oak species and scrub-shrub cover. Management that includes burning encourages the development of longleaf pine-wiregrass communities.

Upland areas consist of forests dominated by hardwoods, primarily with oaks and hickories, and typically on fire-suppressed upland slopes near river floodplains or between rivers and tributaries. Vegetation composition is similar to oak-hickory forest in the Southern Piedmont, where it is a major vegetation type. Representative canopy trees are: white oak (*Quercus alba*), black oak (*Quercus velutina*), post oak (*Quercus stellata*), mockernut hickory (*Carya tomentosa*), pignut hickory (*Carya glabra*), loblolly pine (*Pinus taeda*), flowering dogwood (*Cornus florida*) and black gum (*Nyssa sylvatica*).

In the river bottoms on the coastal plains, one frequently finds hardwood-dominated woodlands with moist soils that are usually associated with major river floodplains and creeks. Characteristic trees include: sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), water oak (*Quercus nigra*), willow oak (*Quercus phellos*), laurel oak (*Quercus laurifolia*), cherrybark oak (*Quercus pagoda*) and American holly (*Ilex opaca*).

Table 14:

WHOLE COUNTY DATA OF PLANTS OF ECONOMIC IMPORTANCE IN SUBBASIN

(See: USDA NASS 2007 & Clemson University Forest Extension Services 2003 in References section)

Plant	Counties
All Cotton	Richland, Calhoun
All Vegetables harvested	Lexington
All Wheat for grain	Richland, Calhoun
Collards	Lexington
Corn for grain	Lexington, Richland, Calhoun
Forage - land used for all hay and haylage, grass silage, and greenchop	Richland, Calhoun, Lexington
Soybeans	Lexington, Richland, Calhoun
Timber Revenues Exceed Ag. Revenues	Richland

RESOURCE CONCERNS

Table 15:
FEDERALLY LISTED THREATENED AND ENDANGERED PLANT SPECIES IN WATERSHED
(See USFW 2010 in References section.)

Common Name (Latin Name)	Status
Canby's dropwort (Oxypolis canbyi)	Endangered
Georgia aster (Symphyotrichum georgianum)	Candidate
Rough-leaved loosestrife (Lysimachia asperulaefolia)	Endangered
Smooth coneflower (Echinacea laevigata)	Endangered

RESOURCE CONCERNS

Fish and Wildlife

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 16:

FEDERALLY LISTED THREATENED AND ENDANGERED WILDLIFE SPECIES IN WATERSHED

(See USFW 2010 in References section.)

Common Name (Latin Name)	Status
Arctic peregrine Falcon (<i>Falco peregrinus tundrius</i>)	Recovery
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Recovery
Brown pelican (<i>Pelecanus occidentalis</i>)	Recovery
Red-cockaded woodpecker (<i>Picoides borealis</i>)	Endangered
Wood stork (<i>Mycteria americana</i>)	Endangered
Red wolf (<i>Canis rufus</i>)	Endangered

Table 17:

FEDERALLY LISTED THREATENED AND ENDANGERED AQUATIC SPECIES IN WATERSHED

(See USFW 2010 in References section.)

Common Name (Latin Name)	Status
Carolina heelsplitter (<i>Lasmigona decorata</i>)	Endangered
Shortnose sturgeon (<i>Acipenser brevirostrum</i>)	Endangered

RESOURCE CONCERNS

Domestic Animals

Grazing and confined livestock populations are modest (Table 18, 19) in this subbasin, especially compared to the human population in the Columbia urban area (Figure 8).

Table 18:

WHOLE COUNTY GRAZING ANIMAL POPULATION DATA FROM 2007 AG. CENSUS

(See NASS 2007 in References section. "D" in table = "Cannot be disclosed".)

County	Cows/Calves	Grazing/Forage (ac)	County Rank in State
Calhoun	2,442	5,647	39
Lexington	9,356	5,353	23
Richland	2,335	2,333	41

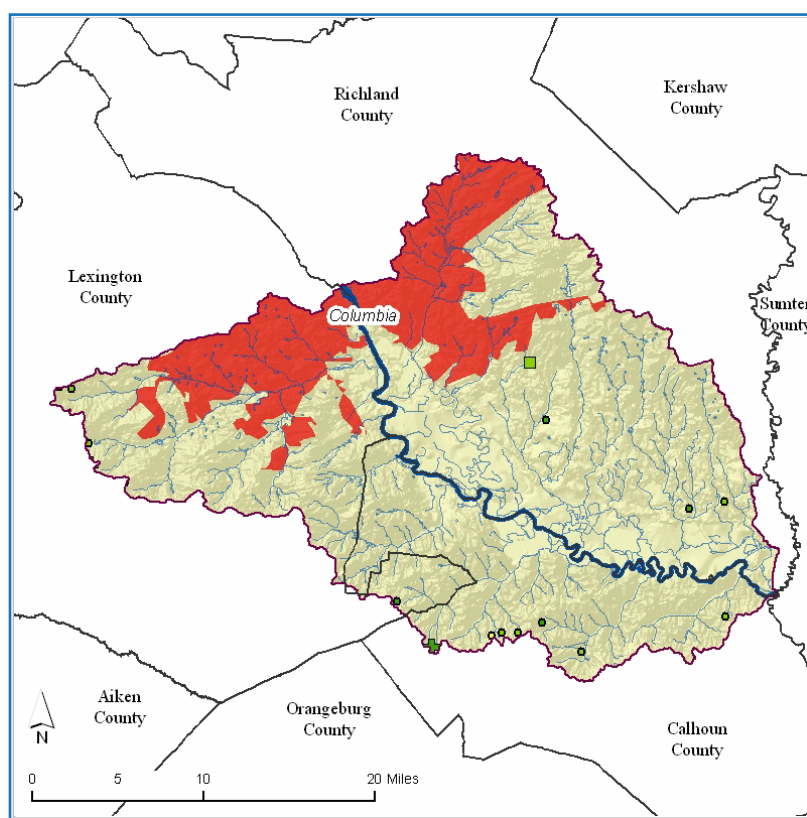


Table 19:

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

Beef Live Weight (Au)	-
Dairy Live Weight (Au)	210
Horse Live Weight (Au)	-
Poultry Live Weight (Au)	2,492
Swine Live Weight (Au)	9
Turkey Live Weight (Au)	-

FIGURE 8:

TYPE AND SIZE OF CONFINED ANIMAL OPERATION

Permit Design Count (Live Weight AU)	
0 - 163	* Beef
164 - 372	■ Dairy
373 - 680	▲ Other
681 - 1360	● Poultry
1361 - 7076	✚ Swine
	★ Turkey

ECONOMIC & SOCIAL FACTORS

The number of full-time farmers and farm sizes are similar to the state average of 38% and 189 ac respectively (Table 20); both parameters suggest average levels of participation in conservation programs in the subbasin. Farm sizes stayed relatively the same between 2002 and 2007, whereas on average, farm sizes decreased by 4% across the state for the same period. Loss of cropland between 2002 and 2007 is estimated at 2%, slightly less than the SC average of 5%.



The relative importance of crop and livestock commodity groups in the subbasin is shown in Tables 22 and 23; a *qualitative* indication of the relative importance of timber is provided on Table 16.

For more economic and farm information from the 2007 Agricultural Census, detailed reports for all South Carolina counties can be found at:

http://www.agcensus.usda.gov/Publications/2007/Full_Report/Census_by_State/South_Carolina/index.asp

Table 20:

2007 FARM CENSUS DATA (WHOLE COUNTY DATA SHOWN) (SC average farm size = 189 ac)

County	Total Number of Farms	% Full Time Farmers	% Farms > 180 (ac)	Average Farm Size (ac)
Calhoun	341	38%	40%	324
Lexington	948	42%	10%	95
Richland	364	40%	18%	162
Weighted Avg*	440	40%	23%	196

Table 21:

2007 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
Calhoun	46,403	16,386	30,017	241
Lexington	166,456	118,366	48,090	715
Richland	10,164	3,425	6,740	285
Sumter	88,827	55,705	33,122	412
Weighted Avg*	41,829	23,016	18,814	333



Table 22:

VALUE OF CROP COMMODITY GROUPS - COUNTY RANK IN STATE

(See NASS 2007 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
Calhoun	11	15	(-)	1	(D)	18	(D)	28	2
Lexington	2	20	(-)	11	(D)	(D)	14	13	5
Richland	31	18	(-)	(D)	30	19	17	(D)	42

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

ECONOMIC & SOCIAL FACTORS

Table 23:
VALUE OF LIVESTOCK AND POULTRY COMMODITY GROUPS - RANK IN STATE
(See NASS 2007 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.
Calhoun	24	22	39	(-)	13	36	22
Lexington	3	3	23	(D)	25	(D)	19
Richland	36	(D)	41	(D)	38	33	8

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/
- 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/
- 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
- Klingebiel, A. A., and P. H. Montgomery. 1961. *Land capability classification*. Agr. Handbook 210. Washington DC: USDA
- 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 2010. Distribution of native fish species by watershed. NatureServe. Available at:
<http://www.natureserve.org/getData/>
- South Carolina Department of Health and Environmental Control (SCDHEC) 2008. Listing of Impaired Waters (or 303(d) list). Available at:
http://www.scdhec.gov/environment/water/tmdl/docs/tmdl_08-303d.pdf
- South Carolina Department of Health and Environmental Control (SCDHEC) 2010. 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 (a). Watershed Water Quality Assessments. Available at:
<http://www.scdhec.gov/environment/water/shed/>
- South Carolina Department of Health and Environmental Control (SCDHEC) 2007 (b). Water use and reporting Program (Capacity Use) SCDHEC. Available at:
<http://www.scdhec.gov/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:

REFERENCES

<http://www.dnr.sc.gov/water/hydro/wtrplanerrata.html>

USDA Farm Services Agency in South Carolina (FSA-SC) 2008. CRP Data. Columbia SC. USDA/FSA. Available at:

http://www.apfo.usda.gov/Internet/FSA_File/cumulative08.xls

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/>

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. FRPP and WHP. Columbia, SC. USDA/NRCS.

USDA Natural Resources Conservation Services in South Carolina (NRCS-SC) 2009. GRP. Columbia, SC. USDA/NRCS.

USDA National Agricultural Statistical Service (NASS) 2007. 2007 Census of Agriculture. Washington, DC: USDA/NASS.

USDA. 1981. Land Resource Regions and Major Land Resource Areas of the United States. United States Department of Agriculture, Soil Conservation Service Handbook 296, pp 93-113.

US Fish and Wildlife Service (USFWS) 2010. USFWS Threatened and Endangered Species System (TESS). Available at:

http://ecos.fws.gov/tess_public/StartTESS.do

US Fish and Wildlife Service (USFWS) 2008. South Carolina Distribution Records of Endangered, Threatened, Candidate and Species of Concern, July 2008. Available at:

http://www.fws.gov/charleston/docs/etcountylist_10_06.htm

APPENDIX

Level III Common Resource Area (Ecological Region) Descriptions

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.

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

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. 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.