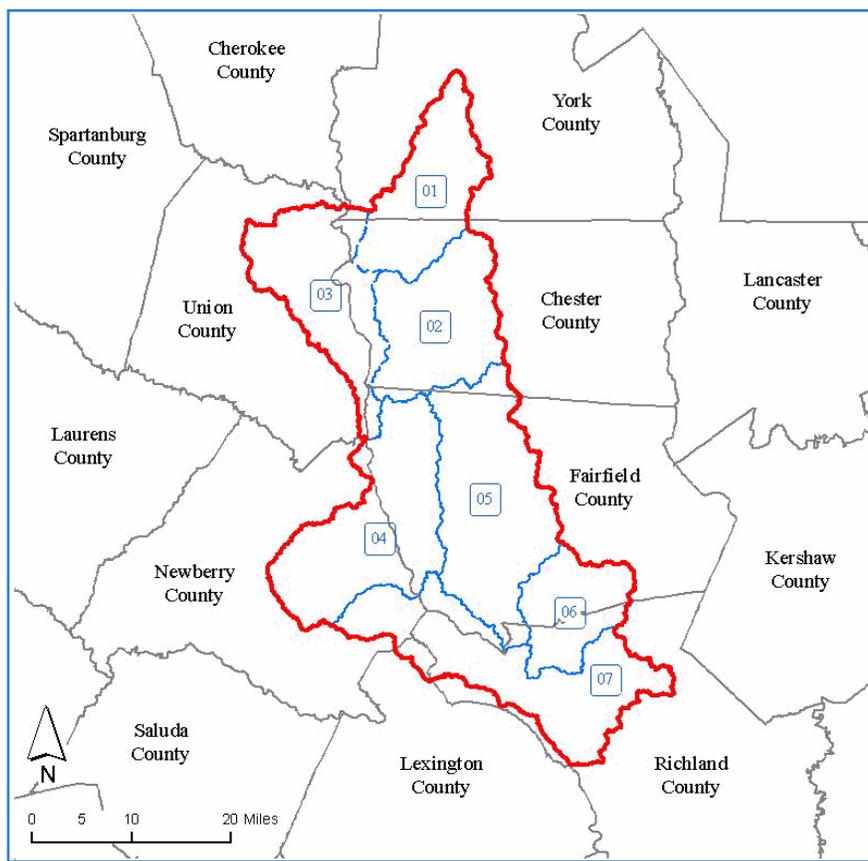


# LOWER BROAD Subbasin

August 31, 2007

## An Assessment of the Lower Broad Subbasin

Hydrologic Unit Code (8 Digit): 03050106



WATERSHED (10-digit HUC)  
(E.g., 01 = 0305010601)

- 01 Turkey Creek-Broad River
- 02 Sandy River
- 03 Browns Creek-Broad River
- 04 Cannons Creek-Broad River
- 05 Little River-Broad River
- 06 Big Cedar Creek-Broad River
- 07 Crane Creek-Broad River

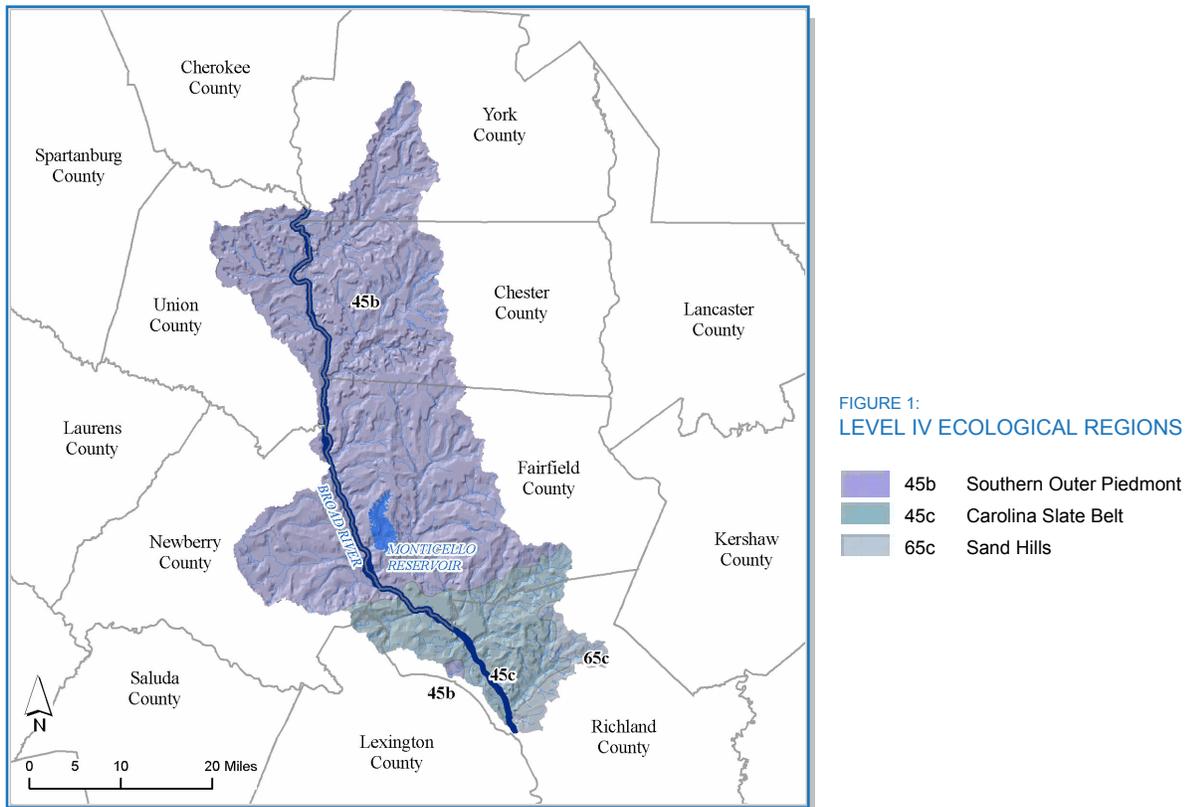


# EXECUTIVE SUMMARY

## Watershed Description

The Lower Broad subbasin forms at the confluence of the Broad and Pacolet Rivers, about 11 miles northeast of Union, SC. The subbasin drains about 1,287 square miles (824,000 acres) before it joins the Saluda River to form the Congaree in Columbia. The two major tributaries that join the Broad River in this subbasin are the Tyger and Enoree Rivers, respectively. Minor tributaries joining the Broad in this subbasin include the Sandy and Little Rivers. The Broad River runs through the Sumter National Forest for a significant portion of its length.

The subbasin lies almost entirely in the Piedmont (45) ecoregion (Figure 1). A brief description of the Level III ecoregions in this subbasin 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

## Land Use/Land Cover

The northern part of the subbasin is largely rural with parts of the Union, Chester and Winnsboro urban clusters projecting into the subbasin. The subbasin's exit point (and its confluence with the Saluda River) however, is in the heart of Columbia, SC. Approximately 186 square miles of the Sumter National Forest lies in the subbasin (Figure 2).

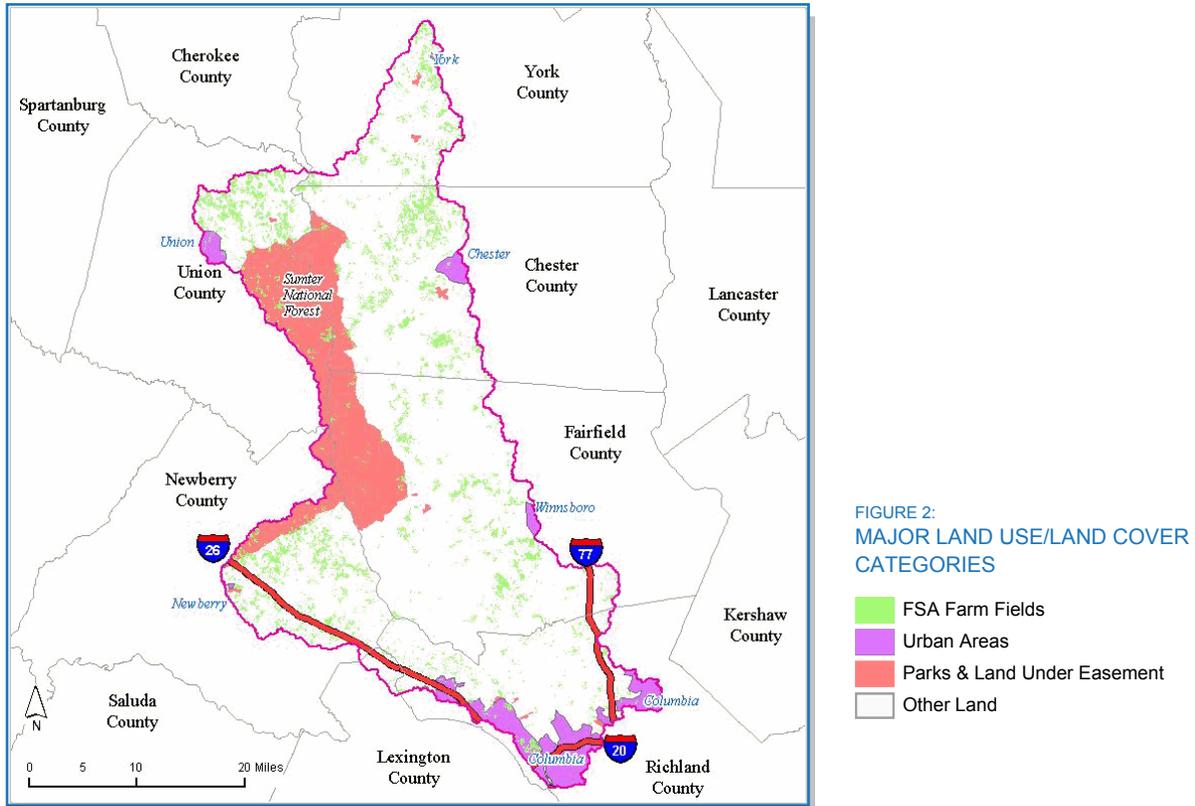


Table 1: MAJOR LAND USE/LAND COVER CATEGORIES

|  | Acres   | % of Watershed |
|--|---------|----------------|
| Watershed (Total)                          | 824,197 | -              |
| Urban Area                                 | 45,471  | 6%             |
| Parks/Land Under Easement (not NRCS)       | 124,983 | 15%            |
| Farm Service Agency Designated Farm Fields | 65,243  | 8%             |

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) |
|-----------|--------------------|-----------------------|------------------------|-----------------------|
| Chester   | 14,925             | 43%                   | 21%                    | 36%                   |
| Fairfield | 12,411             | 44%                   | 16%                    | 40%                   |
| Newberry  | 12,934             | 28%                   | 40%                    | 32%                   |
| Richland  | 5,647              | 17%                   | 72%                    | 10%                   |
| Union     | 11,851             | 47%                   | 18%                    | 35%                   |
| York      | 7,252              | 39%                   | 25%                    | 36%                   |

## 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 erosion in this subbasin that is typical of an area within the Piedmont. Highly erodible and potentially highly erodible soils comprise 81% of the subbasin and are the key resource concerns.

#### *Water Quantity*

Awaiting SCDNR's 2007 state water assessment.

#### *Water Quality*

There are fecal coliform and biological (benthic invertebrate) impairments.

#### *Plant Condition*

Prominent crops include corn and sorghum silage, sorghum for grain, forage, and cut Christmas trees.

#### *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*

There are sizeable cow/calf (grazing) and turkey (confined) populations in the subbasin.

#### *Economic and Social Factors*

-

# 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   | 2     | 19    | 1    | 22    |
| Conservation Tillage        | 44    | 67    | 69   | 180   |
| Erosion Control             | 313   | 8     | 42   | 363   |
| Irrigation Water Management | -     | -     | 25   | 25    |
| Nutrient Management         | 632   | 107   | 798  | 1,536 |
| Pest Management             | 16    | 1,060 | 366  | 1,442 |
| Prescribed Grazing          | 220   | 820   | 226  | 1,266 |
| Trees and Shrubs            | 1,885 | 1,856 | 718  | 4,458 |
| Wetlands                    | -     | -     | 10   | 10    |
| Wildlife Habitat            | 834   | 381   | 368  | 1,583 |

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 |
|-----------|--|---|-------------------------------------|---|-----------------------------------|
| Chester   | 1,993                                  | 42,212  | -                                   | -   | -                                 |
| Fairfield | -                                      | 0   | -                                   | -   | -                                 |
| Newberry  | 1,660                                  | 44,019  | -                                   | -   | -                                 |
| Richland  | 358                                    | 7,398   | -                                   | -   | 2,171                             |
| Union     | 636                                    | 14,478  | -                                   | -   | 125                               |
| York      | 924                                    | 24,924  | -                                   | -   | -                                 |

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 |
|---------------|--------------------|----------------------|----------------------|---------------------------|
| Cedar Creek   | 1                  | Fecal Coliform       | Completed & Approved | -                         |
| Lower Broad   | 19                 | Fecal Coliform       | Completed & Approved | B-335                     |

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

| Organization | Description  | Contact            | Telephone    |
|--------------|--|--------------------|--------------|
| SCDHEC       | Watershed Water Quality Assessment: Broad River Basin (2001) | Richelle Tolton    | 803-898-4213 |
| USGS         | Santee National Water Quality Assessment (NAWQA) project     | Celeste A. Journey | 803-750-6141 |

## EXECUTIVE SUMMARY

### Other Watershed Considerations

# RESOURCE CONCERNS

## Soils

A majority (85%) of land in this Piedmont subbasin has limitations due to erosion (Table 7). Most of the erosion is associated with steep slopes on uplands in the subbasin (Figure 4, Table 9). Soils that occur in the lower part of the subbasin in the Coastal Plain region do not have erosion concerns (Figure 4). Low soil organic matter in the highly erodible soils is a soil health concern. Hydric soils and wetness are not major resource concerns in this subbasin with 92% of the land classified as not hydric (Figure 5, Tables 7 and 10). Only 39% of the land in the Lower Broad subbasin is either prime farmland (23%) or statewide important farmland (16%) and occurs mostly in the lower part of the subbasin on soils in the Carolina Slate Belt (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 (824,197 ac).

| Land Capability Class 1   | Acres              |                | Percent           |                |                         |                |
|---|--------------------|----------------|-------------------|----------------|-------------------------|----------------|
| 1 - Slight limitations  | 937                |                | 0%                |                |                         |                |
| <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  | 120,236            | 15%            | 30,670            | 4%             | 5,853                   | 1%             |
| 3 - Severe limitations  | 139,082            | 17%            | 12,455            | 2%             | 3,807                   | 0%             |
| 4 - Very severe limitations   | 139,763            | 17%            | 19,485            | 2%             | 4,992                   | 1%             |
| 5 - No erosion hazard, but other limitations  | -                  | -              | 11                | 0%             | -                       | -              |
| 6 - Severe limitations; unsuitable for cultivation; limited to pasture, range, forest                 | 179,633            | 22%            | 582               | 0%             | -                       | -              |
| 7 - Very severe limitations; unsuitable for cultivation; limited to grazing; forest, wildlife habitat | 119,009            | 14%            | 1,722             | 0%             | 722                     | 0%             |
| 8 - Miscellaneous areas; limited to recreation, wildlife habitat, water supply                        | 770                | 0%             | -                 | -              | 4,953                   | 1%             |

# RESOURCE CONCERNS

## Prime Farmland

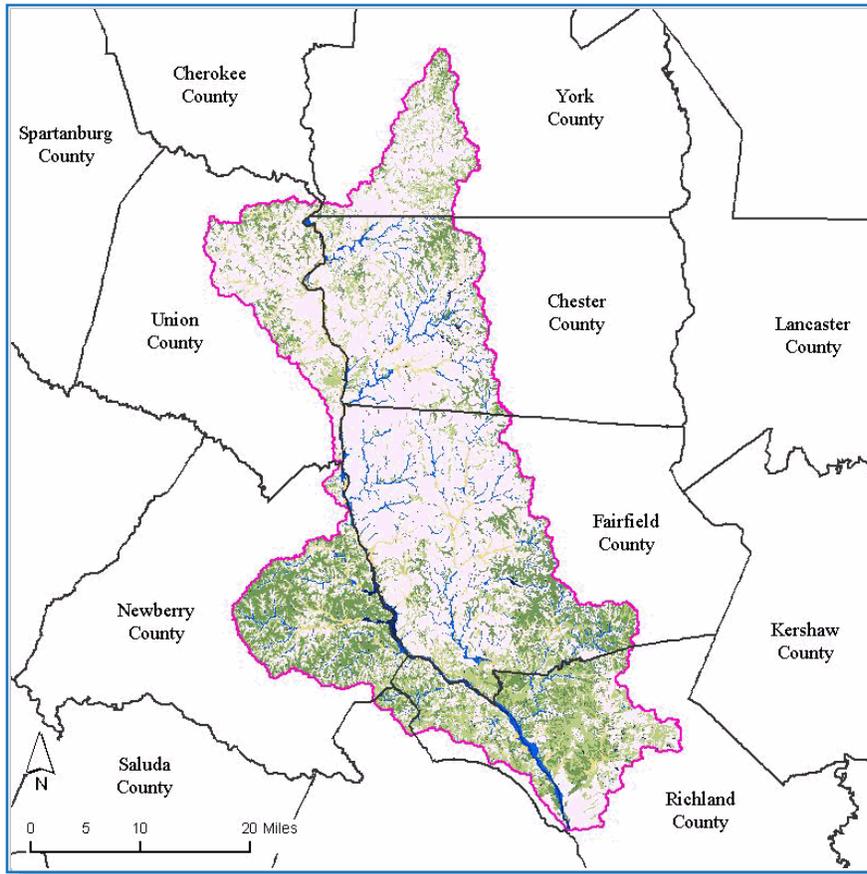


FIGURE 3:  
PRIME FARMLAND  
(See NRCS 2007 [a] and [b] in  
References section.)

Table 8:  
PRIME FARMLAND

| Prime Farmland Categories  | Acres   | Percent of Land |
|--|---------|-----------------|
| All areas are prime farmland   | 132,290 | 16%             |
| Farmland of statewide importance   | 134,898 | 16%             |
| Not prime farmland   | 500,550 | 61%             |
| Prime farmland if drained  | 0       | 0%              |
| Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season | 28,217  | 3%              |
| 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                    | 31,136  | 4%              |

# RESOURCE CONCERNS

## Highly Erodible Land

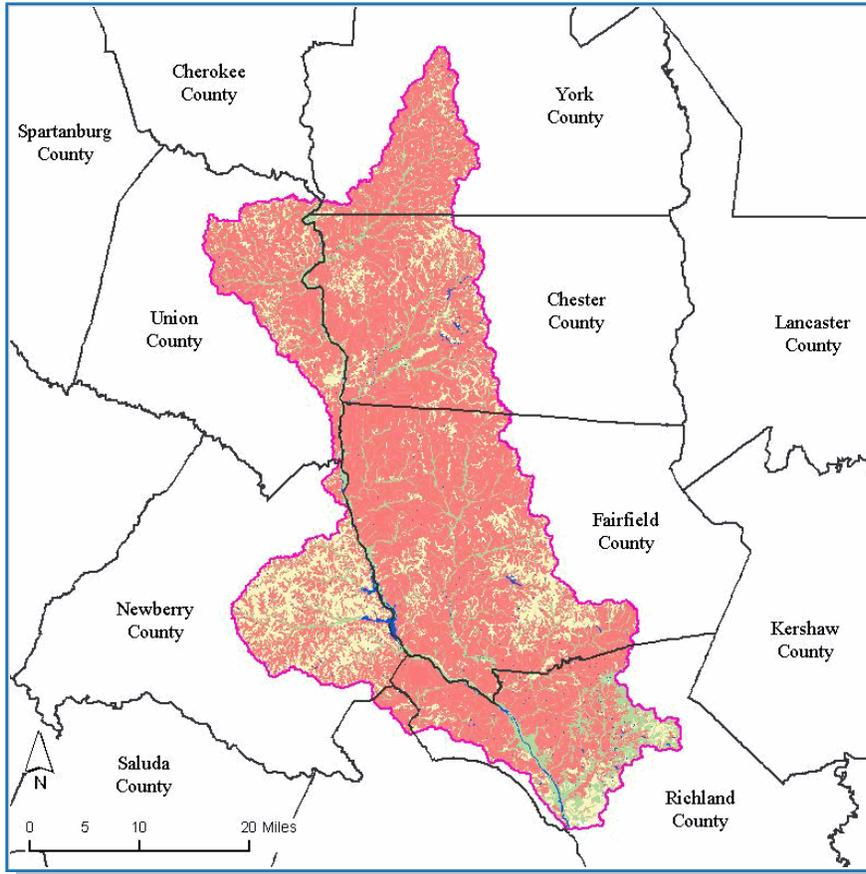


FIGURE 4:  
HIGHLY ERODIBLE LAND  
(See NRCS 2007 [a] and [b] in  
References section.)

Table 9:  
HIGHLY ERODIBLE LAND

| Highly Erodible Land Categories  | Acres   | Percent of Watershed |
|----------------------------------|---------|----------------------|
| Highly erodible land             | 578,729 | 70%                  |
| Not highly erodible land         | 91,281  | 11%                  |
| Potentially highly erodible land | 143,367 | 17%                  |

# RESOURCE CONCERNS

## Hydric Soils

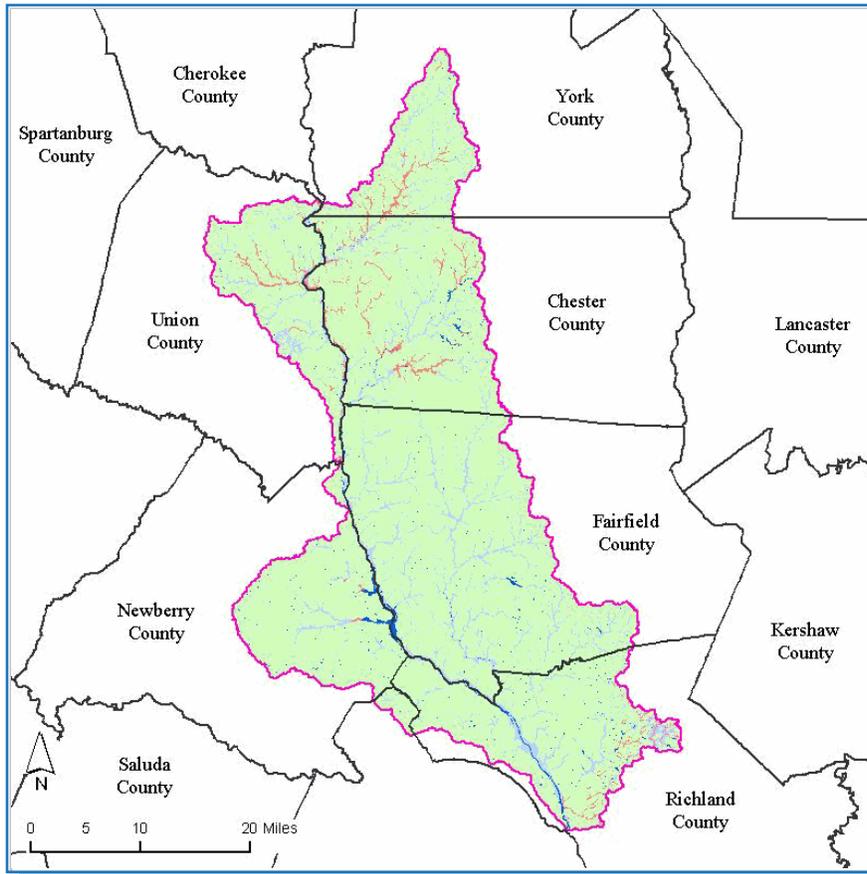


FIGURE 5:  
HYDRIC SOILS  
(See NRCS 2007 [a] and [b] in  
References section.)

Table 10:  
HYDRIC SOILS

| Hydric Soils Categories | Acres   | Percent of Watershed |
|-------------------------|---------|----------------------|
| All Hydric              | 12,296  | 1%                   |
| Not Hydric              | 758,263 | 92%                  |
| Partially Hydric        | 56,532  | 7%                   |

# RESOURCE CONCERNS

## Water Quantity

Irrigated water usage is typically low but varies across the subbasin with Lexington County using the most water for irrigation (Table 12) presumably because of its proximity to Lake Murray. Because Lexington County overlaps a very small part of this watershed, the influence of this county on irrigation water usage in the watershed is negligible. Another agricultural use for water is for livestock (confined and grazing) watering, and while this is less intensive than for irrigation, it is typically more widespread. The subbasin is almost entirely in the crystalline Piedmont therefore groundwater sources are localized and wells tend to be lower yielding than those on the coastal plains.

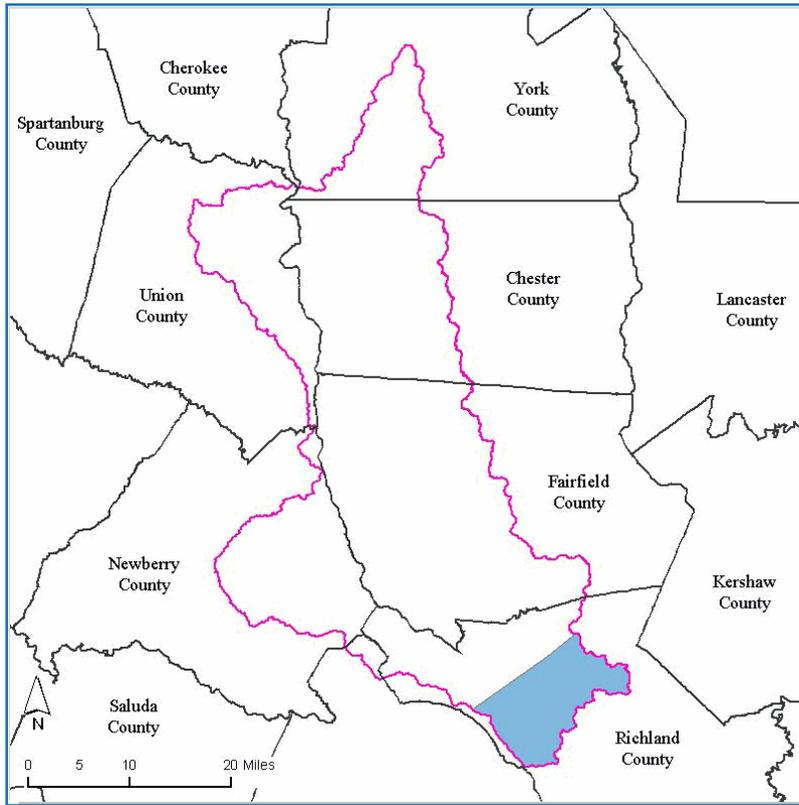


FIGURE 6: WATERSHED RELATIVE TO CAPACITY USE AREAS, NOTICE OF INTENT AREAS, AND CONES OF DEPRESSION

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 | 0%                   |
|  % Watershed in SCDHEC Capacity Use (CU) Area                 | 0%                   |
|  % Watershed in SCDHEC Notice of Intent (NOI) Area            | 7%                   |

# 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 |
|-----------|--------------------------------|--------------------------|--------------------------------|-----------------------------------|---|
| Chester   | 0.31                           | 31,773                   | 221                            | 0.7                               | 1,403                                   |
| Fairfield | 2.46                           | 16,750                   | 250                            | 1.5                               | 9,840                                   |
| Newberry  | 0.87                           | 42,995                   | 1,087                          | 2.5                               | 800                                     |
| Richland  | 1.77                           | 25,073                   | 516                            | 2.1                               | 3,430                                   |
| Union     | 0.76                           | 15,580                   | 147                            | 0.9                               | 5,170                                   |
| York      | 1.00                           | 54,017                   | 757                            | 1.4                               | 1,321                                   |

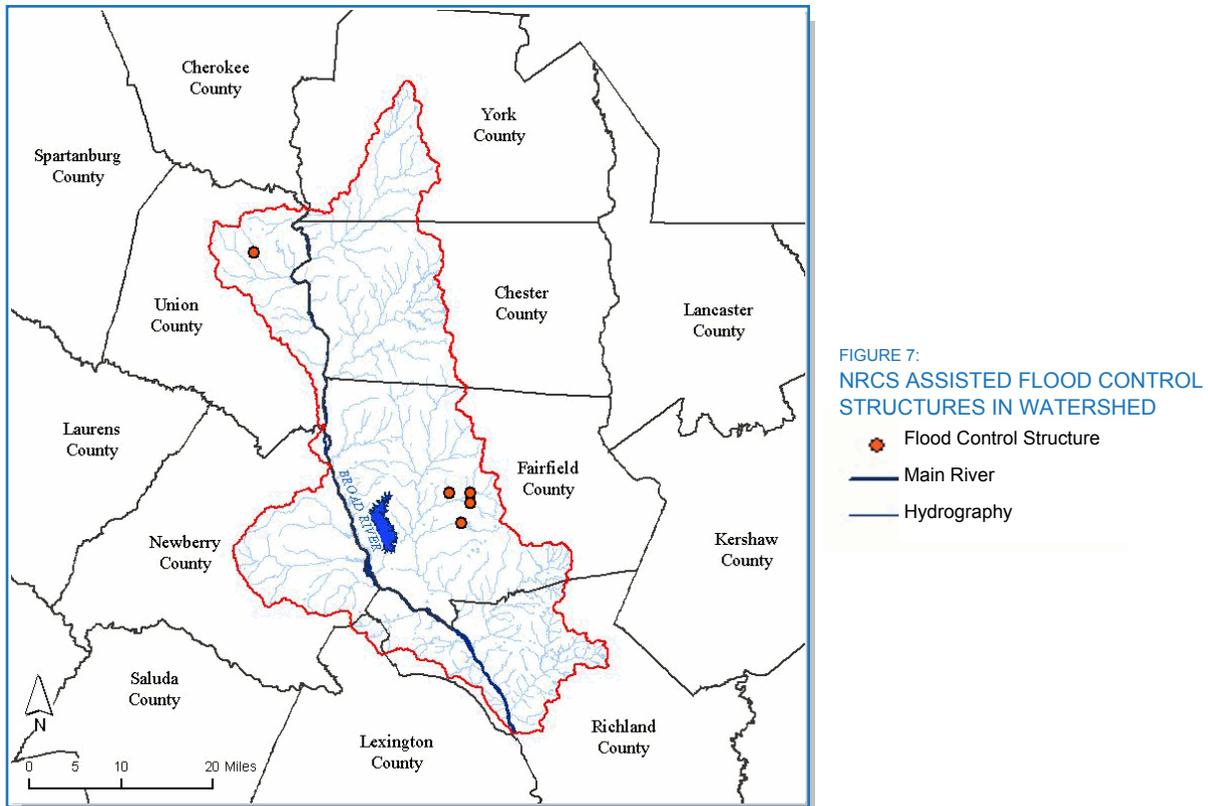


Table 13:  
NRCS IMPLEMENTED FLOOD CONTROL STRUCTURES

| Number of Structures (in Watershed) | Maximum Storage (AcFt) | Number of Structures by Hazard Class |     |             |              |
|-------------------------------------|------------------------|--------------------------------------|-----|-------------|--------------|
|                                     |                        | High                                 | Low | Significant | Unclassified |
| 5                                   | 18,740                 | 0                                    | 5   | 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 primary concern in the subbasin is fecal coliform. This concern will be addressed through ongoing TMDLs (Table 5). A secondary concern is the biological (aquatic community) impairment.

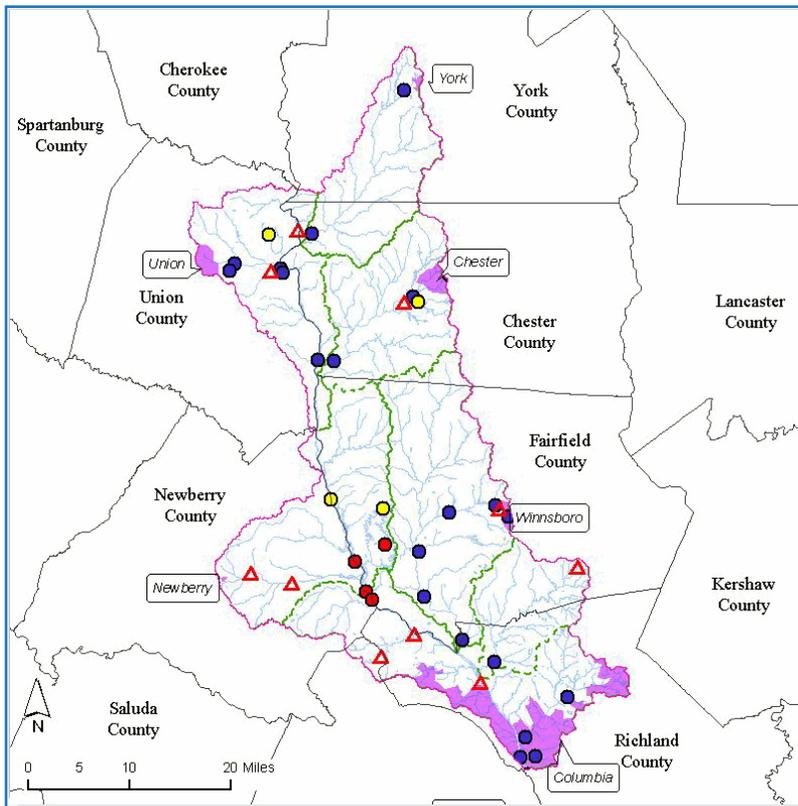


Table 14:  
**WATER QUALITY MONITORING SITES**

|   |    |
|---|----|
| Permanent Water Quality Monitoring Sites (WQMS) | 28 |
| Random Water Quality Monitoring Sites (WQMS)    | 15 |

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              | 0           | Fecal Coliform             | NA          |
|                           |             | PCB's                | 0           |                            |             |
| Aquatic Life Use Standard |             |                      |             |                            |             |
| Parameter                 | Impairments | Parameter            | Impairments | Parameter                  | Impairments |
| Biological                | 10          | Dissolved Oxygen     | 1           | Total Phosphorus           | 1           |
| Chlorophyll A             | 0           | Ammonia Nitrogen     | 0           | pH                         | 3           |
| Chromium                  | 0           | Nickel               | 0           | Turbidity                  | 1           |
| Copper                    | 5           | Total Nitrogen       | 0           | Zinc                       | 0           |

## 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 corn and sorghum silage, sorghum for grain, forage, and cut Christmas trees.

#### *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: the Piedmont ecoregion plant community historically consisted of oak and hickory-dominated forest with associated tree species varying by slope and soil moisture. This was the primary potential vegetation type in the Piedmont. Due to land disturbances however, today the majority of these sites exist mostly in closed canopy pine-dominated forests.

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, this was interspersed with scrub oak species and scrub-shrub cover. Management that includes burning encourages the development of longleaf pine-wiregrass communities.

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)

| <b>Plant</b>  | <b>Counties</b>                                     |
|---|---|
| All Cotton  | York, Richland                                      |
| All Vegetables harvested  | Union   |
| All Wheat for grain   | Richland, Fairfield, Newberry, Union, York, Chester |
| Corn for grain  | Richland, Fairfield                                 |
| Corn for silage   | Chester, Newberry                                   |
| Cut Christmas trees   | Fairfield   |
| Forage - land used for all hay and haylage, grass silage, and greenchop | Chester, York, Union, Fairfield, Richland, Newberry |
| Short-rotation woody crops  | Fairfield, Chester, York, Union                     |
| Sorghum for grain   | York  |
| Sorghum for silage  | Newberry  |
| Soybeans  | Newberry, Richland                                  |
| Timber, Top 10 Rank in SC   | Newberry, Fairfield                                 |
| Timber Revenues Exceed Ag. Revenues                                     | Fairfield   |

## RESOURCE CONCERNS

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

| <b>Common Name</b>       | <b>Latin Name</b>                | <b>Status</b>               |
|--------------------------|----------------------------------|-----------------------------|
| Rough-leaved loosestrife | <i>Lysimachia asperulaefolia</i> | Endangered                  |
| Smooth coneflower        | <i>Echinacea laevigata</i>       | Endangered                  |
| Schweinitz's sunflower   | <i>Helianthus schweinitzii</i>   | Endangered                  |
| Georgia aster            | <i>Aster georgianus</i>          | Supported Proposals to List |
| Dwarf-flowered heartleaf | <i>Hexastylis naniflora</i>      | Threatened                  |
| Canby's dropwort         | <i>Oxypolis canbyi</i>           | Endangered                  |
| Little amphanthus        | <i>Amphanthus pusillus</i>       | Threatened                  |

# 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 18:

### FEDERALLY LISTED THREATENED AND ENDANGERED WILDLIFE SPECIES IN WATERSHED

(See USFW 2006 in References section.)

| Common Name             | Latin Name               | Status     |
|-------------------------|--------------------------|------------|
| Red-cockaded woodpecker | <i>Picoides borealis</i> | Endangered |

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 |
| Carolina heelsplitter | <i>Lasmigona decorata</i>     | Endangered |

# RESOURCE CONCERNS

## Domestic Animals

The grazing animal population is sizeable (Table 20) and typical of a subbasin in the Piedmont ecoregion. The most abundant confined animal species is turkey, while much smaller live weights of swine, dairy and poultry populate the subbasin (Figure 9, Table 21).

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 |
|-----------|-------------|---------------------|----------------------|
| Chester   | 14,331      | 13,559              | 9                    |
| Fairfield | 6,009       | 7,310               | 25                   |
| Newberry  | 24,137      | 12,175              | 6                    |
| Richland  | 2,771       | 4,313               | 16                   |
| Union     | 7,134       | 7,268               | (D)                  |
| York      | 19,211      | 20,958              | 5                    |

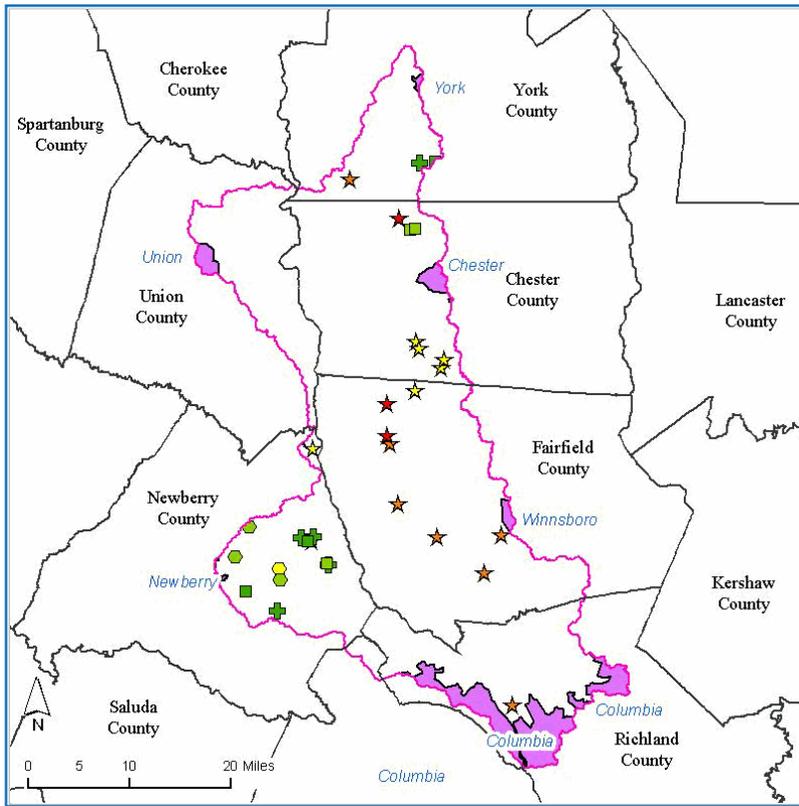


Table 21:  
**CONFINED ANIMAL POPULATION** [As given by SCDHEC] (Au = Animal Unit = 1,000 lbs)

|                          |        |
|--------------------------|--------|
| Beef Live Weight (Au)    | -      |
| Dairy Live Weight (Au)   | 1,085  |
| Horse Live Weight (Au)   | -      |
| Poultry Live Weight (Au) | 1,156  |
| Swine Live Weight (Au)   | 113    |
| Turkey Live Weight (Au)  | 18,658 |

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

| Permit Design Count (Live Weight AU) | Symbol              |
|--------------------------------------|---------------------|
| 0 - 163                              | Small Green Square  |
| 164-372                              | Medium Green Square |
| 373 - 680                            | Large Green Square  |
| 681 - 1360                           | Large Yellow Square |
| 1361 - 7076                          | Large Red Square    |
| Beef                                 | Asterisk (*)        |
| Dairy                                | Square              |
| Other                                | Triangle            |
| Poultry                              | Circle              |
| Swine                                | Plus (+)            |
| Turkey                               | Star                |

## ECONOMIC & SOCIAL FACTORS

The number of full-time farmers is similar to the state average of 47% and farm sizes are slightly *smaller* than the state average of 197 ac (Table 22), suggesting average or below-average levels of participation in conservation programs in the subbasin. Farm sizes decreased by an estimated 12% 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 9%, a little higher than the SC average of 8%.



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) |
|----------------------|-----------------------|---------------------|--------------------|------------------------|
| Chester              | 430                   | 50%                 | 34%                | 226                    |
| Fairfield            | 237                   | 38%                 | 38%                | 238                    |
| Newberry             | 633                   | 45%                 | 26%                | 164                    |
| Richland             | 429                   | 43%                 | 21%                | 148                    |
| Union                | 299                   | 49%                 | 28%                | 170                    |
| York                 | 858                   | 45%                 | 19%                | 139                    |
| <b>Weighted Avg*</b> | <b>457</b>            | <b>45%</b>          | <b>29%</b>         | <b>189</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 |
|----------------------|----------------------------------|----------------------------|--|-----------------------------|
| Chester              | 17,577                           | 1,517                      | 16,060   | 350                         |
| Fairfield            | 16,307                           | 752                        | 15,555   | 192                         |
| Newberry             | 56,885                           | -                          | -  | 504                         |
| Richland             | 6,706                            | -                          | -  | 362                         |
| Union                | 1,723                            | -                          | -  | 257                         |
| York                 | 82,873                           | -                          | -  | -                           |
| <b>Weighted Avg*</b> | <b>28,548</b>                    | <b>492</b>                 | <b>6,649</b>   | <b>297</b>                  |



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

## ECONOMIC & SOCIAL FACTORS

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 |
|-----------|--------------------|-------------------|---------|------------|---------------------|-------------------------|---------------|-------------------------------|-------------------|
| Chester   | 42                 | 30                | -       | (D)        | 30                  | 37                      | (D)           | (D)                           | 7                 |
| Fairfield | 44                 | 44                | -       | -          | (D)                 | -                       | (D)           | 2                             | 29                |
| Newberry  | (D)                | 22                | -       | (D)        | 38                  | 26                      | 19            | 10                            | 25                |
| Richland  | (D)                | 18                | (D)     | (D)        | 36                  | 23                      | 23            | 6                             | (D)               |
| Union     | (D)                | (D)               | -       | -          | 42                  | (D)                     | (D)           | -                             | (D)               |
| York      | (D)                | 31                | -       | 23         | (D)                 | (D)                     | (D)           | 4                             | 10                |

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. |
|-----------|-----------------------------|---------------|-----------------|--------------|-------------|---------------|--------------|
| Chester   | 18                          | 18            | 9               | (D)          | 38          | 32            | (D)          |
| Fairfield | 20                          | 17            | 25              | (D)          | 44          | 39            | (D)          |
| Newberry  | (D)                         | 7             | 6               | 1            | (D)         | (D)           | 43           |
| Richland  | (D)                         | 35            | 16              | -            | 31          | 43            | (D)          |
| Union     | (D)                         | 42            | (D)             | (D)          | 45          | 42            | 35           |
| York      | (D)                         | (D)           | 5               | 7            | (D)         | 5             | 8            |

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## APPENDIX

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

#### Piedmont (45)

The Piedmont is an erosional terrain with some hills; the soils are generally finer-textured than those found in coastal plain regions with less sand and more clay. Piedmont soils are moderately to severely eroded; most of this region is now in planted pine or has reverted to successional pine and hardwood woodlands, with some pasture; spreading urban- and suburbanization is apparent. The Piedmont of South Carolina is divided into five level IV ecoregions: Southern Inner Piedmont (45a), Southern Outer Piedmont (45b), Carolina Slate Belt (45c), Triassic Basins (45g) and Kings Mountain (45i).

#### 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                               |

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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.