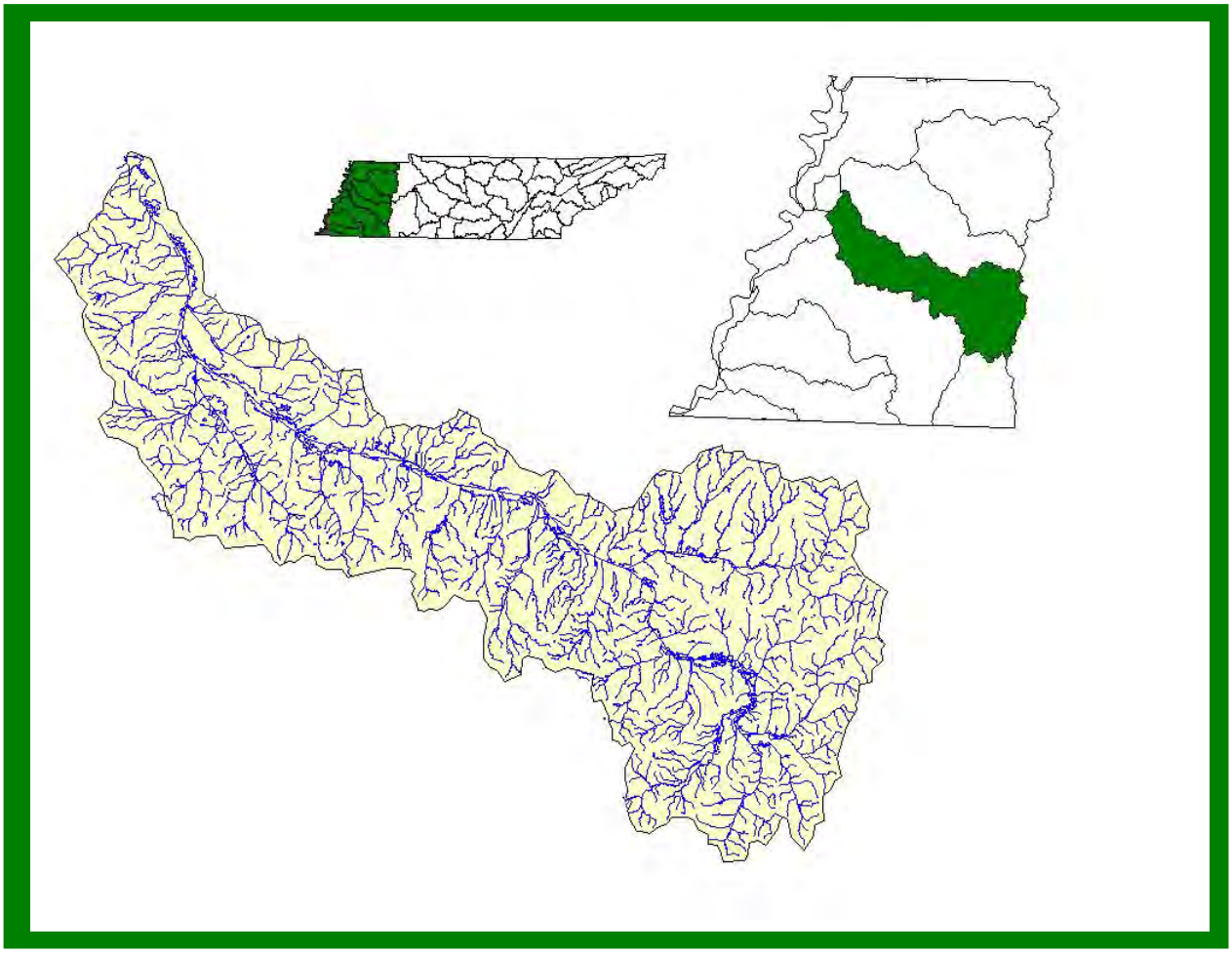
S.F. FORKED DEER RIVER WATERSHED (08010205) OF THE MISSISSIPPI RIVER BASIN

WATER QUALITY MANAGEMENT PLAN



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER POLLUTION CONTROL
WATERSHED MANAGEMENT SECTION

August 19, 2002

SOUTH FORK FORKED DEER RIVER WATERSHED
WATER QUALITY MANAGEMENT PLAN

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GLOSSARY

1Q20. The lowest average 1 consecutive days flow with average recurrence frequency of once every 20 years.

30Q2. The lowest average 3 consecutive days flow with average recurrence frequency of once every 2 years.

7Q10. The lowest average 7 consecutive days flow with average recurrence frequency of once every 10 years.

303(d). The section of the federal Clean Water Act that requires a listing by states, territories, and authorized tribes of impaired waters, which do not meet the water quality standards that states, territories, and authorized tribes have set for them, even after point sources of pollution have installed the minimum required levels of pollution control technology.

305(b). The section of the federal Clean Water Act that requires EPA to assemble and submit a report to Congress on the condition of all water bodies across the Country as determined by a biennial collection of data and other information by States and Tribes.

AFO. Animal Feeding Operation.

Ambient Sites. Those sites established for long term instream monitoring of water quality.

ARAP. Aquatic Resource Alteration Permit.

Assessment. The result of an analysis of how well streams meet the water quality criteria assigned to them.

Bankfull Discharge. The momentary maximum peak flow before a stream overflows its banks onto a floodplain.

Basin. An area that drains several smaller watersheds to a common point. Most watersheds in Tennessee are part of the Cumberland, Mississippi, or Tennessee Basin (The Conasauga River and Barren River Watersheds are the exceptions).

Benthic. Bottom dwelling.

Biorecon. A qualitative multihabitat assessment of benthic macroinvertebrates that allows rapid screening of a large number of sites. A Biorecon is one tool used to recognize stream impairment as judged by species richness measures, emphasizing the presence or absence of indicator organisms without regard to relative abundance.

BMP. An engineered structure or management activity, or combination of these, that eliminates or reduces an adverse environmental effect of a pollutant.

BOD. Biochemical Oxygen Demand. A measure of the amount of oxygen consumed in the biological processes that break down organic and inorganic matter.

CAFO. Concentrated Animal Feeding Operation.

Designated Uses. The part of Water Quality Standards that describes the uses of surface waters assigned by the Water Quality Control Board. All streams in Tennessee are designated for Recreation, Fish and Aquatic Life, Irrigation, and Livestock Watering and Wildlife. Additional designated uses for some, but not all, waters are Drinking Water Supply, Industrial Water Supply, and Navigation.

DMR. Discharge Monitoring Report. A report that must be submitted periodically to the Division of Water Pollution Control by NPDES permitees.

DO. Dissolved oxygen.

EPA. Environmental Protection Agency. The EPA Region 4 web site is http://www.epa.gov/region4/

Field Parameter. Determinations of water quality measurements and values made in the field using a kit or probe. Common field parameters include pH, DO, temperature, conductivity, and flow.

Fluvial Geomorphology. The physical characteristics of moving water and adjoining landforms, and the processes by which each affects the other.

HUC-8. The 8-digit Hydrologic Unit Code corresponding to one of 54 watersheds in Tennessee.

HUC-10. The 10-digit NRCS Hydrologic Unit Code. HUC-10 corresponds to a smaller land area than HUC-8.

HUC-12. The 12-digit NRCS Hydrologic Unit Code. HUC-12 corresponds to a smaller land area than HUC-10.

MRLC. Multi-Resolution Land Classification.

MS4. Municipal Separate Storm Sewer System.

Nonpoint Source (NPS). Sources of water pollution without a single point of origin. Nonpoint sources of pollution are generally associated with surface runoff, which may carry sediment, chemicals, nutrients, pathogens, and toxic materials into receiving waterbodies. Section 319 of the Clean Water Act of 1987 requires all states to assess the impact of nonpoint source pollution on the waters of the state and to develop a program to abate this impact.

NPDES. National Pollutant Discharge Elimination System. Section 402 of the Clean Water Act of 1987 requires dischargers to waters of the U.S. to obtain NPDES permits.

NRCS. Natural Resources Conservation Service. NRCS is part of the federal Department of Agriculture. The NRCS home page is http://www.nrcs.usda.gov

Point Source. Any discernable, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture (Clean Water Act Section 502(14)).

Q Design. The average daily flow that a treatment plant or other facility is designed to accommodate.

Reference Stream (Reference Site). A stream (site) judged to be least impacted. Data from reference streams are used for comparisons with similar streams.

SBR. Sequential Batch Reactor.

Stakeholder. Any person or organization affected by the water quality or by any watershed management activity within a watershed.

STATSGO. State Soil Geographic Database. STATSGO is compiled and maintained by the Natural Resources Conservation Service.

STORET. The EPA repository for water quality data that is used by state environmental agencies, EPA and other federal agencies, universities, and private citizens. STORET (Storage and Retrieval of National Water Quality Data System) data can be accessed at http://www.epa.gov/storet/

TDA. Tennessee Department of Agriculture. The TDA web address is http://www.state.tn.us/agriculture

TDEC. Tennessee Department of Environment and Conservation. The TDEC web address is http://www.tdec.net

TMDL. Total Maximum Daily Load. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of the amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation includes a margin of safety to ensure that the waterbody can be used for the purposes the State has designated. The calculation must also account for seasonal variation in water quality. A TMDL is required for each pollutant in an impaired stream as described in Section 303 of the Federal Clean Water Act of 1987. Updates and information on Tennessee's TMDLs can be found at http://www.tdec.net/wpc/tmdl/

TMSP. Tennessee Multi-Sector Permit.

USGS. United States Geological Survey. USGS is part of the federal Department of the Interior. The USGS home page is http://www.usgs.gov/.

WAS. Waste Activated Sludge.

Water Quality Standards. A triad of designated uses, water quality criteria, and antidegradation statement. Water Quality Standards are established by Tennessee and approved by EPA.

Watershed. A geographic area which drains to a common outlet, such as a point on a larger stream, lake, underlying aquifer, estuary, wetland, or ocean.

WET. Whole Effluent Toxicity.

WWTP. Waste Water Treatment Plant

CHAPTER 1

WATERSHED APPROACH TO WATER QUALITY

1.1 BACKGROUND. The Division of Water Pollution Control is responsible for administration of the Tennessee Water Quality Control Act of 1977 (TCA 69–3–101). Information about the Division of Water Pollution Control, updates and announcements, may be found at http://www.state.tn.us/environment/wpc/index.html, and a summary of the organization of the Division of Water Pollution Control may be found in Appendix I.

The mission of the Division of Water Pollution Control is to abate existing pollution of the waters of Tennessee, to reclaim polluted waters, to prevent the future pollution of the waters, and to plan for the future use of the waters so that the water resources of Tennessee might be used and enjoyed to the fullest extent consistent with the maintenance of unpolluted waters.

The Division monitors, analyzes, and reports on the quality of Tennessee's water. In order to perform these tasks more effectively, the Division adopted a Watershed Approach to Water Quality in 1996.

This Chapter summarizes TDEC's Watershed Approach to Water Quality.

1.2 WATERSHED APPROACH TO WATER QUALITY. The Watershed Approach to Water Quality is a coordinating framework designed to protect and restore aquatic systems and protect human health more effectively (EPA841-R-95-003). The Approach is based on the concept that many water quality problems, like the accumulation of pollutants or nonpoint source pollution, are best addressed at the watershed level. In addition, a watershed focus helps identify the most cost-effective pollution control strategies to meet clean water goals. Tennessee's Watershed Approach, updates and public participation opportunities, may be found on the web at http://www.state.tn.us/environment/wpc/wshed1.htm.

Watersheds are appropriate as organizational units because they are readily identifiable landscape units with readily identifiable boundaries that integrate terrestrial, aquatic, and geologic processes. Focusing on the whole watershed helps reach the best balance among efforts to control point source pollution and polluted runoff as well as protect drinking water sources and sensitive natural resources such as wetlands (EPA-840-R-98-001).

Four main features are typical of the Watershed Approach: 1) Identifying and prioritizing water quality problems in the watershed, 2) Developing increased public involvement, 3) Coordinating activities with other agencies, and 4) Measuring success through increased and more efficient monitoring and other data gathering.

Typically, the Watershed Approach meets the following description (EPA841-R-95-003):

- Features watersheds or basins as the basic management units
- Targets priority subwatersheds for management action
- Addresses all significant point and nonpoint sources of pollution
- Addresses all significant pollutants
- Sets clear and achievable goals
- Involves the local citizenry in all stages of the program
- Uses the resources and expertise of multiple agencies
- Is not limited by any single agency's responsibilities
- Considers public health issues

An additional characteristic of the Watershed Approach is that it complements other environmental activities. This allows for close cooperation with other state agencies and local governments as well as with federal agencies such as the Tennessee Valley Authority and the U.S. Army Corps of Engineers, U.S. Department of Agriculture (*e.g.*, Natural Resources Conservation Service, United States Forest Service), U.S. Department of the Interior (*e.g.* United States Geological Survey, U.S. Fish and Wildlife Service, National Park Service). When all permitted dischargers are considered together, agencies are better able to focus on those controls necessary to produce measurable improvements in water quality. This also results in a more efficient process: It encourages agencies to focus staff and financial resources on prioritized geographic locations and makes it easier to coordinate between agencies and individuals with an interest in solving water quality problems (EPA841-R-003).

The Watershed Approach is not a regulatory program or a new EPA mandate; rather it is a decision making process that reflects a common strategy for information collection and analysis as well as a common understanding of the roles, priorities, and responsibilities of all stakeholders within a watershed. The Watershed Approach utilizes features already in state and federal law, including:

- Water Quality Standards
- National Pollutant Discharge Elimination System (NPDES)
- Total Maximum Daily Loads (TMDLs)
- Clean Lakes Program
- Nonpoint Source Program
- Groundwater Protection

Traditional activities like permitting, planning, and monitoring are also coordinated in the Watershed Approach. A significant change from the past, however, is that the Watershed Approach encourages integration of traditional regulatory (point source pollution) and nonregulatory (nonpoint sources of pollution) programs. There are additional changes from the past as well:

THE PAST	WATERSHED APPROACH
Focus on fixed-station ambient monitoring	Focus on comprehensive watershed monitoring
Focus on pollutant discharge sites	Focus on watershed-wide effects
Focus on WPC programs	Focus on coordination and cooperation
Focus on point sources of pollution	Focus on all sources of pollution
Focus on dischargers as the problem	Focus on dischargers as an integral part of the solution
Focus on short-term problems	Focus on long-term solutions

Table 1-1. Contrast Between the Watershed Approach and the Past.

This approach places greater emphasis on all aspects of water quality, including chemical water quality (conventional pollutants, toxic pollutants), physical water quality (temperature, flow), habitat quality (channel morphology, composition and health of benthic communities), and biodiversity (species abundance, species richness).

1.2.A. Components of the Watershed Approach. Tennessee is composed of fifty-five watersheds corresponding to the 8-digit USGS Hydrologic Unit Codes (HUC-8). These watersheds, which serve as geographic management units, are combined in five groups according to year of implementation.

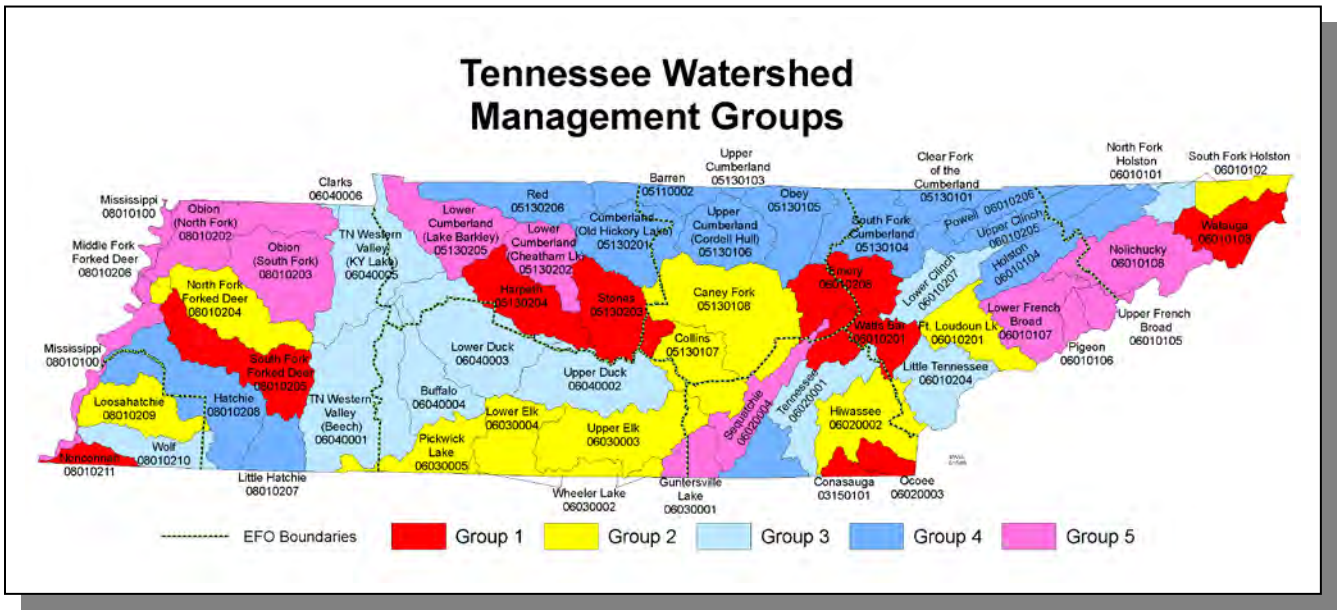

Figure 1-1. Watershed Groups in Tennessee's Watershed Approach to Water Quality.

Each year, TDEC conducts monitoring in one-fifth of Tennessee's watersheds; assessment, priority setting and follow-up monitoring are conducted in another one fifth of watersheds; modeling and TMDL studies in another one fifth; developing management plans in another one fifth; and implementing management plans in another one fifth of watersheds.

GROUP	WEST TENNESSEE	MIDDLE TENNESSEE	EAST TENNESSEE
1	Nonconnah South Fork Forked Deer	Harpeth Stones	Conasauga Emory Ocoee Watauga Watts Bar
2	Loosahatchie Middle Fork Forked Deer North Fork Forked Deer	Caney Fork Collins Lower Elk Pickwick Lake Upper Elk Wheeler Lake	Fort Loudoun Hiwassee South Fork Holston (Upper) Wheeler Lake
3	Tennessee Western Valley (Beech River) Tennessee Western Valley (KY Lake) Wolf River	Buffalo Lower Duck Upper Duck	Little Tennessee Lower Clinch North Fork Holston South Fork Holston (Lower) Tennessee (Upper)
4	Lower Hatchie Upper Hatchie	Barren Obey Red Upper Cumberland (Cordell Hull Lake) Upper Cumberland (Old Hickory Lake) Upper Cumberland (Cumberland Lake)	Holston Powell South Fork Cumberland Tennessee (Lower) Upper Clinch Upper Cumberland (Clear Fork)
5	Mississippi North Fork Obion South Fork Obion	Guntersville Lake Lower Cumberland (Cheatham Lake) Lower Cumberland (Lake Barkley)	Lower French Broad Nolichucky Pigeon Upper French Broad

Table 1-2. Watershed Groups in Tennessee's Watershed Approach.

In succeeding years of the cycle, efforts rotate among the watershed groups. The activities in the five year cycle provide a reference for all stakeholders.

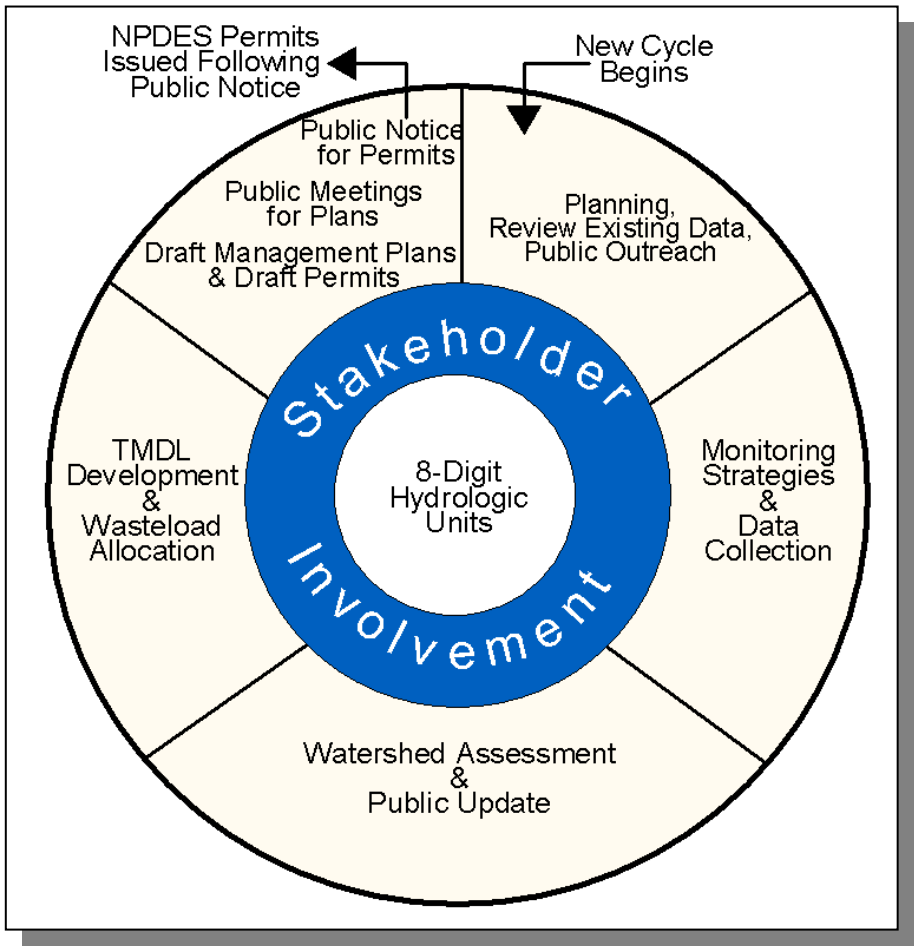

Figure 1-2. The Watershed Approach Cycle.

The six key activities that take place during the cycle are:

1. Planning and Existing Data Review. Existing data and reports from appropriate agencies and organizations are compiled and used to describe the current conditions and status of rivers and streams. Reviewing all existing data and comparing agencies' work plans guide the development of an effective monitoring strategy.

2. Monitoring. Field data is collected for streams in the watershed. These data supplement existing data and are used for the water quality assessment.

3. Assessment. Monitoring data are used to determine the status of the stream's designated use supports.

4. Wasteload Allocation/TMDL Development. Monitoring data are used to determine nonpoint source contributions and pollutant loads for permitted dischargers releasing wastewater to the watershed. Limits are set to assure that water quality is protected.

5. Permits. Issuance and expiration of all discharge permits are synchronized based on watersheds. Currently, 1700 permits have been issued in Tennessee under the federally delegated National Pollutant Discharge Elimination System (NPDES).

6. Watershed Management Plans. These plans include information for each watershed including general watershed description, water quality goals, major water quality concerns and issues, and management strategies.

Public participation opportunities occur throughout the entire five year cycle. Participation in Years 1, 3 and 5 is emphasized, although additional meetings are held at stakeholder's request. People tend to participate more readily and actively in protecting the quality of waters in areas where they live and work, and have some roles and responsibilities:

- Data sharing
- Identification of water quality stressors
- Participation in public meetings
- Commenting on management plans
- Shared commitment for plan implementation

1.2.B. Benefits of the Watershed Approach. The Watershed Approach fosters a better understanding of the physical, chemical and biological effects on a watershed, thereby allowing agencies and citizens to focus on those solutions most likely to be effective. The Approach recognizes the need for a comprehensive, ecosystem-based approach that depends on local governments and local citizens for success (EPA841-R-95-004). On a larger scale, many lessons integrating public participation with aquatic ecosystem-based programs have been learned in the successful Chesapeake Bay, Great Lakes, Clean Lakes, and National Estuary Programs.

Benefits of the Watershed Approach include (EPA841-R-95-004):

- Focus on water quality goals and ecological integrity rather than on program activities such as number of permits issued.

- Improve basis for management decisions through consideration of both point and nonpoint source stressors. A watershed strategy improves the scientific basis for decision making and focuses management efforts on basins and watersheds where they are most needed. Both point and nonpoint control strategies are more effective under a watershed approach because the Approach promotes timely and focused development of TMDLs.

- Enhance program efficiency, as the focus becomes watershed. A watershed focus can improve the efficiency of water management programs by facilitating consolidation of programs within each watershed. For example, handling all point source dischargers in a watershed at the same time reduces administrative costs due to the potential to combine hearings and notices as well as allowing staff to focus on more limited areas in a sequential fashion.

- Improve coordination between federal, state and local agencies including data sharing and pooling of resources. As the focus shifts to watersheds, agencies are better able to participate in data sharing and coordinated assessment and control strategies.

- Increase public involvement. The Watershed Approach provides opportunities for stakeholders to increase their awareness of water-related issues and inform staff about their knowledge of the watershed. Participation is via three public meetings over the five-year watershed management cycle as well as meetings at stakeholder's request. Additional opportunities are provided through the Department of Environment and Conservation homepage and direct contact with local Environmental Assistance Centers.

- Greater consistency and responsiveness. Developing goals and management plans for a basin or watershed with stakeholder involvement results in increased responsiveness to the public and consistency in determining management actions. In return, stakeholders can expect improved consistency and continuity in decisions when management actions follow a watershed plan.

Additional benefits of working at the watershed level are described in the Clean Water Action Plan (EPA-840-R-98-001), and can be viewed at http://www.cleanwater.gov/action/toc.html.

The Watershed Approach represents awareness that restoring and maintaining our waters requires crossing traditional barriers (point *vs.* nonpoint sources of pollution) when designing solutions. These solutions increasingly rely on participation by both public and private sectors, where citizens, elected officials and technical personnel all have opportunity to participate. This integrated approach mirrors the complicated relationships in which people live, work and recreate in the watershed, and suggests a comprehensive, watershed-based and community-based approach is needed to address these (EPA841-R-97-005).

CHAPTER 2

DESCRIPTION OF THE SOUTH FORK FORKED DEER RIVER WATERSHED

2.1 BACKGROUND. Originally called Okeena, the Forked Deer River was renamed in the 1780s when surveyors noticed that the branches flowing into the Mississippi River favored a deer's forked antlers. Sighting of a deer with deformed antlers convinced the surveyors to keep the name.

The South Fork Forked Deer Watershed includes low-gradient streams with sandy bottoms and silty substrates. Some streams in the watershed have increased gradient and small areas of gravel substrate that create distinct aquatic habitats. Unique, isolated fish assemblages are also found in this region.

This Chapter describes the location and characteristics of the South Fork Forked Deer River Watershed.

2.2. DESCRIPTION OF THE WATERSHED.

2.2.A. General Location. The South Fork Forked Deer River Watershed is located in West Tennessee and includes parts of Chester, Crockett, Dyer, Haywood, Henderson, Lauderdale, Madison, and McNairy Counties.

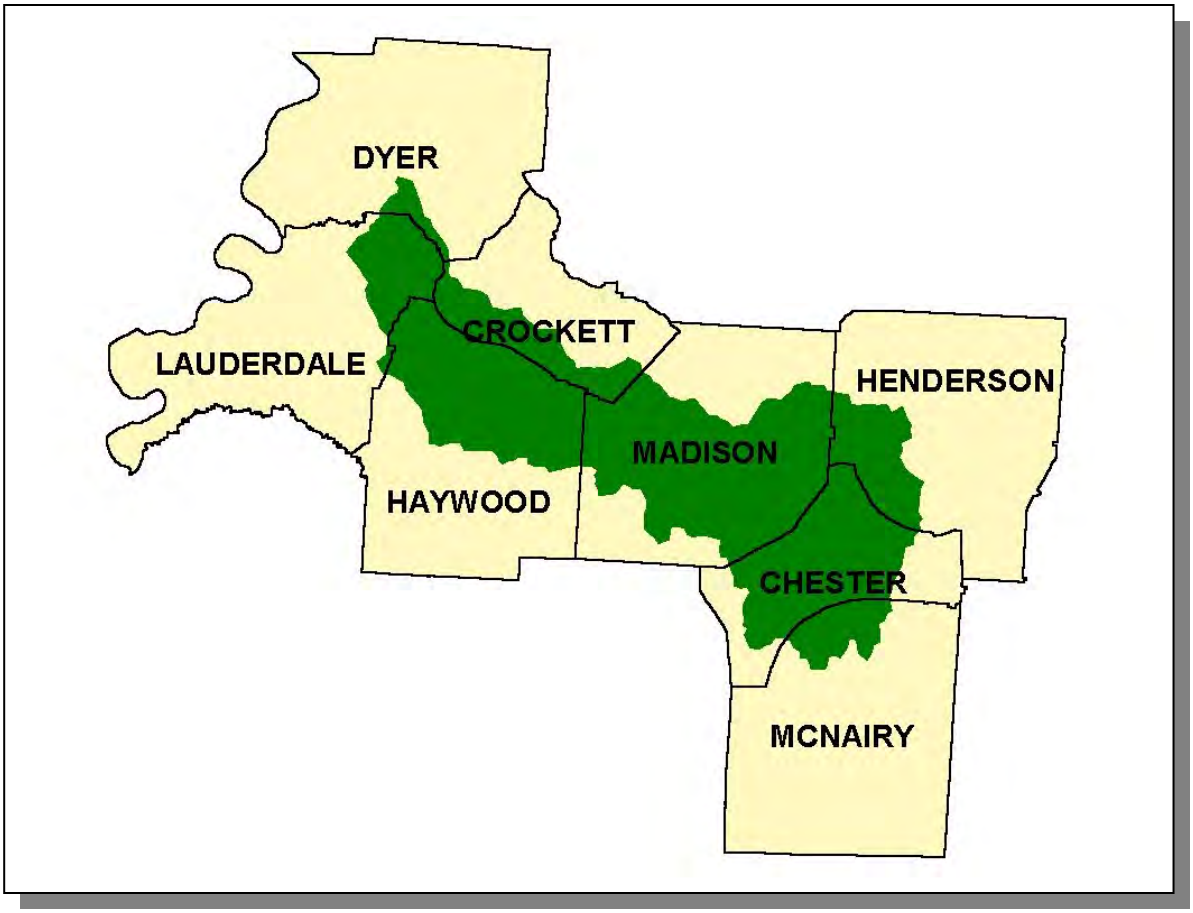

Figure 2-1. General Location of the South Fork Forked Deer River Watershed.

COUNTY	% OF WATERSHED IN EACH COUNTY
Madison	31.9
Haywood	20.7
Chester	17.9
Crockett	8.0
Henderson	7.9
Lauderdale	7.3
McNairy	4.6
Dyer	1.7

Table 2-1. The South Fork Forked Deer River Watershed Includes Parts of Eight West Tennessee Counties.

2.2.B. Population Density Centers. One interstate (I-40) and seven state highways serve the major communities in the South Fork Forked Deer River Watershed.

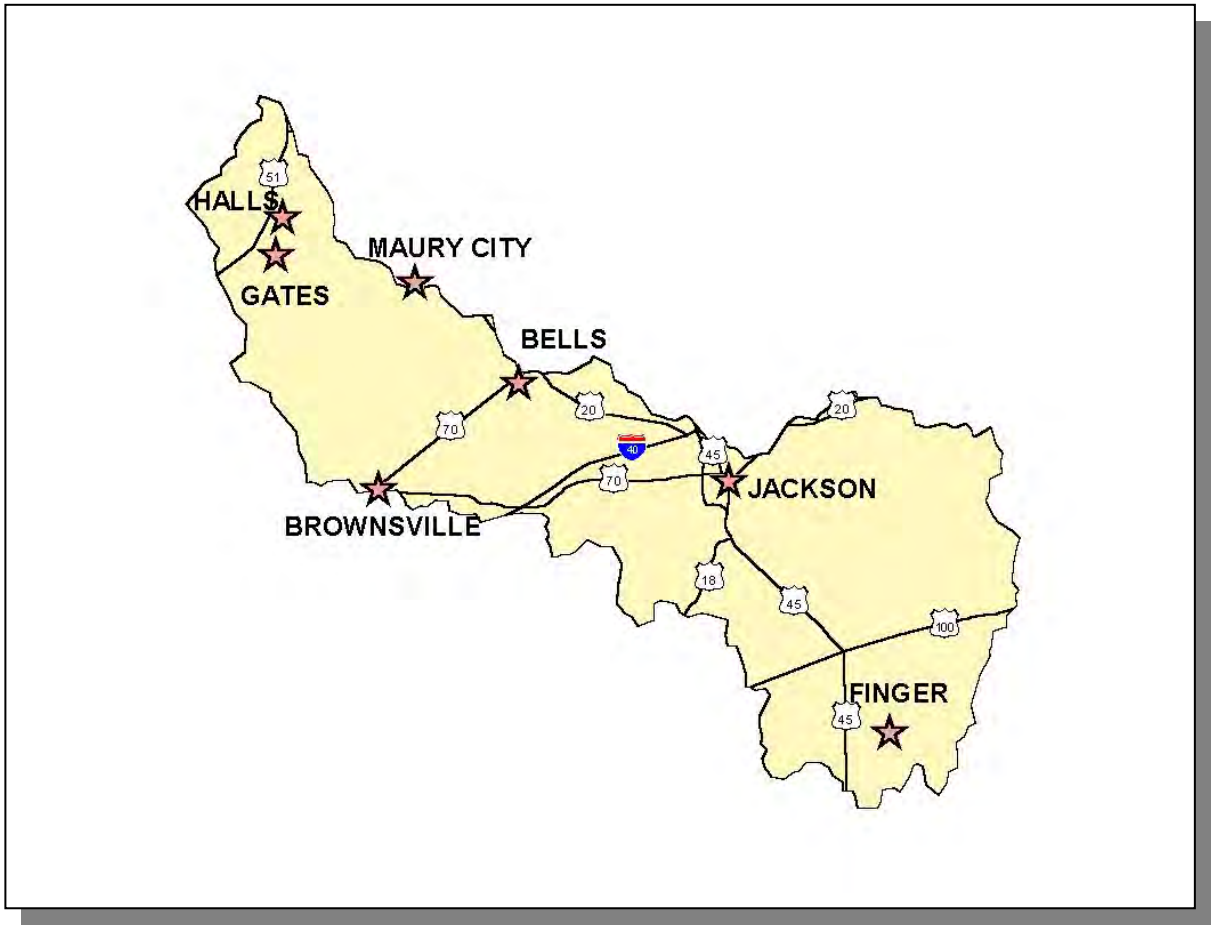

Figure 2-2. Municipalities and Roads in the South Fork Forked Deer River Watershed.

MUNICIPALITY	POPULATION	COUNTY
Jackson*	48,949	Madison
Brownsville*	10,019	Haywood
Halls	2,562	Lauderdale
Bells	1,643	Crockett
Maury City	782	Crockett
Gates	608	Lauderdale
Finger	279	McNairy

Table 2-2. Municipalities in the South Fork Forked Deer River Watershed. *Population based on 1990 census (Tennessee Blue Book). Asterisk (*) indicates county seat.*

2.3. GENERAL HYDROLOGIC DESCRIPTION.

2.3.A. Hydrology. The South Fork Forked Deer River Watershed, designated the Hydrologic Unit Code 08010205 by the USGS, is approximately 1,062 square miles and drains to the Forked Deer River.

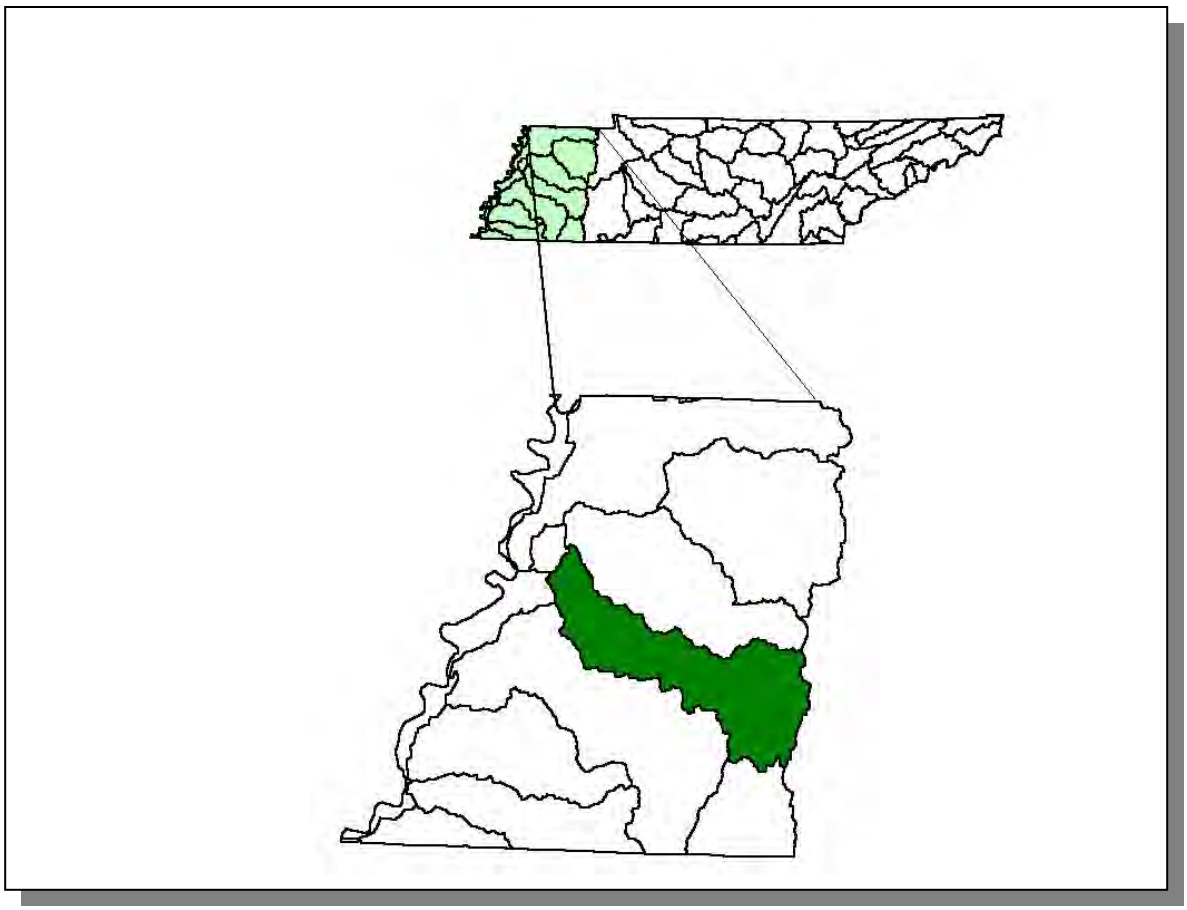

Figure 2-3. The South Fork Forked Deer River Watershed is Part of the Mississippi River Basin.

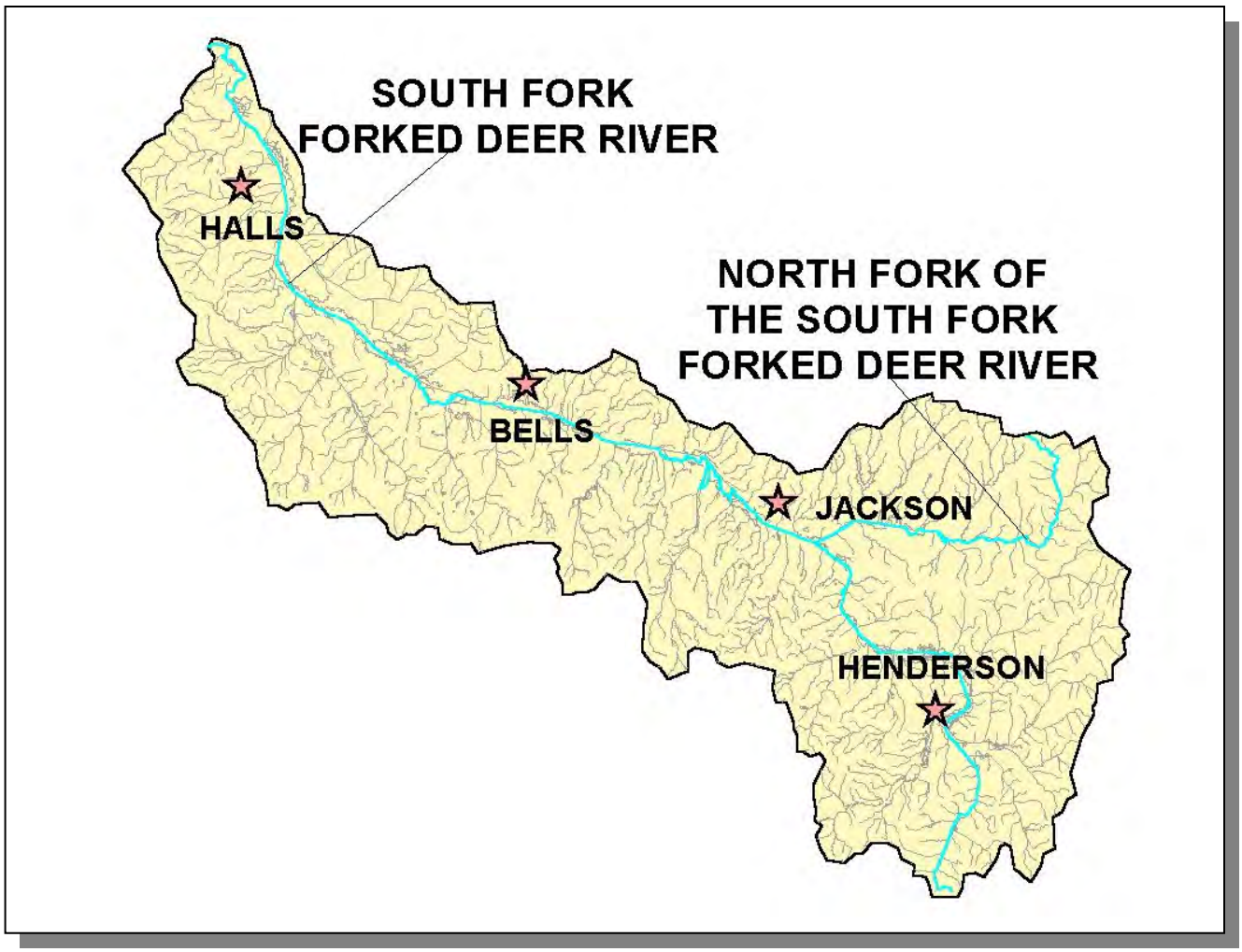

Figure 2-4. Hydrology in the South Fork Forked Deer River Watershed. *There are 1,771 stream miles and 570 lake acres recorded in River Reach File 3 in the South Fork Forked Deer River Watershed. Locations of South Fork Forked Deer River and North Fork of the South Fork Forked Deer River and the cities of Bells, Halls, Henderson, and Jackson are shown for reference.*

2.3.B. Dams. There are 57 dams inventoried by TDEC Division of Water Supply in the South Fork Forked Deer River Watershed. These dams either retain at least 30 acre-feet of water or have structures at least 20 feet high. Additional dams may be found in the watershed.

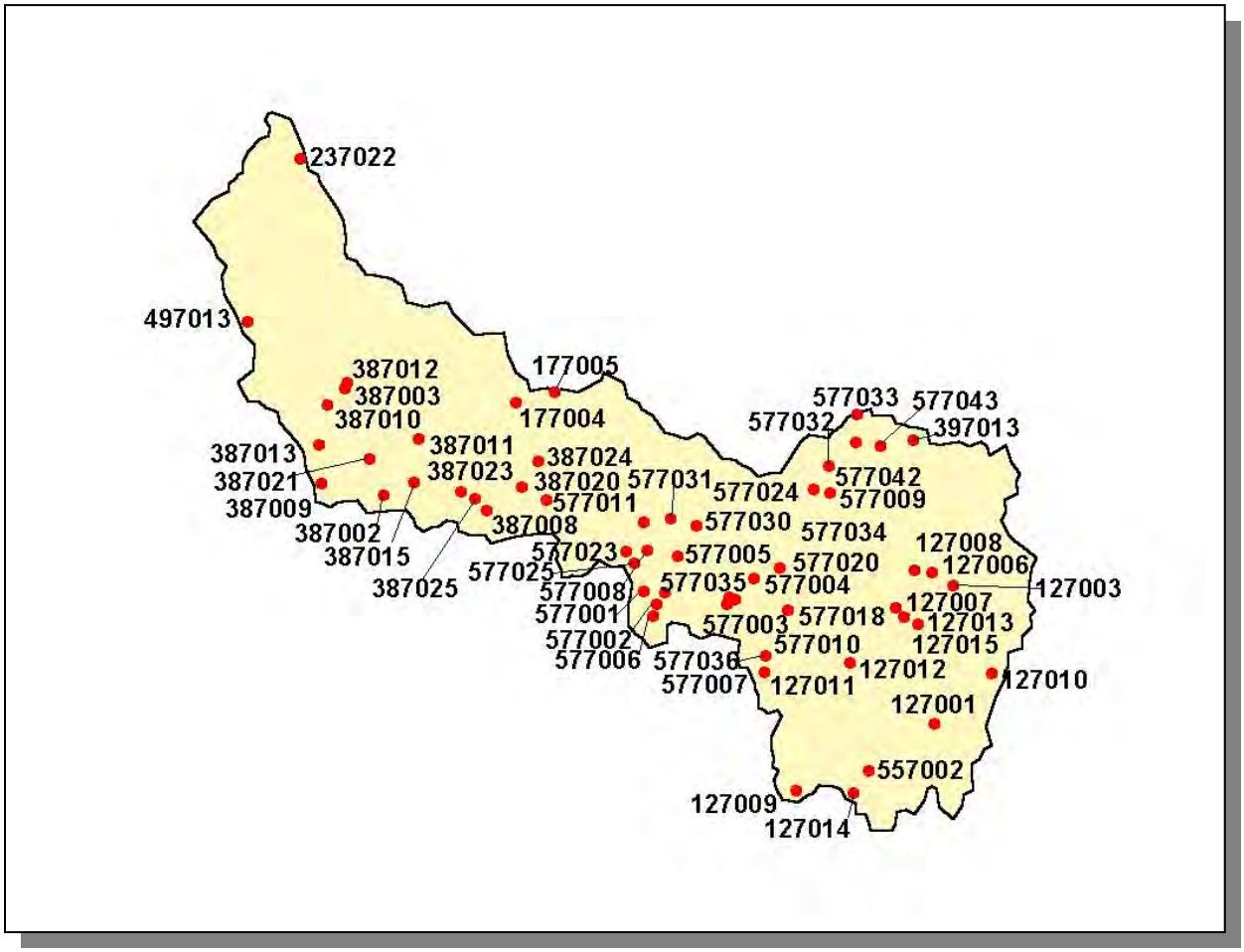

Figure 2-5. Location of Inventoried Dams in the South Fork Forked Deer River Watershed. *More information is provided in SFFD-Appendix II.*

2.4 LAND USE. Land Use/Land Cover information was provided by EPA Region 4 and was interpreted from 1992 Multi-Resolution Land Cover (MRLC) satellite imagery.

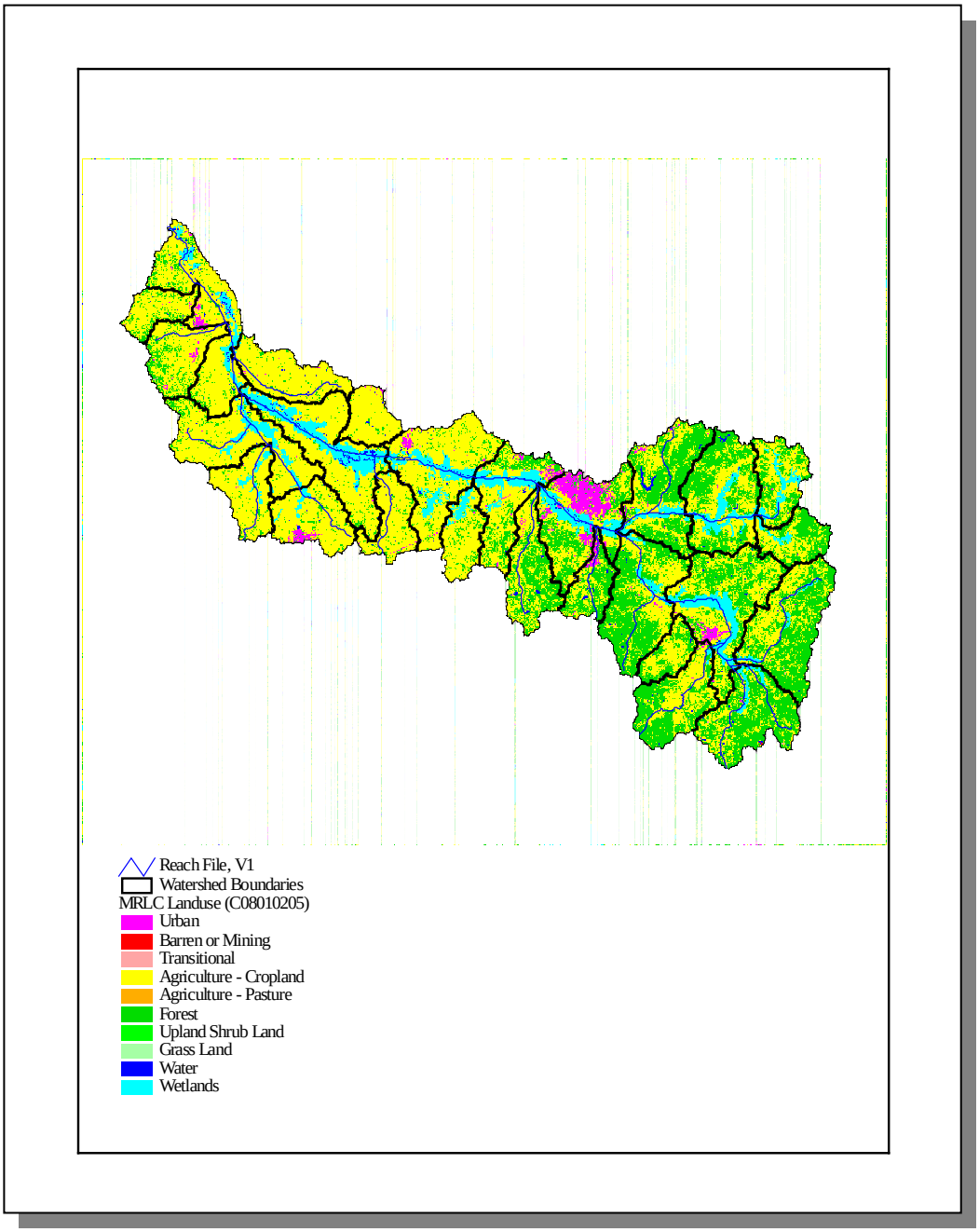

Figure 2-6. Illustration of Select Land Cover/Land Use Data from MRLC Satellite Imagery.

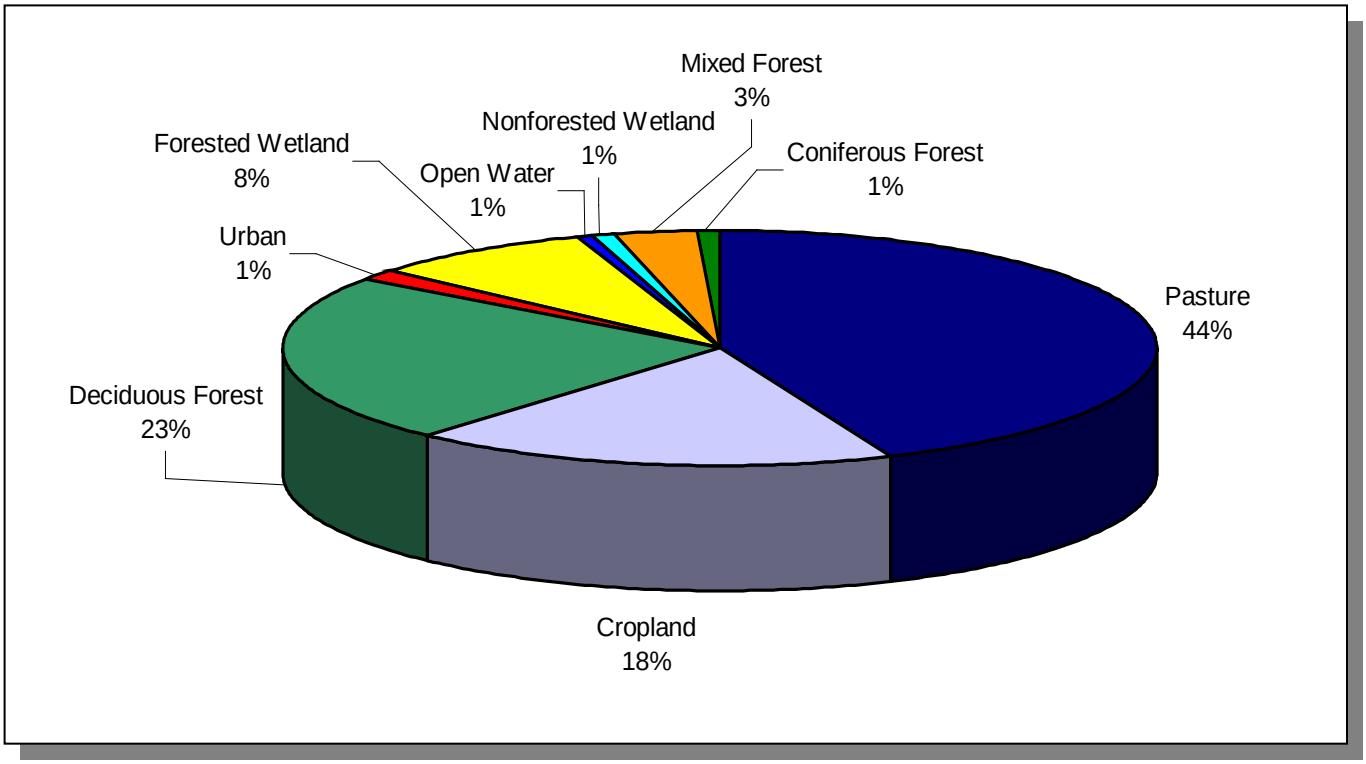

Figure 2-7. Land Use Distribution in the South Fork Forked Deer River Watershed. *More information is provided in SFFD-Appendix II.*

2.5 ECOREGIONS AND REFERENCE STREAMS. Ecoregions are defined as relatively homogeneous areas of similar geography, topography, climate and soils that support similar plant and animal life. Ecoregions serve as a spatial framework for the assessment, management, and monitoring of ecosystems and ecosystem components. Ecoregion studies include selection of regional stream reference sites, identifying high quality waters, and developing ecoregion-specific chemical and biological water quality criteria.

There are eight Level III Ecoregions and twenty-five Level IV subecoregions in Tennessee. The South Fork Forked Deer River Watershed lies within 3 Level III ecoregions (Southwestern Plains, Mississippi Alluvial Plain, Mississippi Valley Loess Plains) and contains 4 Level IV subecoregions (Griffen, Omernik, Azavedo, 1997):

- The Southeastern Plains and Hills (65e) contain several north-south trending bands of sand and clay formations. Tertiary-age sand, clay, and lignite are to the west, and Cretaceous-age fine sand, fossiliferous micaceous sand, and silty clays are to the east. With elevations reaching over 650 feet, and more rolling topography and more relief than the Loess Plains (74b) to the west, streams have increased gradient, generally sandy substrates, and distinctive faunal characteristics for west Tennessee. The natural vegetation type is oak-hickory forest, grading into oak-hickory-pine to the south.

- The Northern Mississippi Alluvial Plain (73a) within Tennessee is a relatively flat region of Quaternary alluvial deposits of sand, silt, clay, and gravel. It is bounded distinctly on the east by the Bluff Hills (74a), and on the west by the Mississippi River. Average elevations are 200-300 feet with little relief. Most of the region is in cropland, with some areas of deciduous forest. Soybeans, cotton, corn, sorghum, and vegetables are the main crops. The natural vegetation consists of Southern floodplain forest (oak, tupelo, bald cypress). The two main distinctions in the Tennessee portion of the ecoregion are between areas of loamy, silty, and sandy soils with better drainage, and areas of more clayey soils of poor drainage that may contain wooded swamp-land and oxbow lakes. Waterfowl, raptors, and migratory songbirds are relatively abundant in the region.

- The Bluff Hills (74a) consist of sand, clay, silt, and lignite, and are capped by loess greater than 60 feet deep. The disjunct region in Tennessee encompasses those thick loess areas that are generally the steepest, most dissected, and forested. The carved loess has a mosaic of microenvironments, including dry slopes and ridges, moist slopes, ravines, bottomland areas, and small cypress swamps. While oak-hickory is the general forest type, some of the undisturbed bluff vegetation is rich in mesophytes, such as beech and sugar maple, with similarities to hardwood forests of eastern Tennessee. Smaller streams of the Bluff Hills have localized reaches of increased gradient and small areas of gravel substrate that create aquatic habitats that are distinct from those of the Loess Plains (74b) to the east. Unique, isolated fish assemblages more typical of upland habitats can be found in these stream reaches. Gravels are also exposed in places at the base of the bluffs.

- The Loess Plains (74b) are gently rolling, irregular plains, 250-500 feet in elevation, with loess up to 50 feet thick. The region is a productive agricultural area of soybeans, cotton, corn, milo, and sorghum crops, along with livestock and poultry. Soil erosion can be a problem on the steeper, upland Alfisol soils; bottom soils are mostly silty Entisols. Oak-hickory and southern floodplain forests are the natural

vegetation types, although most of the forest cover has been removed for cropland. Some less-disturbed bottomland forest and cypress-gum swamp habitats still remain. Several large river systems with wide floodplains, the Obion, Forked Deer, Hatchie, Loosahatchie, and Wolf, cross the region. Streams are low-gradient and murky with silt and sand bottoms, and most have been channelized.

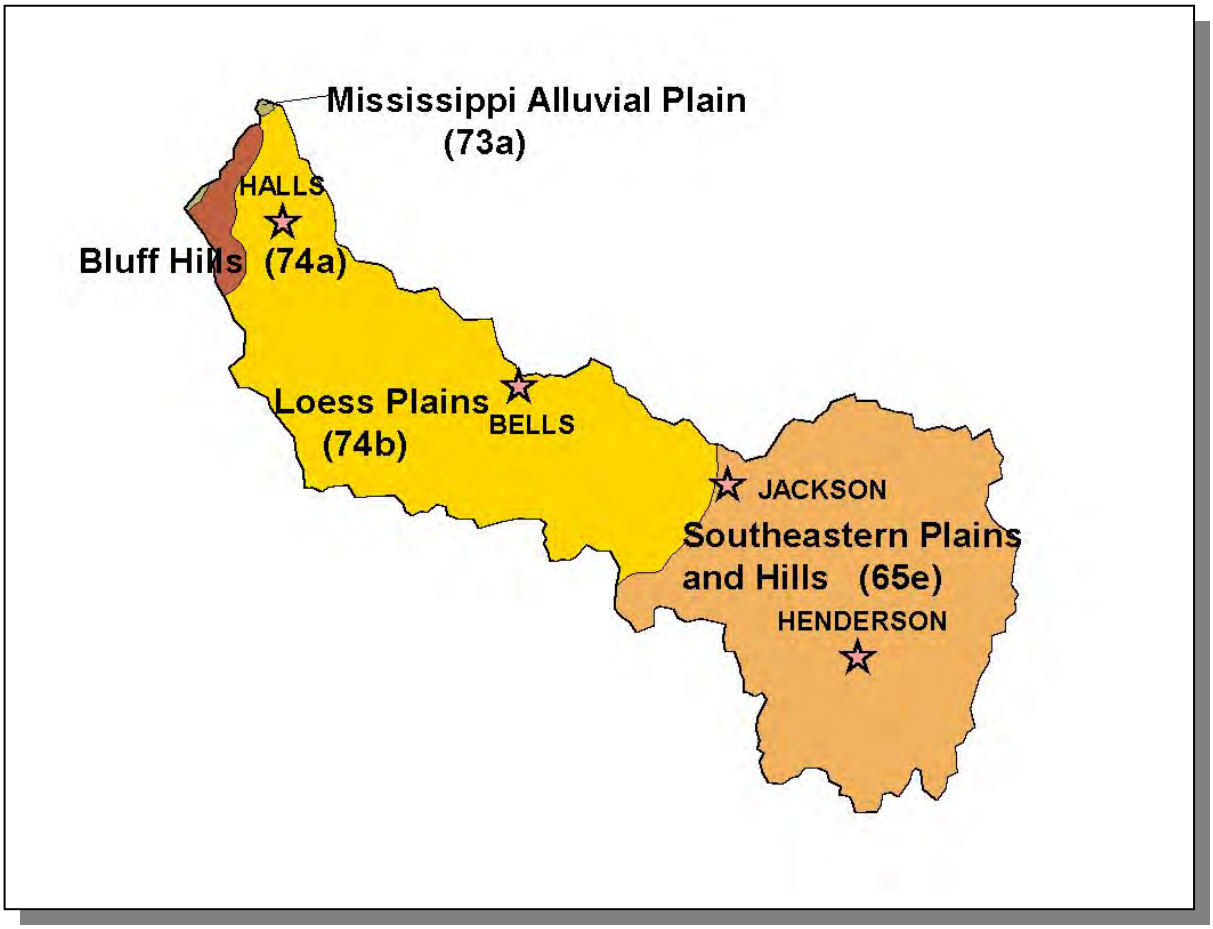

Figure 2-8. Level IV Ecoregions in the South Fork Forked Deer River Watershed. *Locations of Bells, Halls, Henderson, and Jackson are shown for reference.*

Each Level IV Ecoregion has at least one reference stream associated with it. A reference stream represents a least impacted condition and may not be representative of a pristine condition.

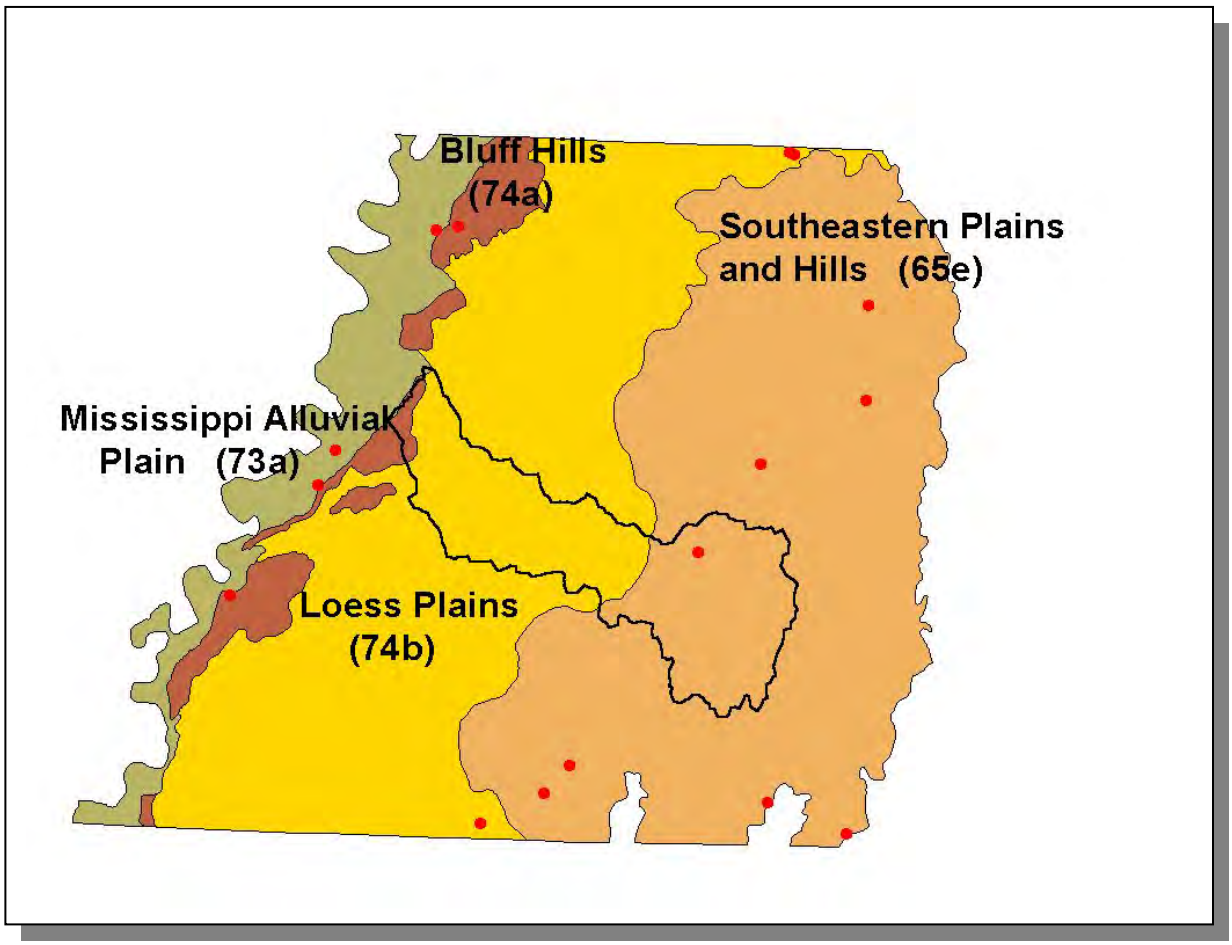

Figure 2-9. Ecoregion Monitoring Sites in Level IV Ecoregions 65e, 73a, 74a, 74b. *The South Fork Forked Deer River Watershed is shown for reference. Additional information is provided in SFFD-Appendix II.*

2.6. NATURAL RESOURCES.

2.6.A. Rare Plants and Animals. The Heritage Program in the TDEC Division of Natural Heritage maintains a database of rare species that is shared by partners at The Nature Conservancy, Tennessee Wildlife Resources Agency, the US Fish and Wildlife Service, and the Tennessee Valley Authority. The information is used to: 1) track the occurrence of rare species in order to accomplish the goals of site conservation planning and protection of biological diversity, 2) identify the need for, and status of, recovery plans, and 3) conduct environmental reviews in compliance with the Federal Endangered Species Act.

GROUPING	NUMBER OF RARE SPECIES
Crustaceans	0
Insects	0
Mussels	0
Snails	0
Amphibians	1
Birds	6
Fish	1
Mammals	1
Reptiles	0
Plants	8
Total	**17**

Table 2-3. There are 17 Documented Rare Plant and Animal Species in the South Fork Forked Deer River Watershed. Additional rare plant and animal species may be present.

Additionally, in the South Fork Forked Deer River Watershed, there is one endangered fish species.

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS
Etheostoma pyrrhogaster	Firebelly darter		D

Table 2-4. Rare Aquatic Species in the South Fork Forked Deer River Watershed. *State Status: D, Deemed in Need of Management by the Tennessee Wildlife Resources Agency.*

2.6.B. Wetlands. The Division of Natural Heritage maintains a database of wetland records in Tennessee. These records are a compilation of field data from wetland sites inventoried by various state and federal agencies. Maintaining this database is part of Tennessee's Wetland Strategy, which is described at http://www.state.tn.us/environment/epo/wetlands/strategy.zip.

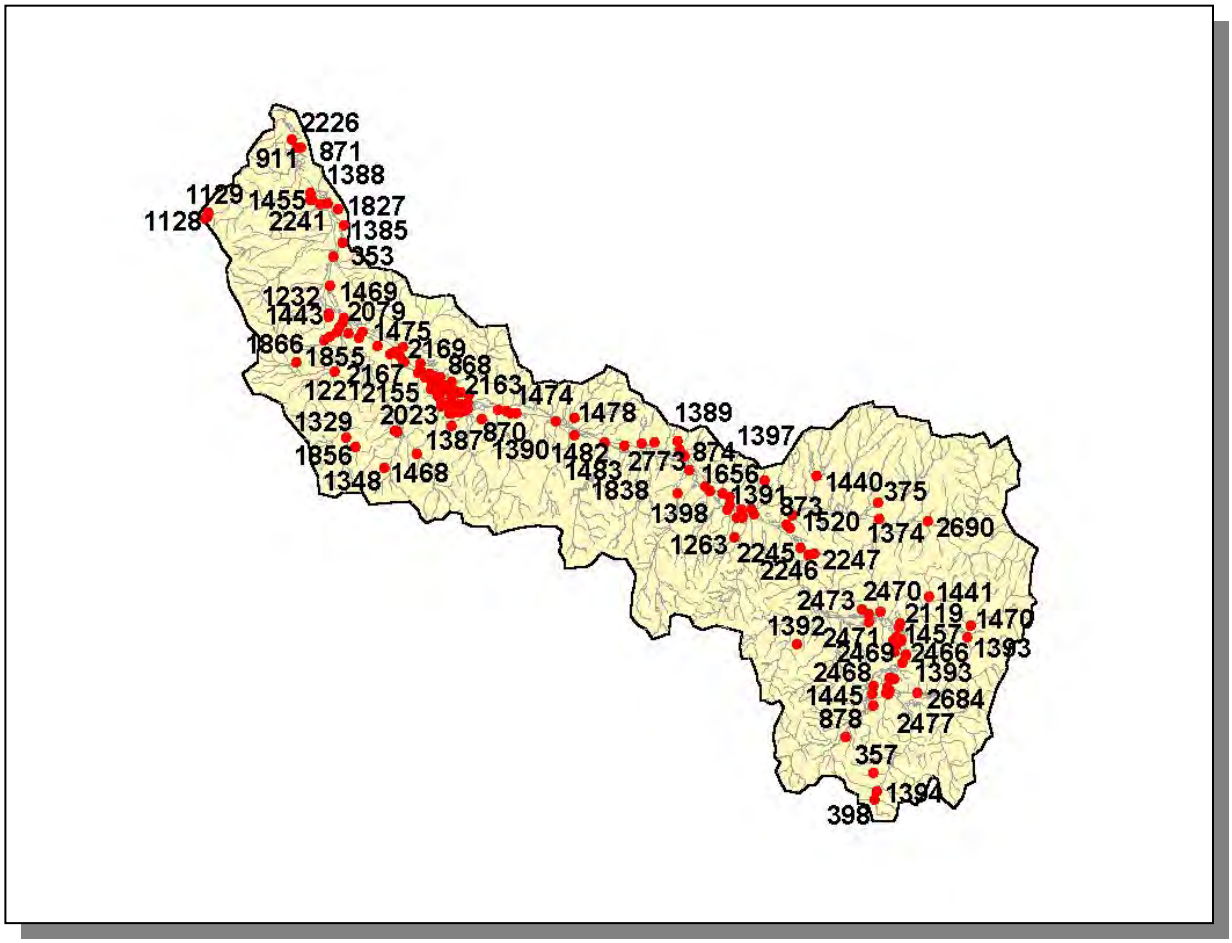

Figure 2-10. Location of Wetland Sites in TDEC Division of Natural Heritage Database in South Fork Forked Deer River Watershed. There may be additional wetland sites in the watershed. *Additional information is provided in SFFD-Appendix II.*

2.7. CULTURAL RESOURCES.

2.7.A. Interpretive Areas. Some sites representative of the cultural heritage are under state or federal protection:

- Shiloh Military Park, the scene of a Civil War battle
- Britton Lane Battlefield, includes a restored cabin which served as a Civil War hospital
- Pinson Mounds State Park and Archeological Mound, a complex that includes numerous Indian mounds and a museum

In addition, many local interpretive areas are common, most notably, Cypress Grove Nature Park and Tamarack Park in Jackson.

2.7.B. Wildlife Management Area. The Tennessee Wildlife Resources Agency manages the Chickasaw State Forest jointly with the State Forestry Division.

Figure 2-11. Chickasaw State Forest in the South Fork Forked Deer River Watershed. *Locations of Bells, Halls, Henderson, and Jackson are shown for reference.*

2.8. TENNESSEE RIVERS ASSESSMENT PROJECT. The Tennessee Rivers Assessment is part of a national program operating under the guidance of the National Park Service's Rivers and Trails Conservation Assistance Program. The Assessment is an inventory of river resources, and should not be confused with "Assessment" as defined by the Environmental Protection Agency. A more complete description can be found in the Tennessee Rivers

Assessment Summary Report, which is available from the Department of Environment and Conservation and on the web at:

http://www.state.tn.us/environment/wpc/riv

STREAM	NSQ	RB	RF	STREAM	NSQ	RB	RF
Allen Creek	2			Marlin Creek	4		
Bear Creek	2			Melton Branch Sugar Creek	4		
Black Creek	4			Meridian Creek (South Fork Forked Deer)	3	4	
Bond Creek	4			Meridian Creek (Nixon Creek Canal)	4		
Briar Creek	4			Middle Fork Creek	4		
Brown Creek	4			Mill Creek	3		
Bushel Branch Huggins Creek	3			Mud Creek	4		
Cane Creek	4			Nixon Creek Canal	4	3	
Clarks Creek	3,4		2,4	North Fork of South Fork Forked Deer River	2	2	2
Connley Creek	4			Otter Creek	4		
Cotton Grove Creek	3			Panther Creek	4		
Cub Creek	4			Pond Creek	4		
Cypress Creek	3			Right Fork Sweet Lips Creek	3		
Dry Creek	4			South Fork Forked Deer River	3,4	2,3	
Finger Creek	3			Spencer Creek	3		
Harris Creek	3			Spring Creek	3		
Huggins Creek	3		2	Sugar Creek	4		
Jacks Creek	3,4		2	Sweet Lips Creek	3		
Jacobs Creek	4			Tar Creek	4		
Johnson Creek	4			Turkey Creek	3		
Jones Creek	3			Tributary to Meridian Creek	4		
Kail Creek	4			Tributary to Jacks Creek	4		
Little Sugar Creek	3			Whitson Creek	4		
Lost Creek	4						

Table 2-5. Stream Scoring from the Tennessee Rivers Assessment Project.

Categories: NSQ, Natural and Scenic Qualities
RB, Recreational Boating
RF, Recreational Fishing

Scores: 1. Statewide or greater Significance; Excellent Fishery
2. Regional Significance; Good Fishery
3. Local Significance; Fair Fishery
4. Not a significant Resource; Not Assessed as a fishery

CHAPTER 3

WATER QUALITY ASSESSMENT OF THE SOUTH FORK FORKED DEER RIVER WATERSHED.

3.1 BACKGROUND. Section 305(b) of The Clean Water Act requires states to report the status of water quality every two years. Historically, Tennessee's methodologies, protocols, frequencies and locations of monitoring varied depending upon whether sites were ambient, ecoregion, or intensive survey. Alternatively, in areas where no direct sampling data existed, water quality may have been assessed by evaluation or by the knowledge and experience of the area by professional staff.

In 1996, Tennessee began the watershed approach to water quality protection. In the Watershed Approach, resources—both human and fiscal—are better used by assessing water quality more intensively on a watershed-by-watershed basis. In this approach, water quality is assessed in year three, following one to two years of data collection. More information about the Watershed Approach may be found at http://www.state.tn.us/environment/wpc/wshed1.htm.

The assessment information is used in the 305(b) Report (The Status of Water Quality in Tennessee) and the 303(d) list as required by the Clean Water Act.

The 305(b) Report documents the condition of the State's waters. Its function is to provide information used for water quality based decisions, evaluate progress, and measure success.

Tennessee uses the 305(b) Report to meet four goals (from 2000 305(b) Report):

1. Assess the general water quality conditions of rivers, streams, lakes and wetlands

2. Identify causes of water pollution and the sources of pollutants

3. Specify waters which have been found to pose human health risks due to elevated bacteria levels or contamination of fish

4. Highlight areas of improved water quality

EPA aggregates the state use support information into a national assessment of the nation's water quality. This aggregated use support information can be viewed at EPA's Surf Your Watershed site at:

http://www.epa.gov/OW/resources/9698/tn.html

The 303(d) list is a compilation of the waters of Tennessee that are water quality limited and fail to support some or all of their classified uses. Water quality limited streams are those that have one or more properties that violate water quality standards. Therefore, the water body is considered to be impacted by pollution and is not fully meeting its designated uses. The 303(d) list does not include streams determined to be fully supporting designated uses as well as streams the Division of Water Pollution Control cannot assess due to lack of water quality information. Also absent are streams where a control strategy is already in the process of being implemented.

Once a stream is placed on the 303(d) list, it is considered a priority for water quality improvement efforts. These efforts not only include traditional regulatory approaches such as permit issuance, but also include efforts to control pollution sources that have historically been exempted from regulations, such as certain agricultural and forestry activities. If a stream is on the 303(d) list, the Division of Water Pollution Control cannot use its regulatory authority to allow additional sources of the same pollutant(s).

States are required to develop Total Maximum Daily Loads (TMDLs) for 303(d)-listed waterbodies. The TMDL process establishes the maximum amount of a pollutant that a waterbody can assimilate without exceeding water quality standards and allocates this load among all contributing pollutant sources. The purpose of the TMDL is to establish water quality objectives required to reduce pollution from both point and nonpoint sources and to restore and maintain the quality of water resources.

The current 303(d) List is available on the TDEC homepage at http://www.state.tn.us/environment/water.htm and information about Tennessee's TMDL program may be found at http://www.state.tn.us/environment/wpc/tmdl.htm.

This chapter provides a summary of water quality in the South Fork Forked Deer River Watershed, and summarizes data collection, assessment results and a description of impaired waters.

3.2 DATA COLLECTION. Comprehensive water quality monitoring in the South Fork Forked Deer River Watershed was conducted in 1998. Data were collected from 39 sites and were from one of four types of site: 1)Ambient, 2)Ecoregion, 3)Watershed or 4)Fish kill investigation.

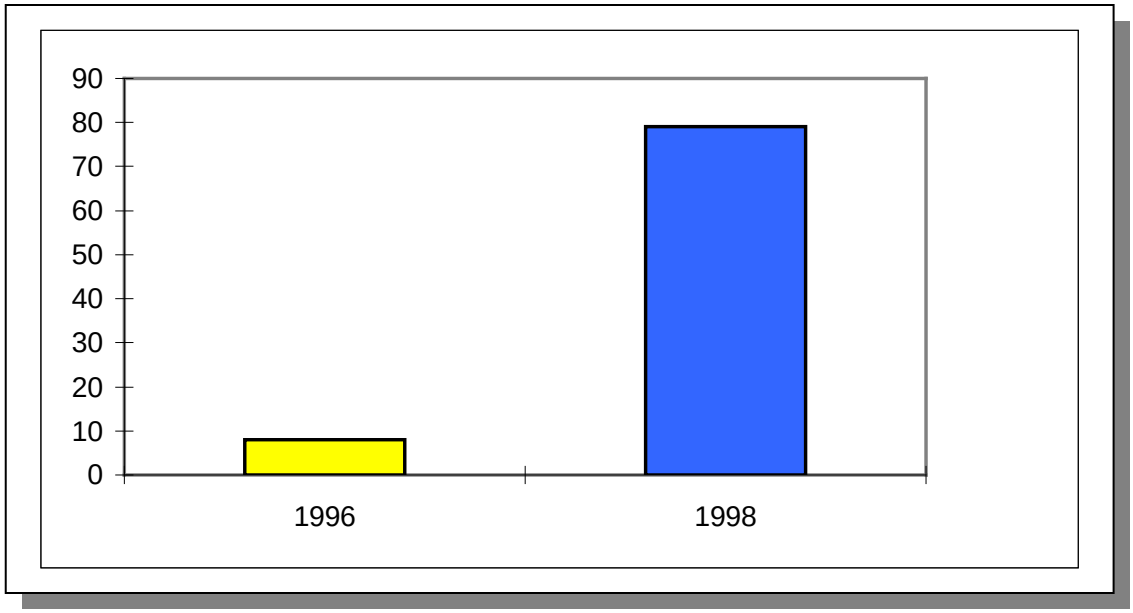

Figure 3-1. Number of Sampling Events Using the Traditional Approach (1996) and Watershed Approach (1998) in the South Fork Forked Deer River Watershed.

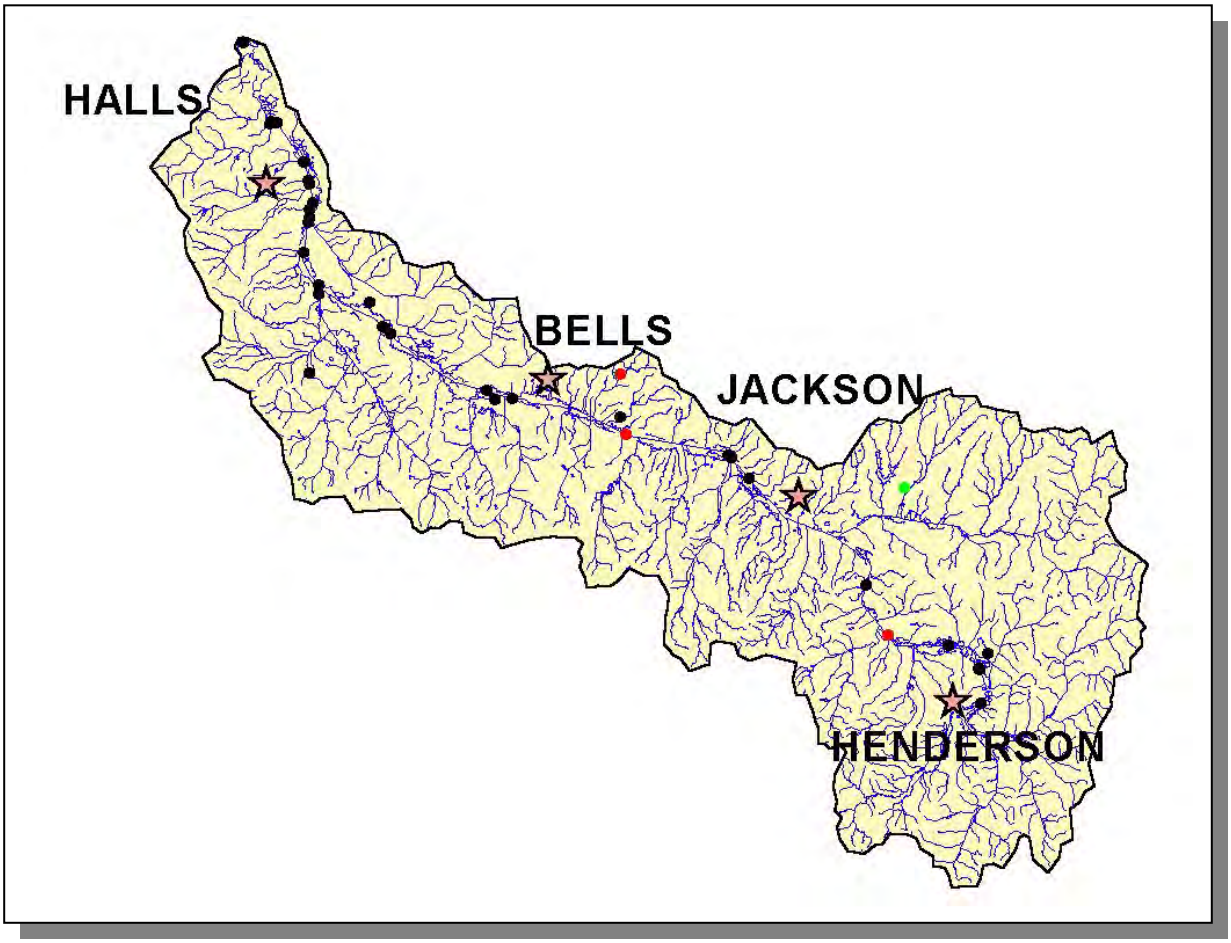

Figure 3-2. Location of Monitoring Sites in the South Fork Forked Deer River Watershed. *Red, Watershed Monitoring Sites; Black, Ecoregion Survey Sites; Green, Ambient Monitoring Sites. Locations of Bells, Halls, Henderson, and Jackson are shown for reference.*

TYPE	NUMBER	TOTAL NUMBER OF SAMPLING EVENTS		
		CHEMICAL ONLY	BIOLOGICAL ONLY	BIOLOGICAL PLUS CHEMICAL (FIELD PARAMETERS)
Ambient	2	8		
Ecoregion	1	8	4	4
Watershed	36	39	9	5
Fish Kill Inspection				2
Totals	**39**	**55**	**13**	**11**

Table 3-1. Monitoring Sites in the South Fork Forked Deer River Watershed During the Data Collection Phase of the Watershed Approach.

In addition to the 79 sampling events, over 65 citizen complaints and 2 occurrences involving dead fish (fish kills) were investigated.

3.2.A. Ambient Monitoring Sites. These fixed-station chemical monitoring sites are sampled quarterly or monthly by the Environmental Assistance Center-Jackson Water Pollution Control staff (this is in addition to samples collected by water and wastewater treatment plant operators). Samples are analyzed by the Tennessee Department of Health, Division of Environmental Laboratory Services. Ambient monitoring data are used to assess water quality in major bodies of water where there are NPDES facilities and to identify trends in water quality. Water quality parameters measured in the South Fork Forked Deer River Watershed are provided in SFFD-Appendix IV.

Data from ambient monitoring stations are entered into the STORET (Storage and Retrieval) system administered by EPA. Some ambient monitoring stations are scheduled to be monitored as watershed sampling sites.

3.2.B. Ecoregion Sites. Ecoregions are relatively homogeneous areas of similar geography, topography, climate and soils that support similar plants and animals. The delineation phase of the Tennessee Ecoregion Project was completed in 1997 when the ecoregions and subecoregions were mapped and summarized (EPA/600/R-97/022). There are eight Level III Ecoregions and twenty-five Level IV subecoregions in Tennessee (see Chapter 2 for more details). The South Fork Forked Deer River Watershed lies within 2 Level III ecoregions (Southeastern Plains and Mississippi Valley Loess Plains) and contains 4 subecoregions (Level IV):

- Southeastern Plains and Hills (65e)
- Northern Mississippi Alluvial Plain (73a)
- Bluff Hills (74a)
- Loess Plains (74b)

Ecoregion reference sites are chemically monitored using methodology outlined in the Division's Chemical Standard Operating Procedure (Standard Operating Procedure for Modified Clean Technique Sampling Protocol). Macroinvertebrate samples are collected in spring and fall. These biological sample collections follow methodology outlined in the Tennessee Biological Standard Operating Procedures Manual. Volume 1: Macroinvertebrates and EPA's Revision to Rapid Bioassessment Protocols for use in Streams and Rivers.

Ecoregion stations are scheduled to be monitored as Watershed sampling sites.

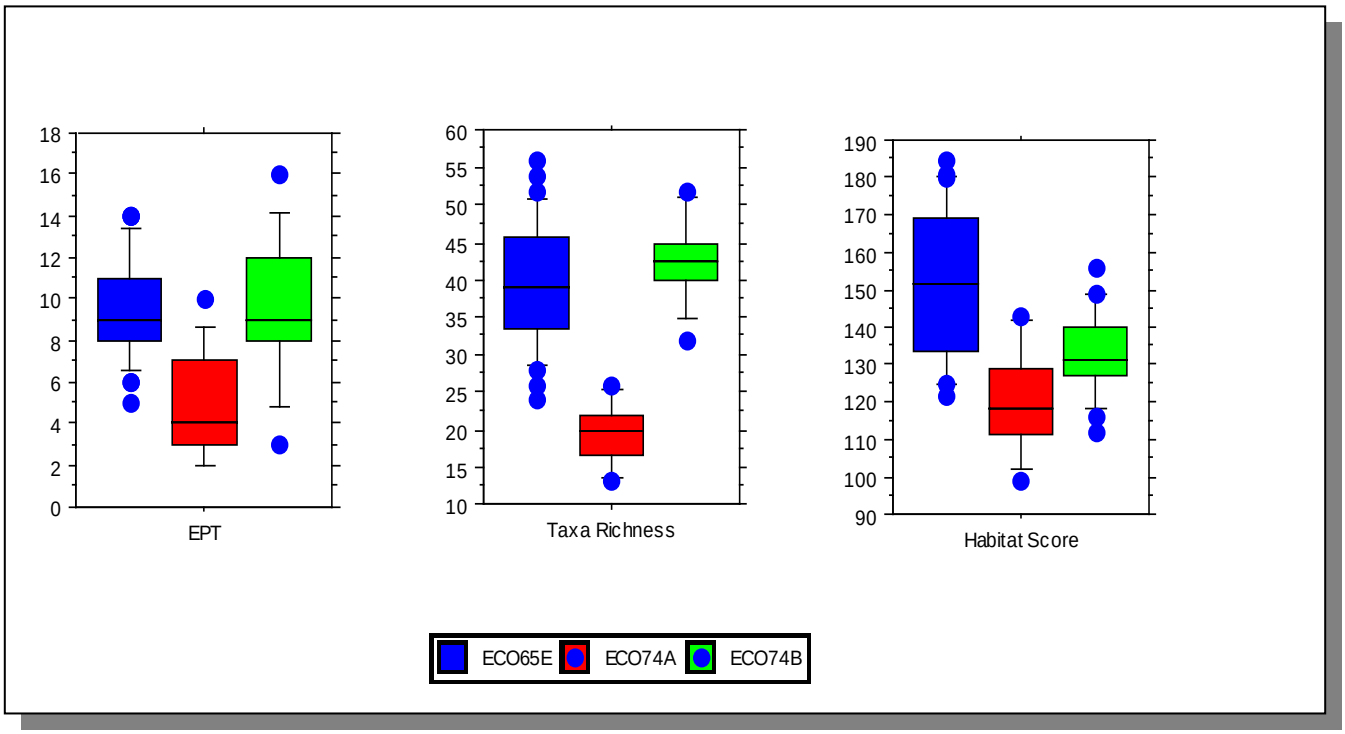

Figure 3-3. Benthic Macroinvertebrate and Habitat Scores for South Fork Forked Deer River Ecoregion RBP III Sites. *Boxes and bars illustrate 10th, 25th, median, 75th, and 90th percentiles. Extreme values are also shown as points. EPT and Taxa scores are number of genus observed; habitat score is calculated as described in EPA 841-D-97-002*

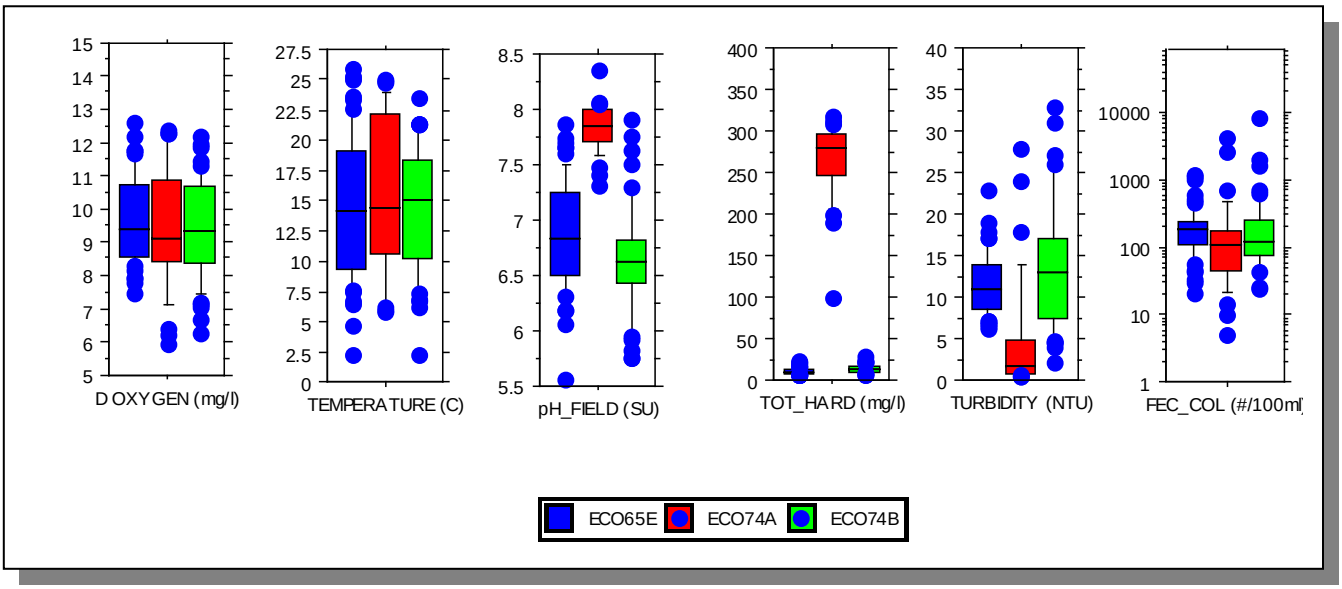

Figure 3-4. Select Chemical Data Collected in South Fork Forked Deer River Watershed Ecoregion Sites. *Boxes and bars illustrate 10th, 25th, median, 75th, and 90th percentiles. Extreme values are also shown as points.*

3.2.C. Watershed Sites. Activities that take place at watershed sites are benthic macroinvertebrate biological stream surveys, physical habitat determinations and/or chemical monitoring. Following review of existing data, watershed sites are selected in Year 1 of the watershed approach when preliminary monitoring strategies are developed. Additional sites may be added in Year 2 when additional monitoring strategies are implemented.

A Biological Reconnaissance (BioRecon) is used as a screening tool to describe the condition of water quality, in general, by determining the absence or presence of clean water indicator organisms, such as EPT (Ephemeroptera [mayflies], Plecoptera [stoneflies], Trichoptera [caddisflies]). Factors and resources used for selecting BioRecon sites are:

- The current 303(d) list,
- HUC-11 maps (every HUC-11 is scheduled for a BioRecon)
- Land Use/Land Cover maps
- Topographic maps
- Locations of NPDES facilities
- Sites of recent ARAP activities

An intensive multiple or single habitat assessment involves the monitoring of a station over a fixed period of time. Intensive surveys (Rapid Bioassessment Protocols) are performed when BioRecon results warrant it.

3.2.D. Special Surveys. These investigations include:

- ARAP in-stream investigation
- Time-of-travel dye study
- Sediment oxygen demand study
- Lake eutrophication study
- Fluvial geomorphology

These special surveys are performed when needed.

3.3. STATUS OF WATER QUALITY. Overall use support is a general description of water quality conditions in a water body based on determination of individual use supports. Use support determinations, which can be classified as monitored or evaluated, are based on:

- Data less than 5 years old (monitored)
- Data more than 5 years old (evaluated)
- Knowledge and experience of the area by technical staff (evaluated)
- Complaint investigation (monitored, if samples are collected)
- Other readily available Agencies' data (monitored)
- Readily available Volunteer Monitoring data (monitored, if certain quality assurance standards are met)

All readily available data are considered, including data from TDEC Environmental Assistance Centers, Tennessee Department of Health (Aquatic Biology Section of Laboratory Services), Tennessee Wildlife Resources Agency, National Park Service, Tennessee Valley Authority, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Geological Survey, U.S. Forest Service, universities and colleges, the regulated community, and the private sector.

The assessment is based on the degree of support of designated uses as measured by compliance with Tennessee's water quality standards.

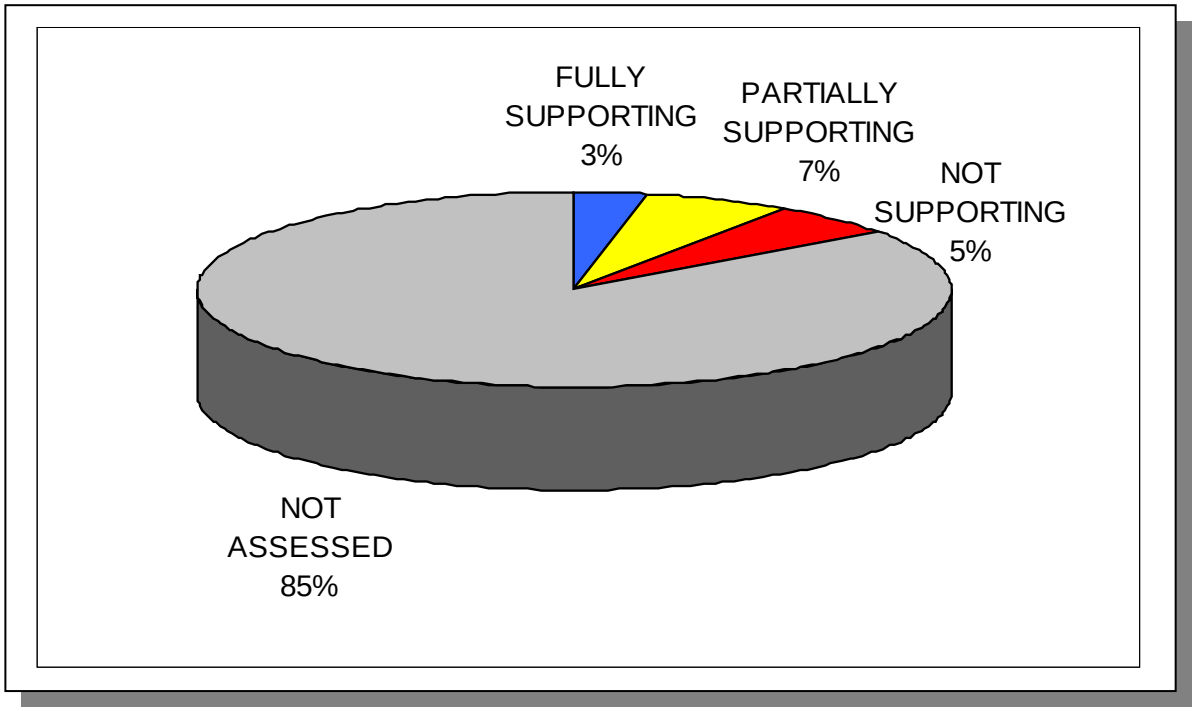

Figure 3-5. Water Quality Assessment for Rivers and Streams in the South Fork Forked Deer River Watershed. *Assessment data (stream miles) are based on the 2000 Water Quality Assessment.*

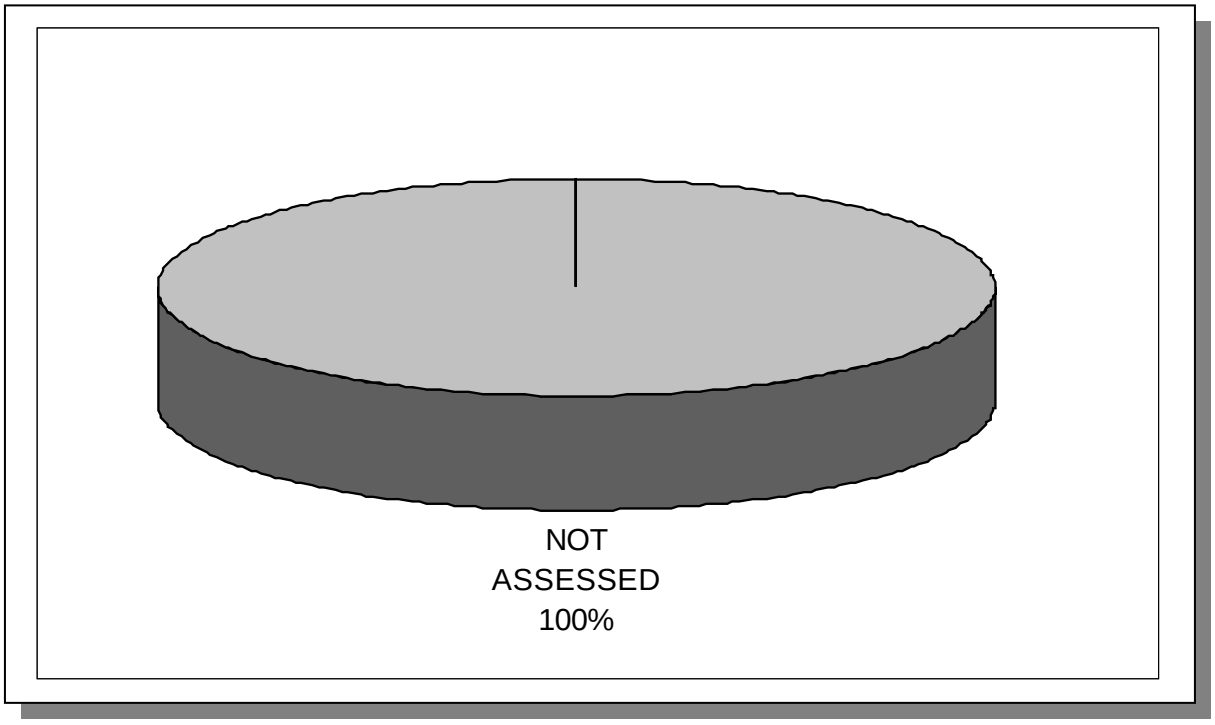

Figure 3-6. Water Quality Assessment for Lakes in the South Fork Forked Deer River Watershed. *Assessment data (stream miles) are based on the 2000 Water Quality Assessment. More information is provided in SFFD-Appendix III.*

3.3.A. Assessment Summary.

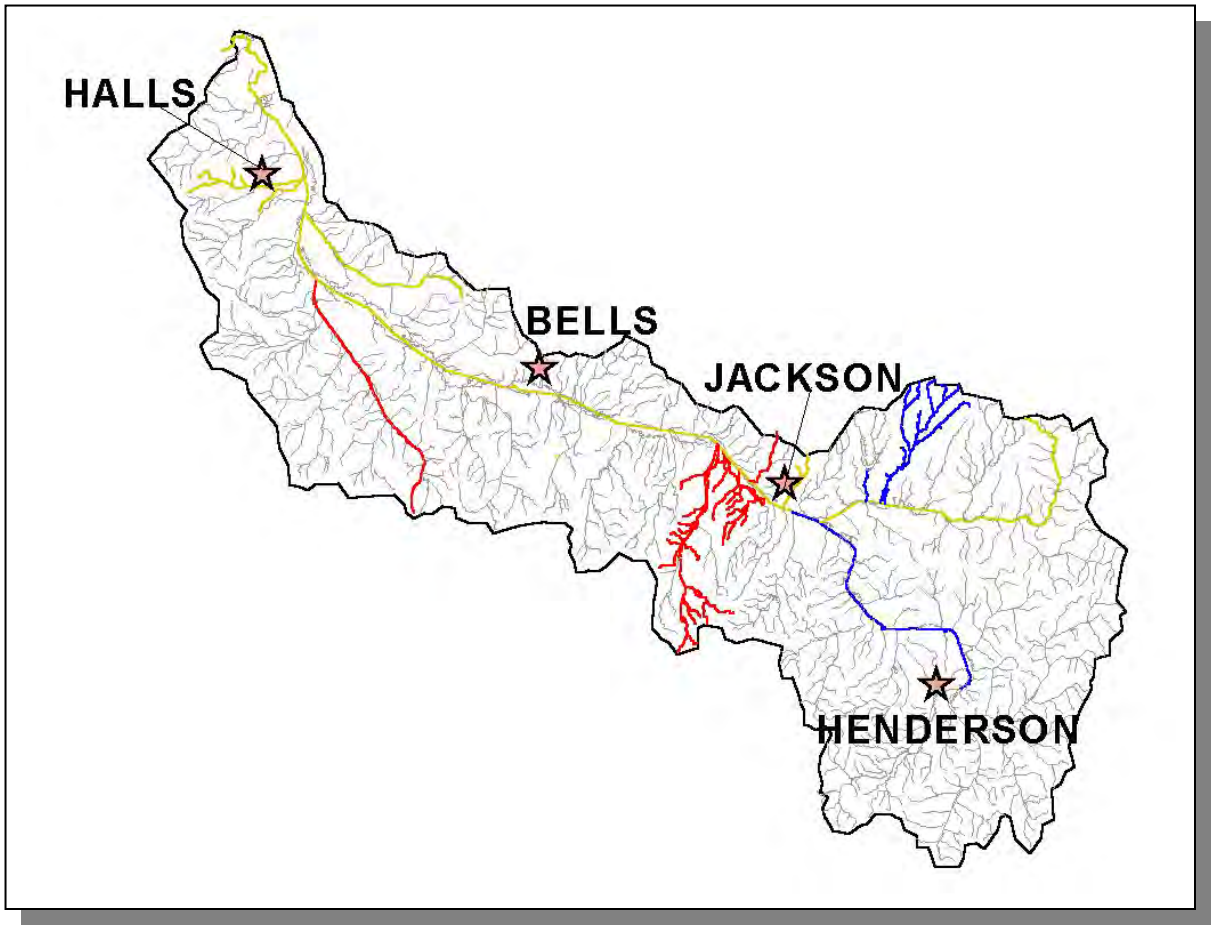

Figure 3-7a. Overall Use Support Attainment in the South Fork Forked Deer River Watershed. *Assessment data are based on the 2000 Water Quality Assessment. Blue, Fully Supports Designated Use; Yellow, Partially Supports Designated Use; Red, Does Not Support Designated Use; Gray, Not Assessed. Water Quality Standards are described at http://www.state.tn.us/sos/rules/1200/1200-04/1200-04.htm. Bells, Halls, Henderson, and Jackson are shown for reference. More information is provided in SFFD-Appendix III.*

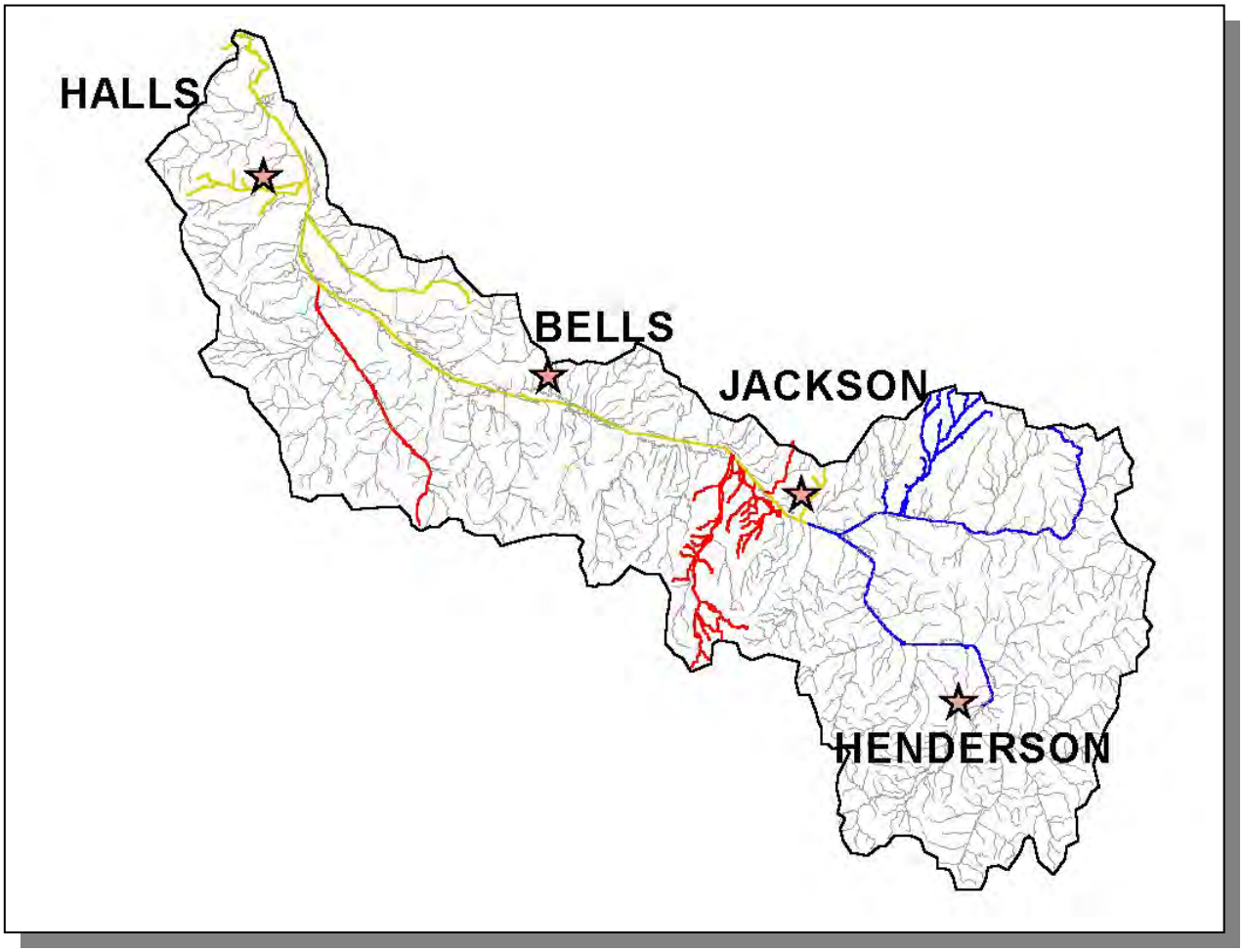

Figure 3-7b. Fish and Aquatic Life Use Support Attainment in the South Fork Forked Deer River Watershed. *Assessment data are based on the 2000 Water Quality Assessment. Blue, Fully Supports Designated Use; Yellow, Partially Supports Designated Use; Red, Does Not Support Designated Use; Gray, Not Assessed. Water Quality Standards are described at http://www.state.tn.us/sos/rules/1200/1200-04/1200-04.htm. Bells, Halls, Henderson, and Jackson are shown for reference.*

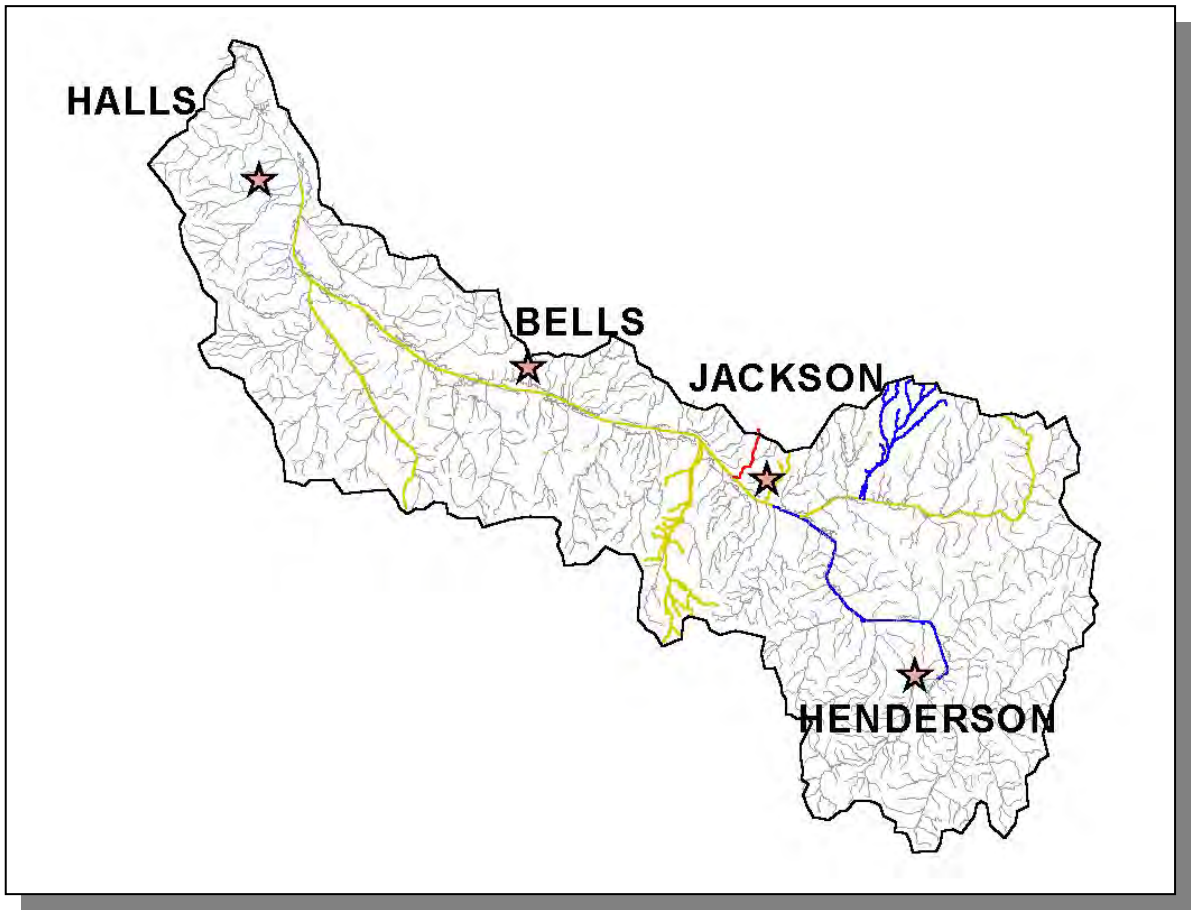

Figure 3-7c. Recreation Use Support Attainment in the South Fork Forked Deer River Watershed. *Assessment data are based on the 2000 Water Quality Assessment. Blue, Fully Supports Designated Use; Yellow, Partially Supports Designated Use; Gray, Not Assessed. Water Quality Standards are described at http://www.state.tn.us/sos/rules/1200/1200-04/1200-04.htm. Bells, Halls, Henderson, and Jackson are shown for reference*

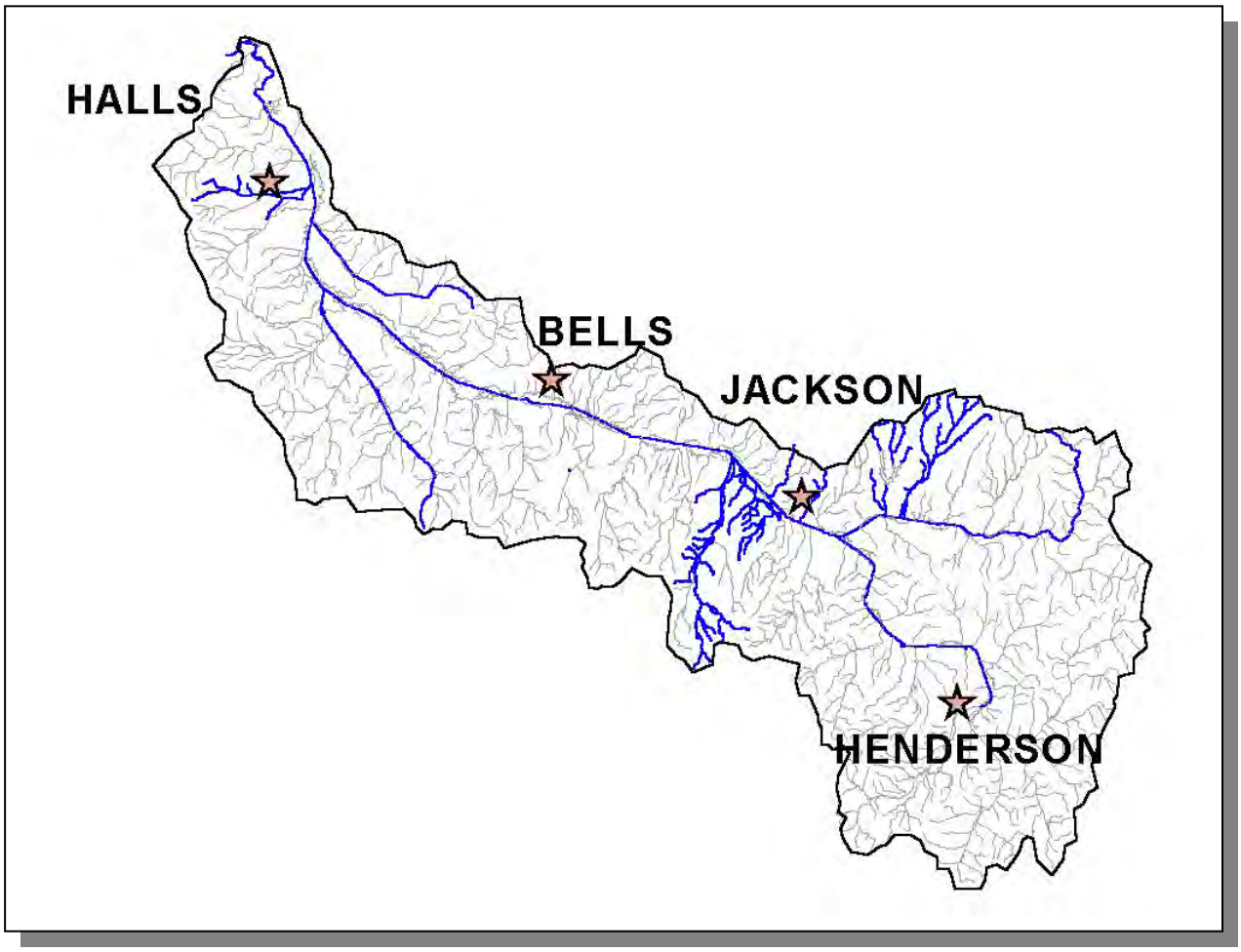

Figure 3-7d. Irrigation Use Support Attainment in the South Fork Forked Deer River Watershed. *Assessment data are based on the 2000 Water Quality Assessment. Blue, Fully Supports Designated Use; Gray, Not Assessed. Water Quality Standards are described at http://www.state.tn.us/sos/rules/1200/1200-04/1200-04.htm. Bells, Halls, Henderson, and Jackson are shown for reference.*

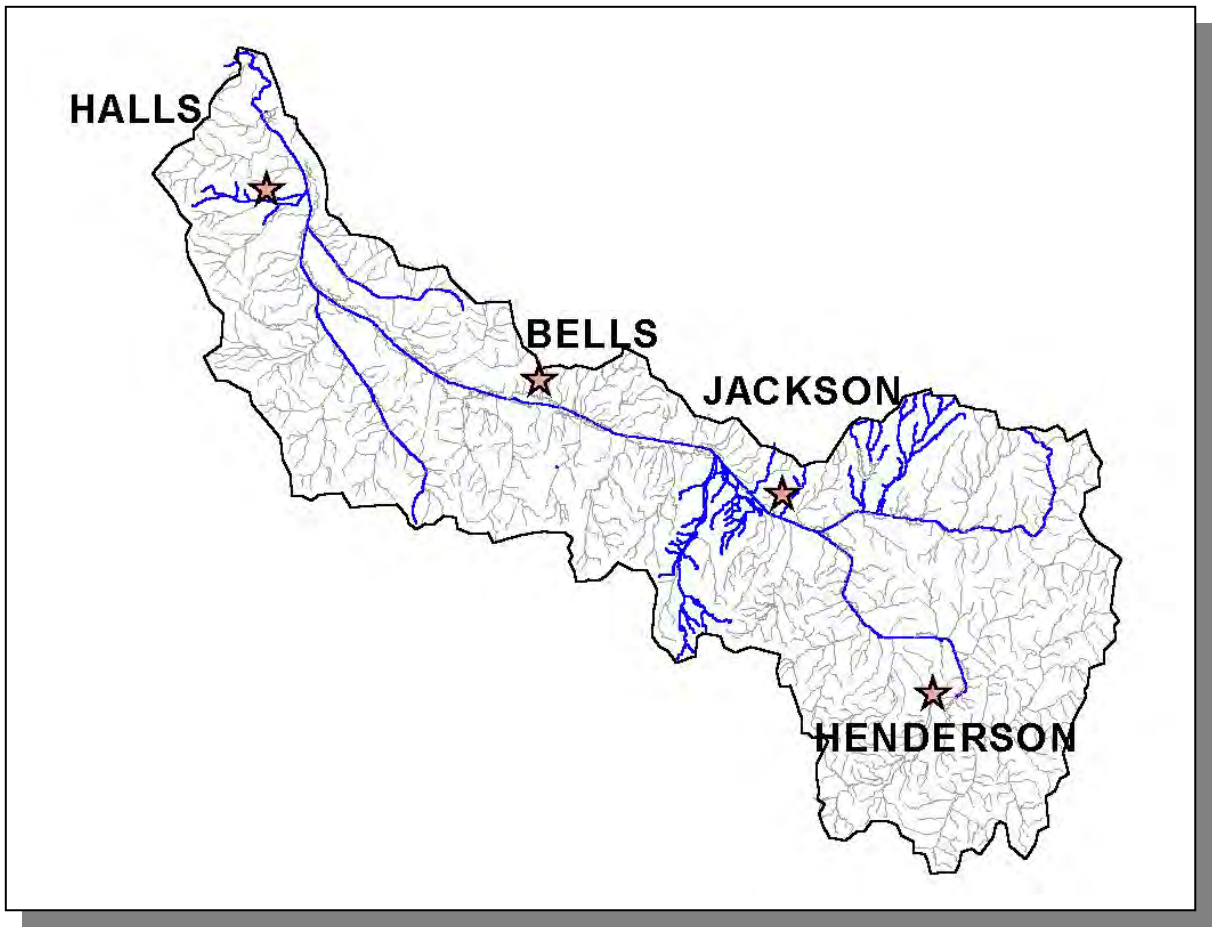

Figure 3-7e. Livestock Watering and Wildlife Use Support Attainment in the South Fork Forked Deer River Watershed. *Assessment data are based on the 2000 Water Quality Assessment. Blue, Fully Supports Designated Use; Gray, Not Assessed. Water Quality Standards are described at http://www.state.tn.us/sos/rules/1200/1200-04/1200-04.htm. Bells, Halls, Henderson, and Jackson are shown for reference.*

3.3.B. Use Impairment Summary.

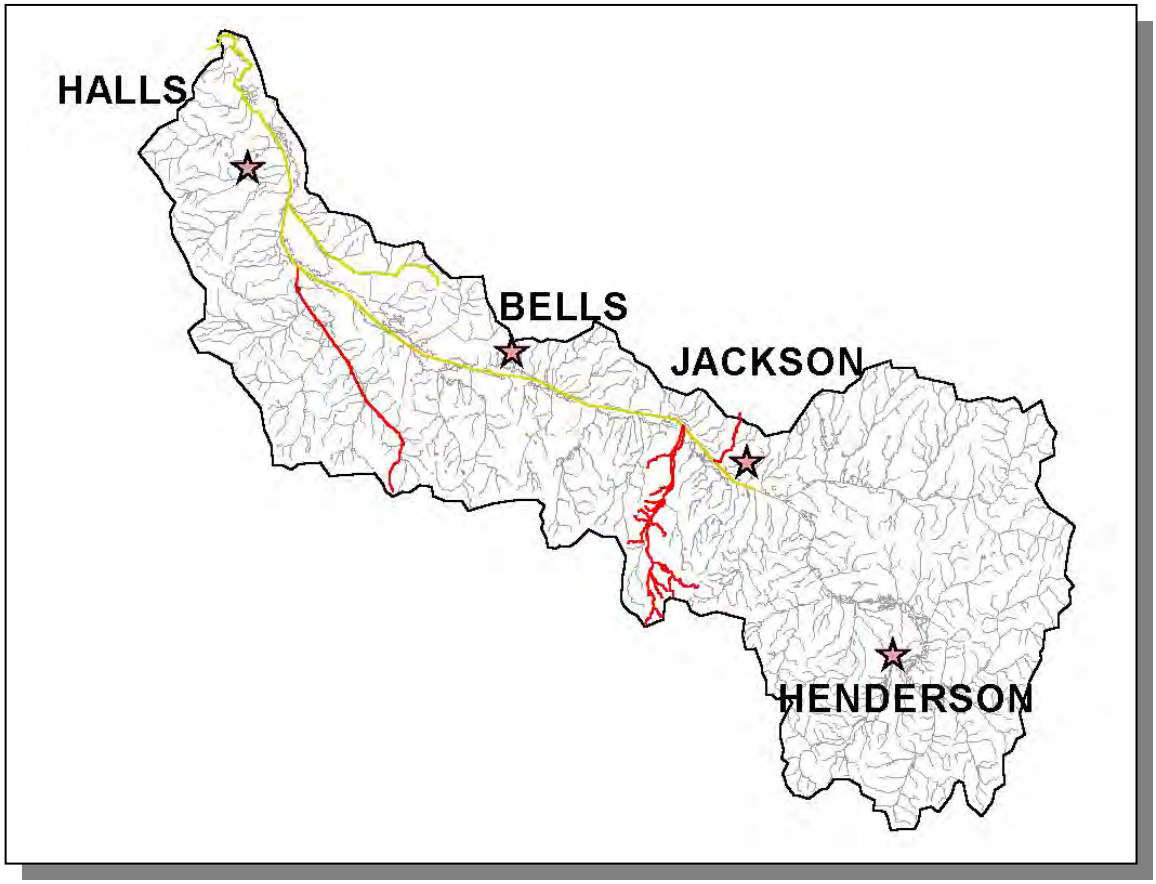

Figure 3-8a. Impaired Streams Due to Habitat Alteration in the South Fork Forked Deer River Watershed. *Assessment data are based on the 2000 Water Quality Assessment.; Yellow, Partially Supports Designated Use; Red, Does Not Support Designated Use; Bells, Halls, Henderson, and Jackson are shown for reference. More information is provided in SFFD-Appendix III.*

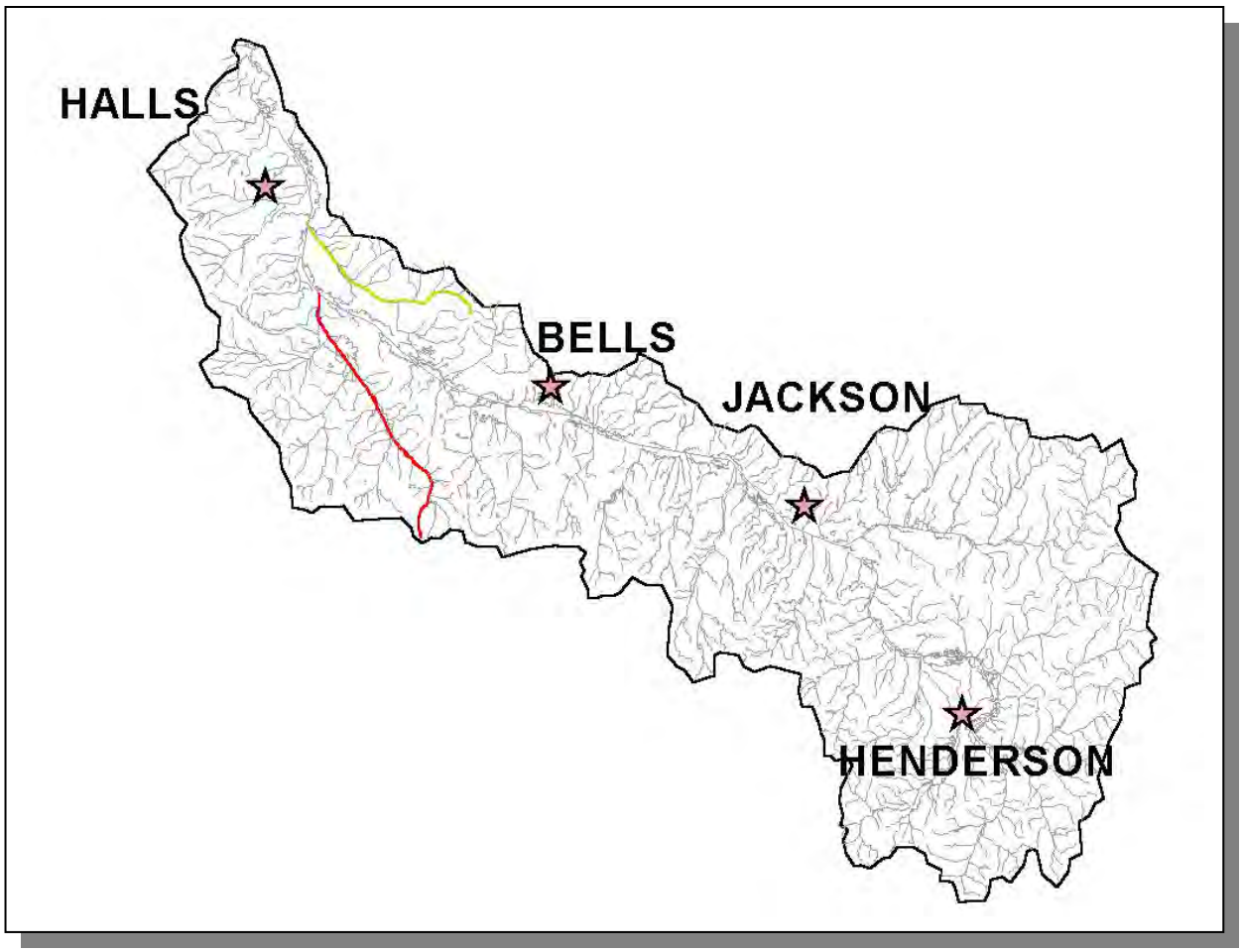

Figure 3-8b. Impaired Streams Due to Organic Enrichment/Low Dissolved Oxygen Levels in the South Fork Forked Deer River Watershed. *Assessment data are based on the 2000 Water Quality Assessment. Yellow, Partially Supports Designated Use; Red, Does Not Support Designated Use; Bells, Halls, Henderson, and Jackson are shown for reference. More information is provided in SFFD-Appendix III.*

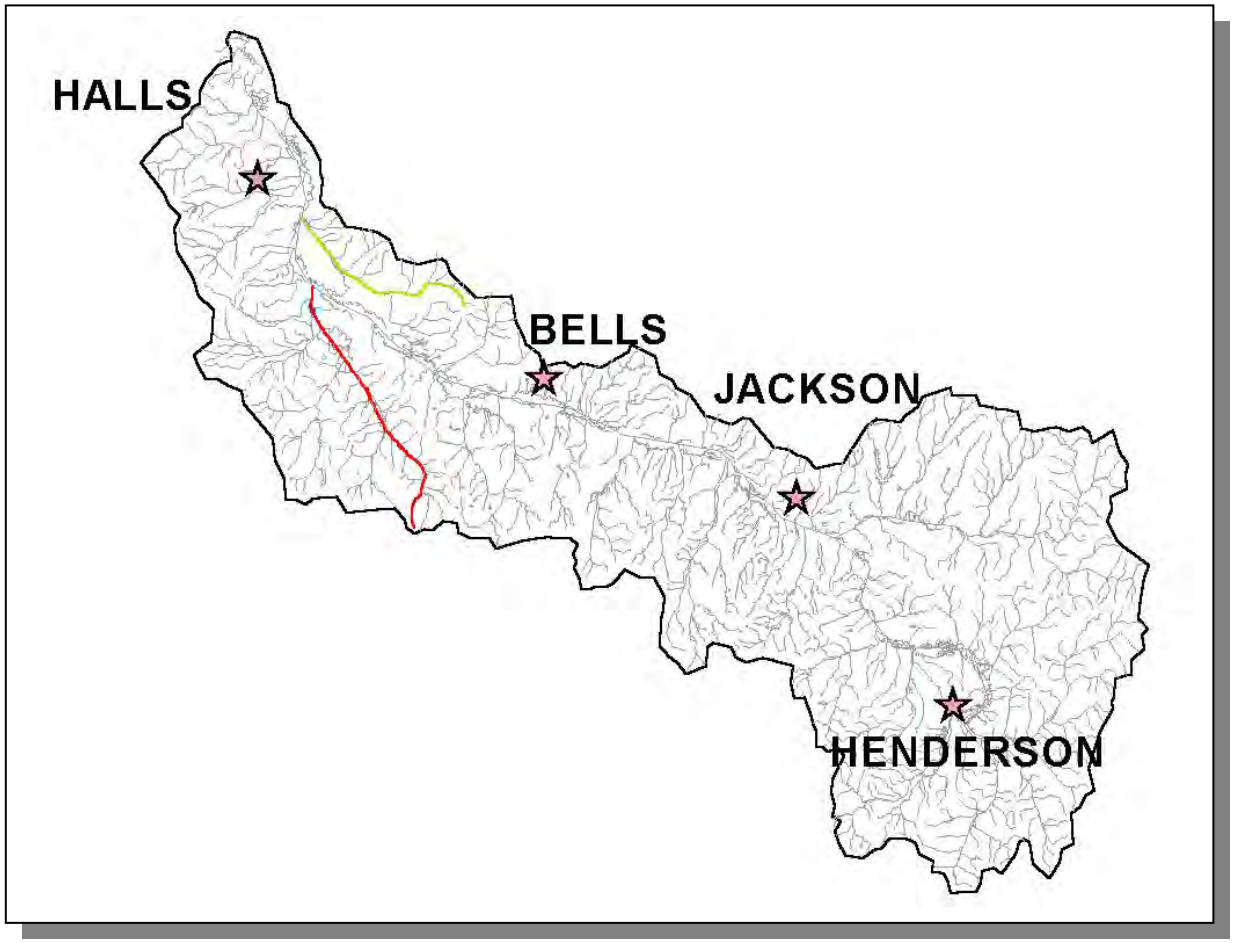

Figure 3-8c. Impaired Streams Due to Pathogens in the South Fork Forked Deer River Watershed. *Assessment data are based on the 2000 Water Quality Assessment. Yellow, Partially Supports Designated Use; Red, Does Not Support Designated Use; Bells, Halls, Henderson, and Jackson are shown for reference. More information is provided in SFFD-Appendix III.*

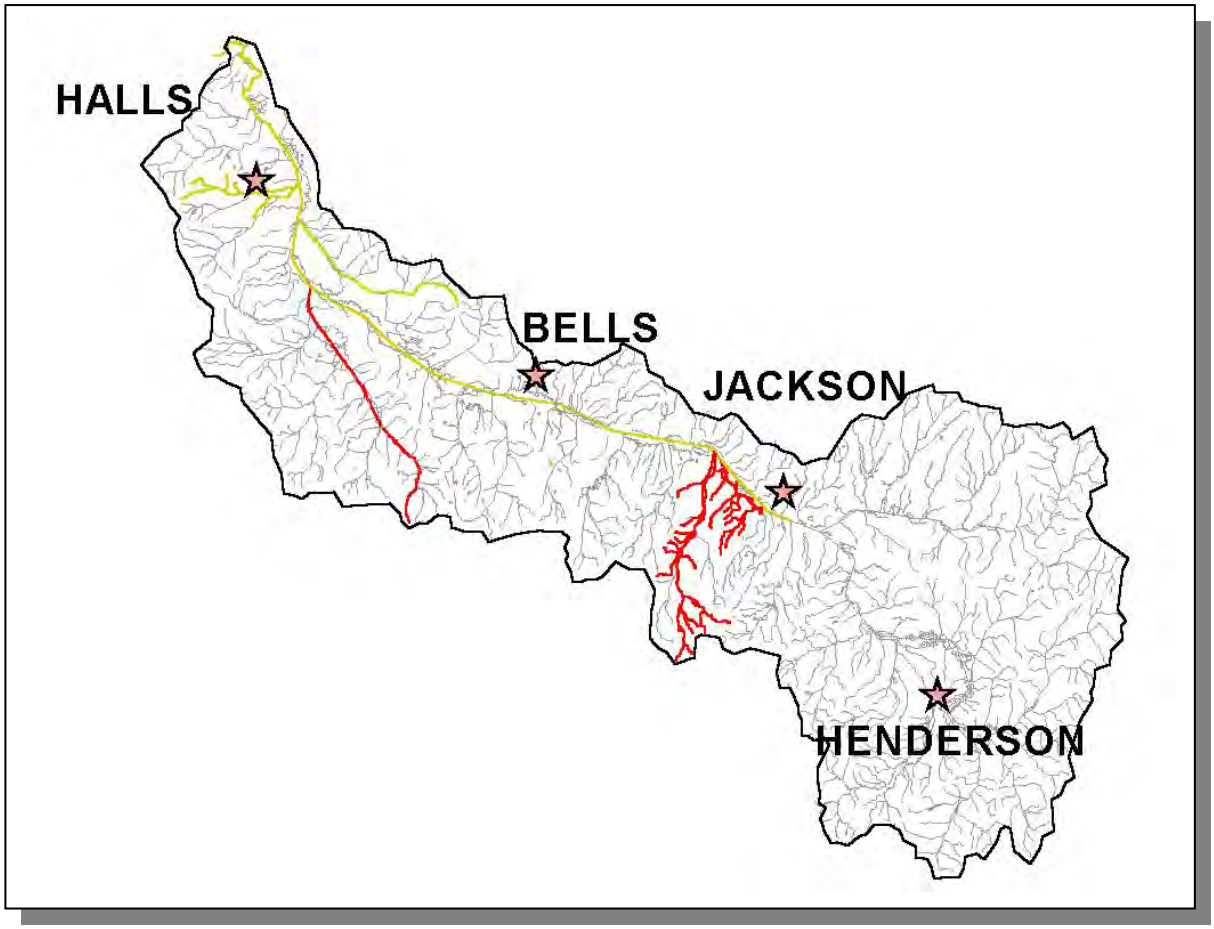

Figure 3-8d. Impaired Streams Due to Siltation in the South Fork Forked Deer River Watershed. *Assessment data are based on the 2000 Water Quality Assessment. Yellow, Partially Supports Designated Use; Red, Does Not Support Designated Use; Bells, Halls, Henderson, and Jackson are shown for reference. More information is provided in SFFD-Appendix III.*

The listing of impaired waters that do not support designated uses (the 303(d) list) is traditionally submitted to EPA every two years. A copy of the most recent 303(d) list may be downloaded from: http://www.state.tn.us/environment/water.htm

In the year 2002 and beyond, the 303(d) list will be compiled by using EPA's ADB (Assessment Database) software developed by RTI (Research Triangle Institute). The ADB allows for a more detailed segmentation of waterbodies. While this results in a more accurate description of the status of water quality, it makes it difficult when comparing water quality assessments with and without using this tool. A more meaningful comparison will be between assessments conducted in Year 3 of each succeeding five-year cycle.

CHAPTER 4

POINT AND NONPOINT SOURCE CHARACTERIZATION OF THE SOUTH FORK FORKED DEER RIVER WATERSHED

4.1 Background. This chapter is organized by HUC-11 subwatershed, and the description of each subwatershed is divided into four parts:

i. General description of the subwatershed
ii. Description of point source contributions
ii.a. Description of facilities discharging to water bodies listed on the 1998 303(d) list
iii. Description of nonpoint source contributions

Information for this chapter was obtained from databases maintained by the Division of Water Pollution Control or provided in the WCS (Watershed Characterization System) data set. The WCS used was version 1.1 beta (developed by Tetra Tech, Inc for EPA Region 4) released in 2000.

WCS integrates with ArcView® v3.1 and Spatial Analyst® v1.1 to analyze user-delineated (sub)watersheds based on hydrologically connected water bodies. Reports are generated by integrating WCS with Microsoft® Word. Land Use/Land Cover information from 1992 MRLC (Multi-Resolution Land Cover) data are calculated based on the proportion of county-based land use/land cover in user-delineated (sub)watersheds. Nonpoint source data in WCS are based on agricultural census data collected 1992–1998; nonpoint source data were reviewed by Tennessee NRCS staff.

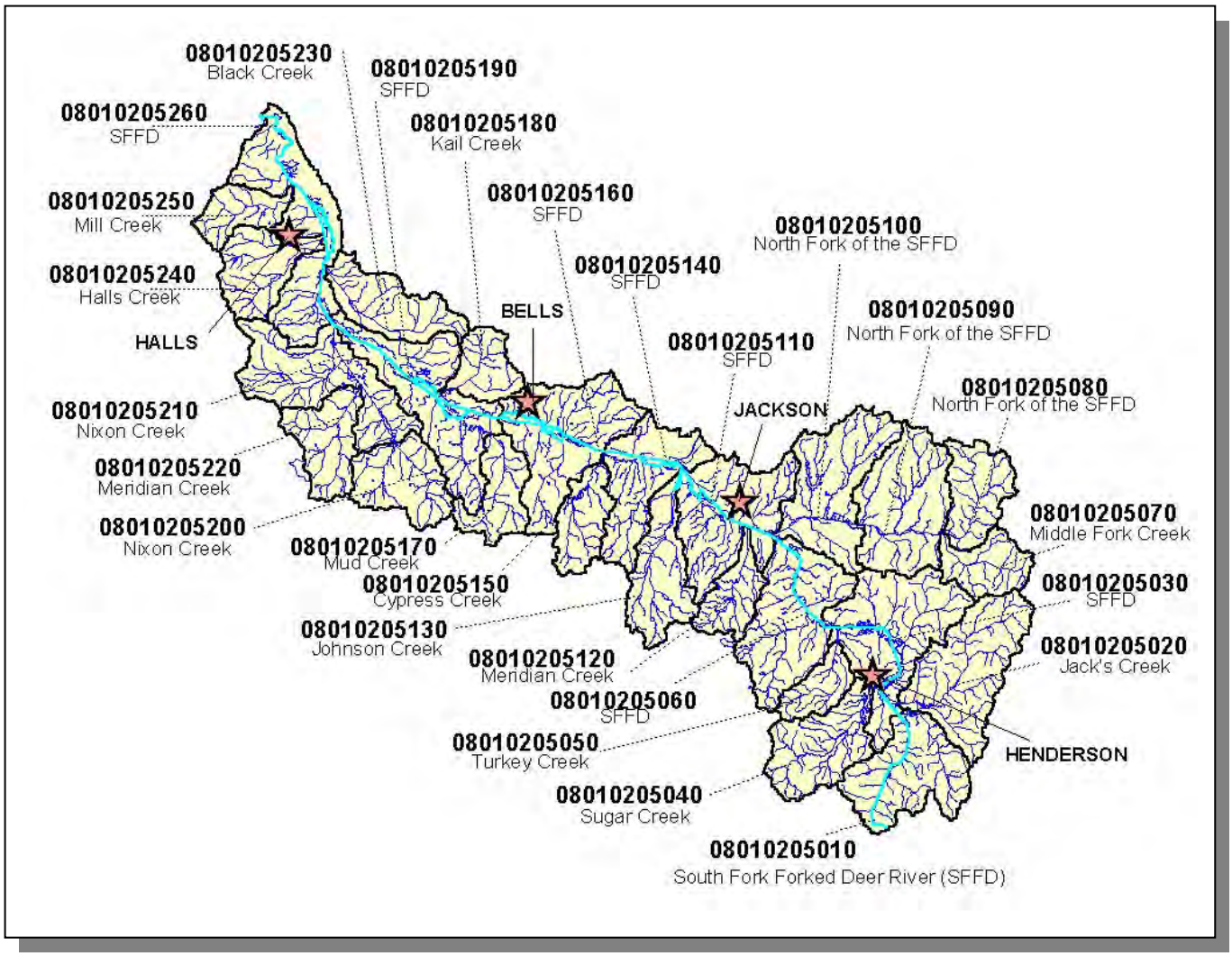

Figure 4-1. The South Fork Forked Deer River Watershed is Composed of Twenty-six USGS-Delineated Subwatersheds (11-Digit Subwatersheds). *Locations of Bells, Halls, Henderson, and Jackson are shown for reference. SFFD, South Fork Forked Deer.*

4.2. Characterization of HUC-11 Subwatersheds. The Watershed Characterization System (WCS) software and data sets provided by EPA Region 4 were used to characterize each subwatershed in the South Fork Forked Deer River Watershed. HUC-14 polygons were aggregated to form the HUC-11 boundaries for data analysis.

HUC-11	HUC-14
08010205010	08010205010010 (Huggins Creek)
08010205020	08010205010030 (Jack's Creek)
08010205030	08010205010020 (South Fork Forked Deer River)
08010205040	08010205010040 (Sugar Creek)
08010205050	08010205010050 (Turkey Creek)
08010205060	08010205010060 (South Fork Forked Deer River)
08010205070	08010205020020 (Middle Fork Creek)
08010205080	08010205020010 (North Fork of South Fork Forked Deer River)
08010205090	08010205020030 (North Fork of South Fork Forked Deer River)
08010205100	08010205020040 (North Fork of South Fork Forked Deer River)
08010205110	08010205030010 (South Fork Forked Deer River)
08010205120	08010205030020 (Meridian Creek)
08010205130	08010205030040 (Johnson Creek)
08010205140	08010205030030 (South Fork Forked Deer River)
08010205150	08010205030050 (Cypress Creek)
08010205160	08010205030060 (South Fork Forked Deer River)
08010205170	08010205030070 (Mud Creek)
08010205180	08010205030090 (Kail Creek)
08010205190	08010205030080 (South Fork Forked Deer River)
08010205200	08010205040010 (Nixon Creek)
08010205210	08010205040020 (Nixon Creek)
08010205220	08010205040030 (Meridian Creek)
08010205230	08010205030110 (Black Creek)
08010205240	08010205030120 (Halls Creek)
08010205250	08010205030130 (Mill Creek)
08010205260	08010205030100 (South Fork Forked Deer River)

Table 4-1. HUC-14 Drainage Areas are Nested Within HUC-11 Drainages. *USGS delineated the HUC-11 drainage areas. NRCS inventories and manages the physical database for HUC-14 drainage areas.*

4.2.A. 08010205010.

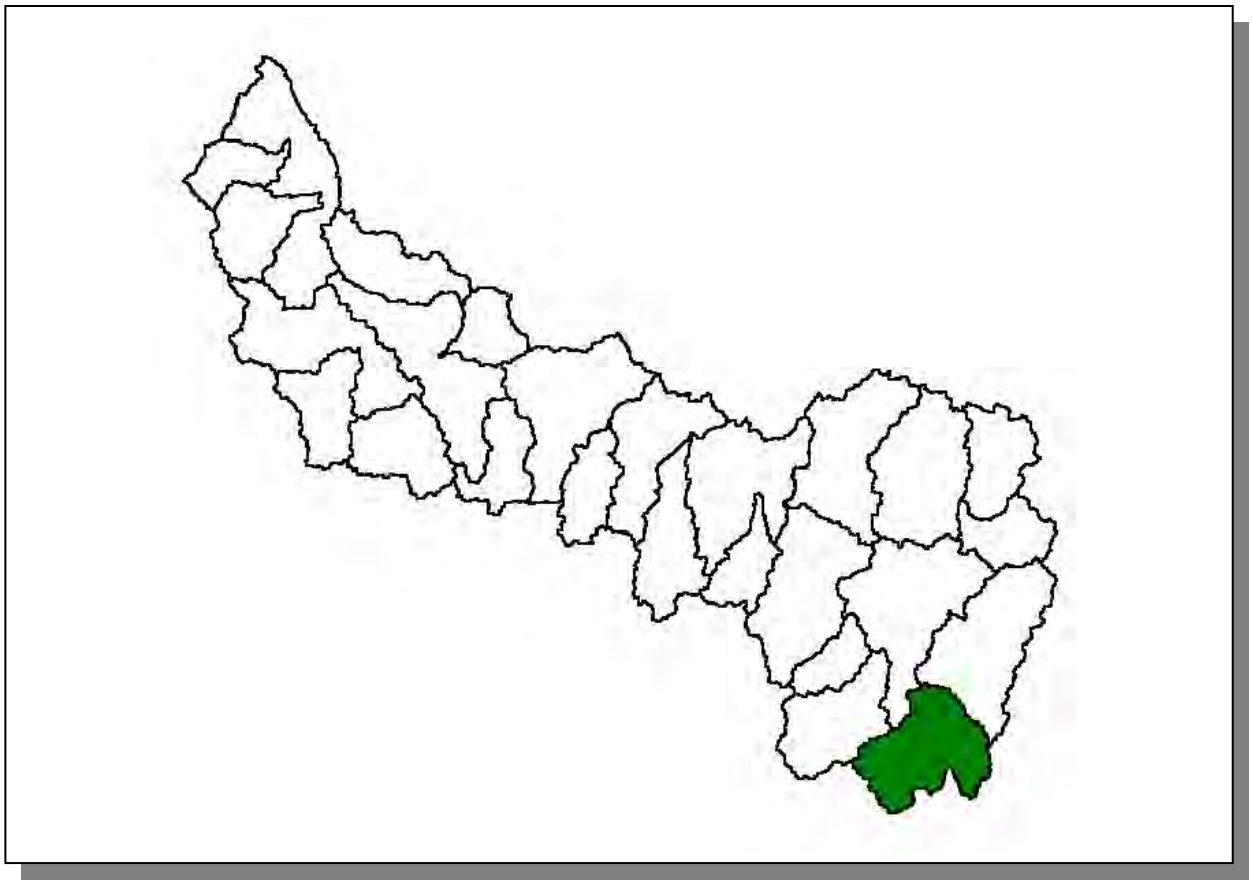

Figure 4-2. Location of Subwatershed 08010205010. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.A.i. General Description.

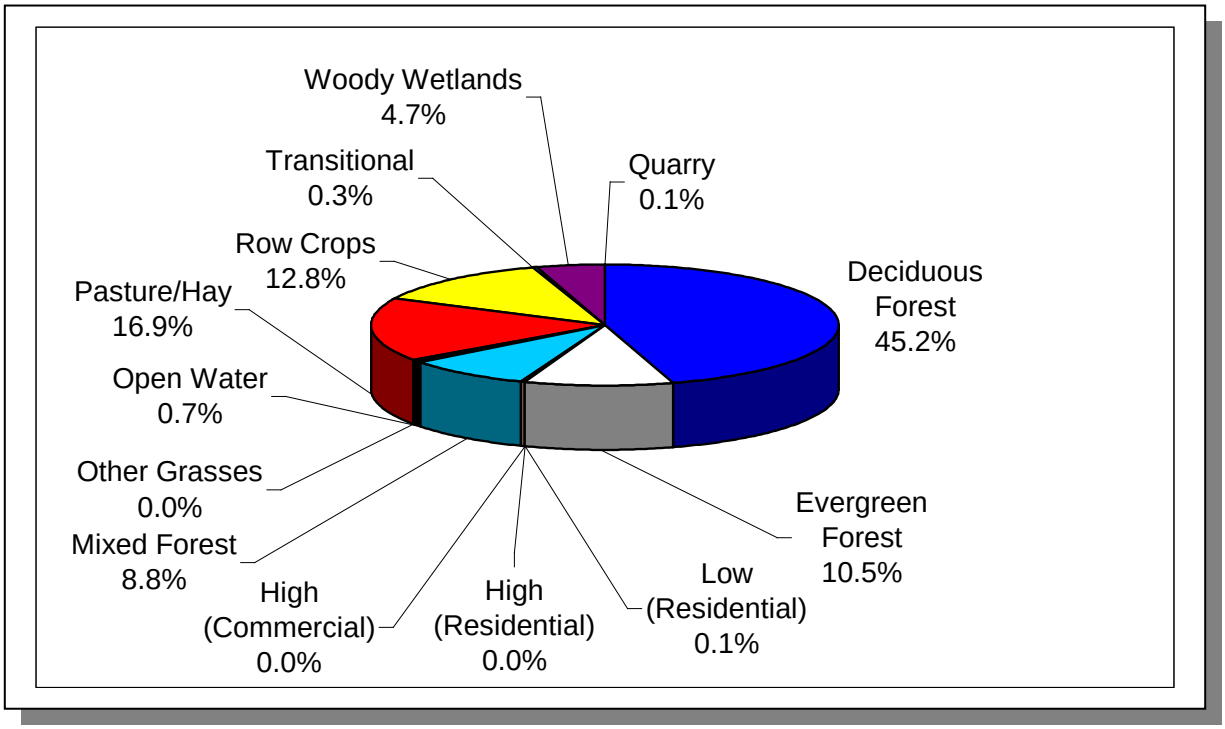

Figure 4-3. Land Use Distribution in Subwatershed 08010205010. *More information is provided in SFFD-Appendix IV.*

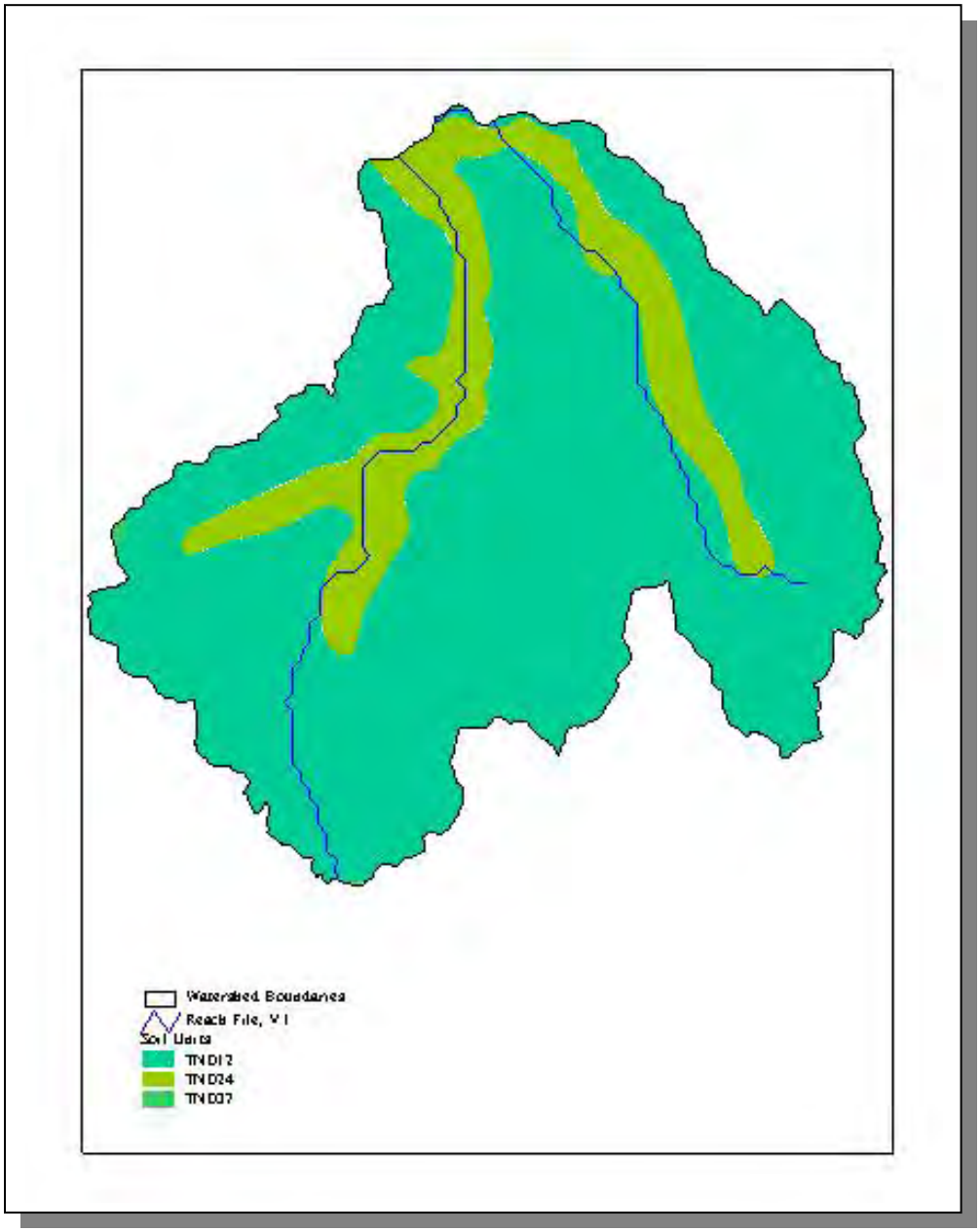

Figure 4-4. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205010.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN024	61.00	D	2.18	5.35	Loam	0.29
TN037	0.00	C	3.51	4.86	Sandy Loam	0.27

Table 4-2. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205010. *More details are provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Chester	12,819	14,469	1.66	213	241	13.1
McNairy	22,422	23,678	7.94	1,779	1,879	5.6
Totals	**35,241**	**38,147**		**1,992**	**2,120**	**6.4**

Table 4-3. Population Estimates in Subwatershed 08010205010.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Finger	McNairy	273	119	2	115	2

Table 4-4. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205010.

4.2.A.ii Point Source Contributions.

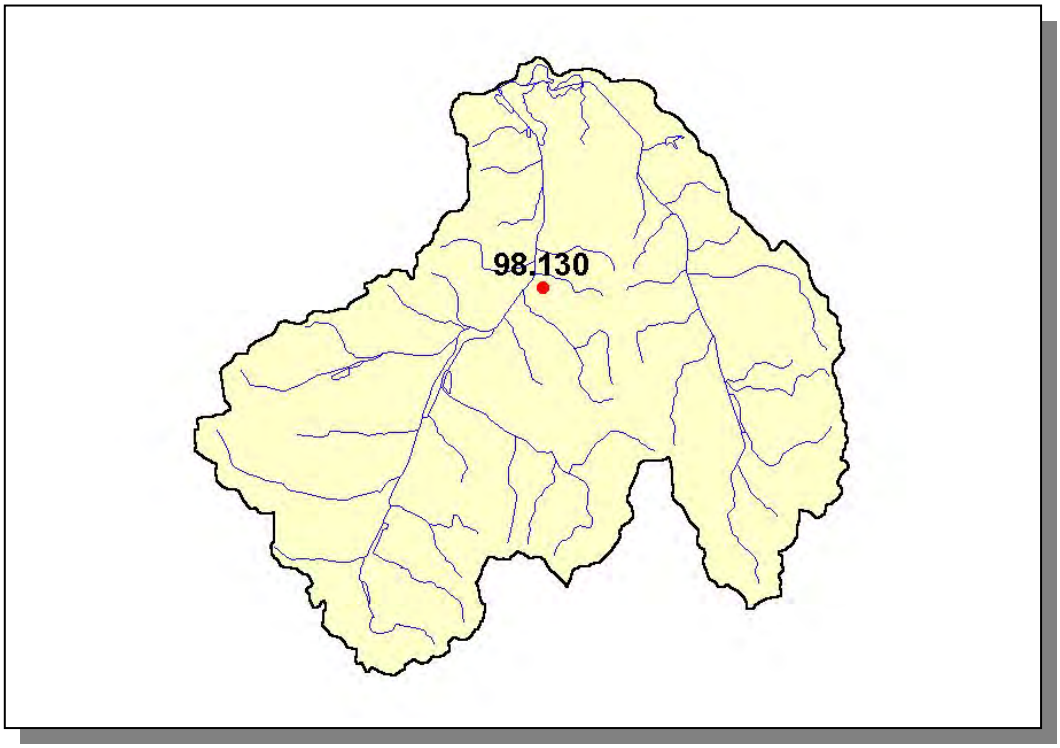

Figure 4-5. Location of ARAP Sites (Individual Permits) in Subwatershed 08010205010. *More information is provided in SFFD-Appendix IV.*

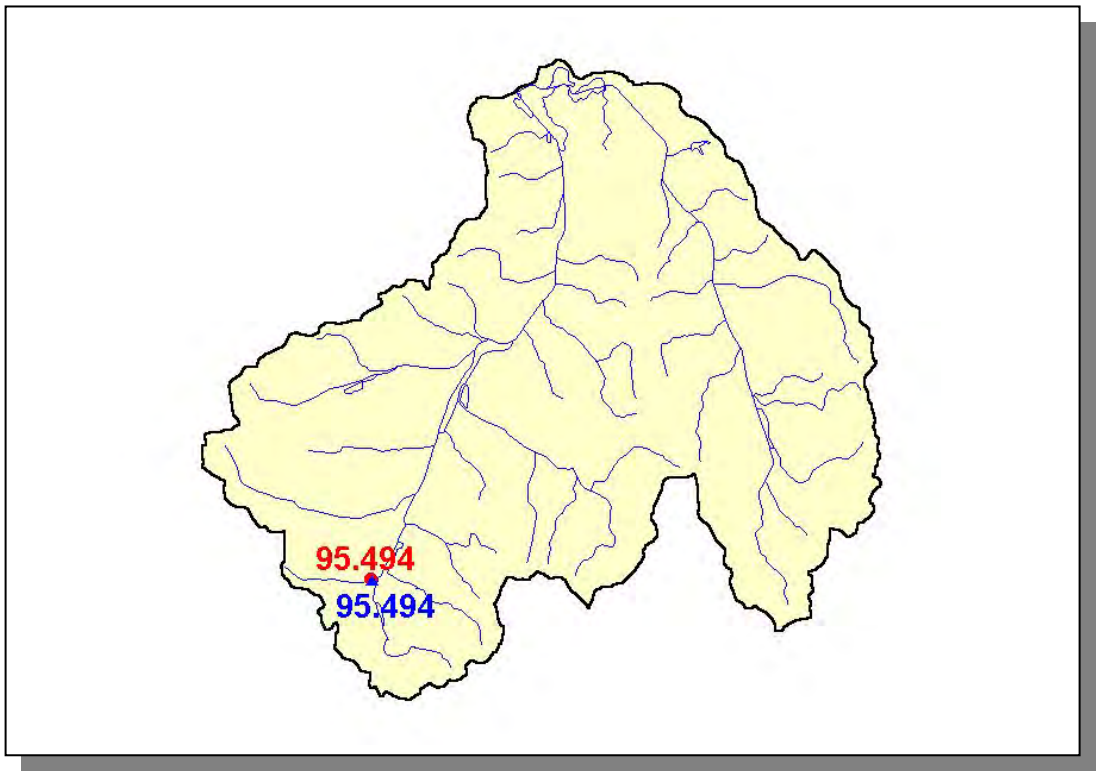

Figure 4-6. Location of Wetland Impact and Mitigation Sites in Subwatershed 08010205010. *Impact (Blue Triangle) and mitigation (Red Circle) sites are from ARAP database. More information is provided in SFFD-Appendix IV.*

4.2.A.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Milk Cow	Cattle	Chickens	Hogs	Sheep
1,041	<5	2,043	<5	2,108	18

Table 4-5. Summary of Livestock Count Estimates in Subwatershed 08010205010. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Chester	99.4	99.4	0.3	1.3
Madison	140.7	140.7	2.4	11.5
Totals	**240.1**	**240.1**	**2.7**	**12.8**

Table 4-6. Forest Acreage and Annual Removal Rates (1987-1994) in Subwatershed 08010205010.

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	10.93
Soybeans (Row Crops)	9.41
Cotton (Row Crops)	6.83
Legume Grass (Hayland)	0.08
Grass (Pastureland)	0.53
Grass, Forbs, Legumes (Mixed Pasture)	0.57
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.10
Conservation Reserve Program Land	0.30
Wheat (Close Grown Cropland)	2.76
Grass (Hayland)	0.08
Other Cropland not Planted	2.07
Other Vegetable and Truck Crop	28.15
Sorghum (Row Crops)	3.62
Legume (Hayland)	0.12

Table 4-7. Annual Estimated Total Soil Loss in Subwatershed 08010205010.

4.2.B. 08010205020

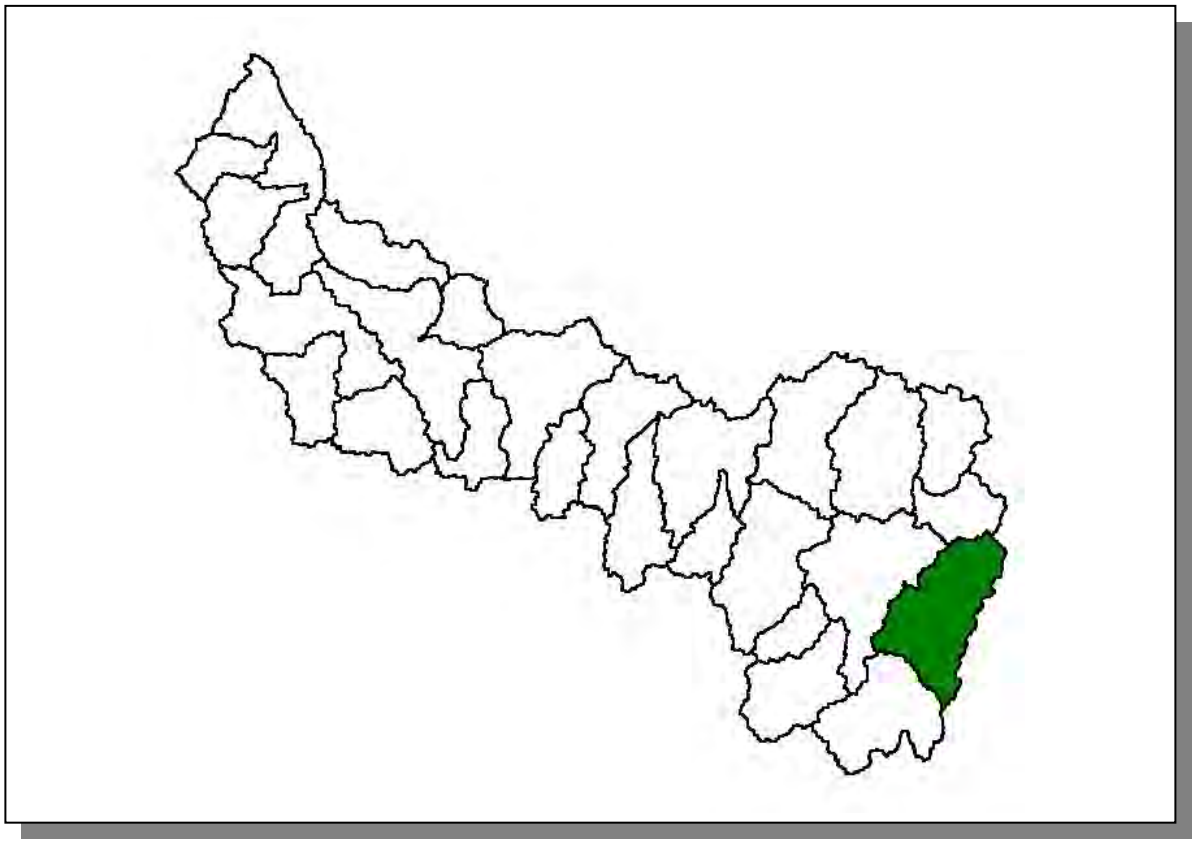

Figure 4-7. Location of Subwatershed 08010205020. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.B.i. General Description.

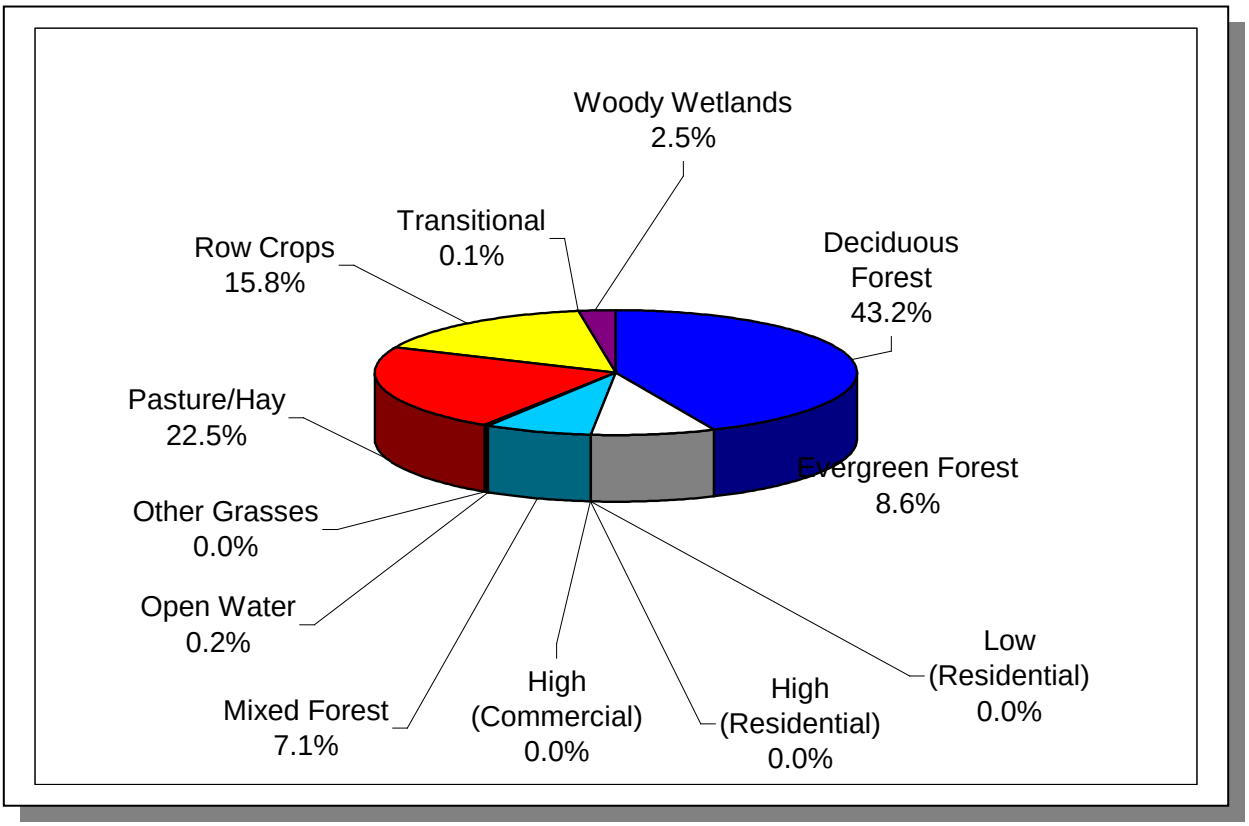

Figure 4-8. Land Use Distribution in Subwatershed 08010205020. *More information is provided in SFFD-Appendix IV.*

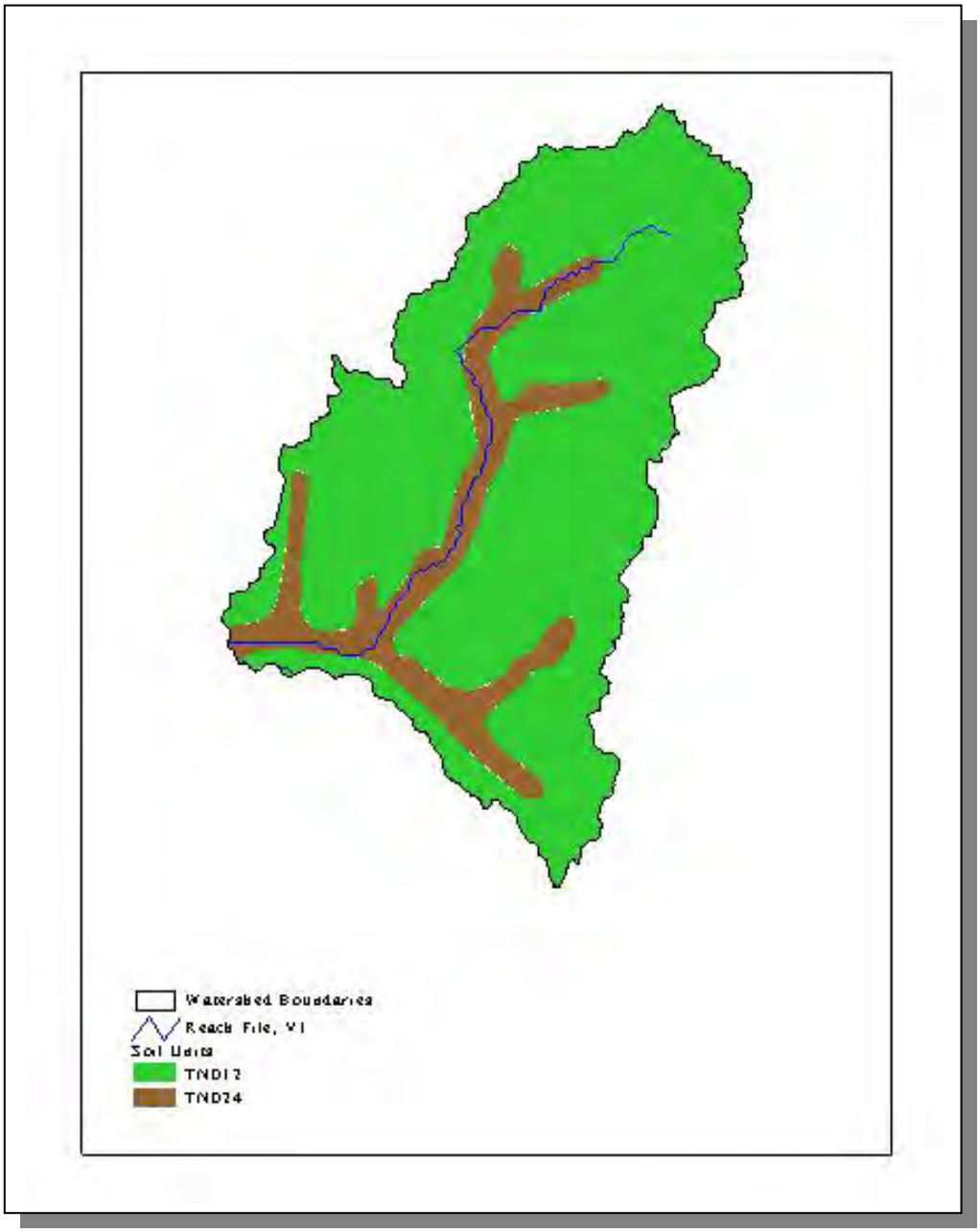

Figure 4-9. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205020.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN024	61.00	D	2.18	5.35	Loam	0.29

Table 4-8. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205020. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Chester	12,819	14,469	16.73	2,144	2,420	12.9
Henderson	21,844	24,000	1.03	226	248	9.7
McNairy	22,422	23,678	1.00	224	237	5.8
Totals	**57,085**	**62,147**		**2,594**	**2,905**	**12.0**

Table 4-9. Population Estimates in Subwatershed 08010205020.

Figure 4-10. Location of Historical Streamflow Data Collection Sites in Subwatershed 08010205020. *More information is provided in SFFD-Appendix IV.*

4.2.B.ii. Point Source Contributions.

No Contributions.

4.2.B.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Milk Cow	Chickens	Hogs	Sheep
249	2,277	<5	<5	506	<5

Table 4-10. Summary of Livestock Count Estimates in Subwatershed 08010205020. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Chester	99.4	99.4	0.3	1.3
Henderson	158.5	158.5	3.6	12.8
Madison	140.7	140.7	2.4	11.5
Totals	**398.6**	**398.6**	**6.3**	**25.6**

Table 4-11. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 08010205020.

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	9.83
Soybeans (Row Crops)	6.46
Cotton (Row Crops)	17.01
Other Cropland not Planted	0.98
Grass (Pastureland)	0.41
Grass, Forbs, Legumes (Mixed Pasture)	0.51
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.12
Conservation Reserve Program Land	0.42
Grass (Hayland)	0.25
Legume Grass (Hayland)	0.19
Wheat (Close Grown Cropland)	9.69
Other Vegetable and Truck Crop	28.15
Sorghum (Row Crops)	3.62
Legume (Hayland)	0.12

Table 4-12. Annual Estimated Total Soil Loss in Subwatershed 08010205020.

4.2.C. 08010205030.

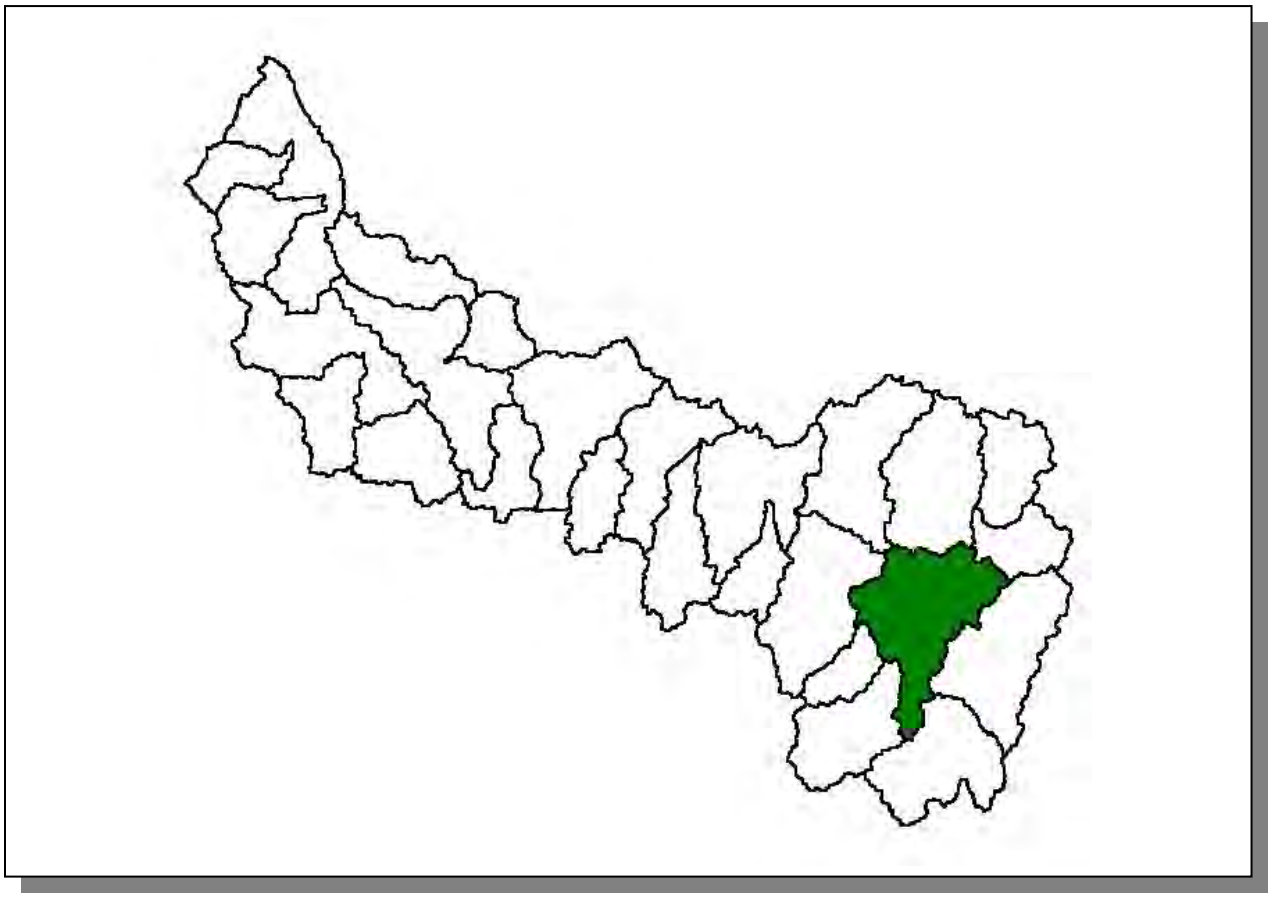

Figure 4-11. Location of Subwatershed 08010205030. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.C.i. General Description.

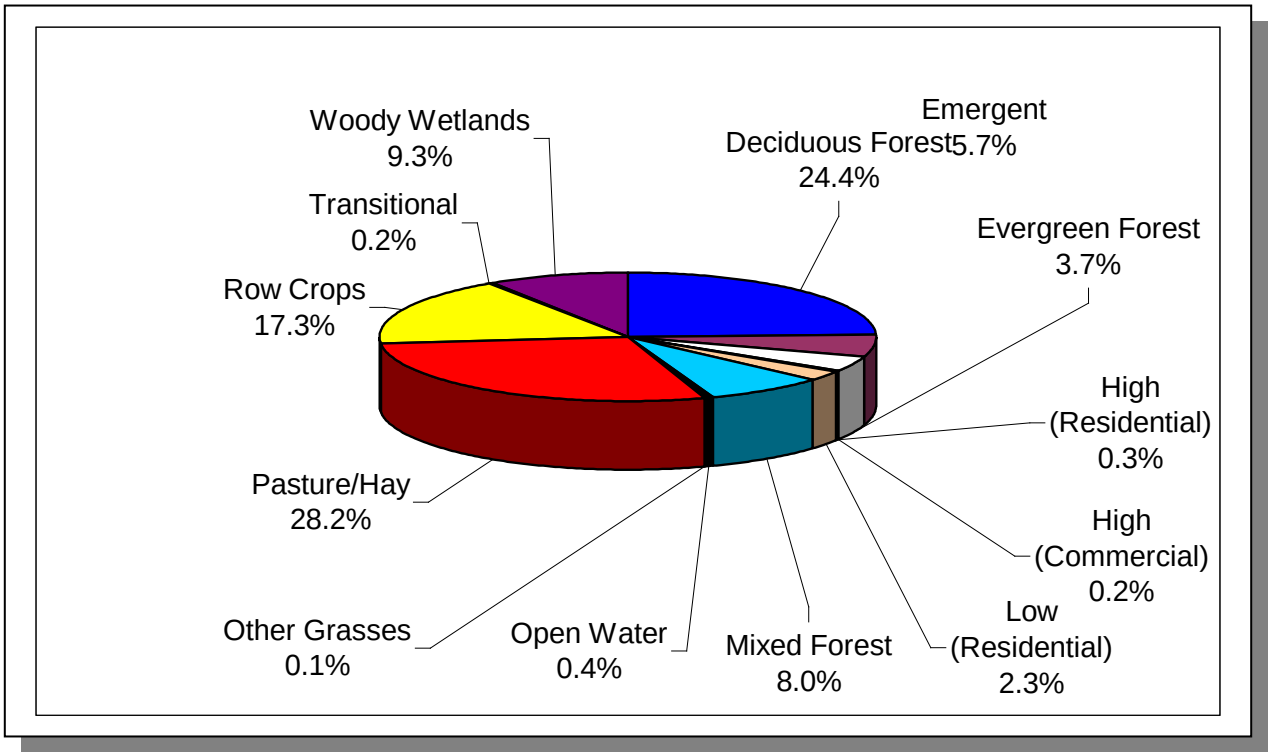

Figure 4-12. Land Use Distribution in Subwatershed 08010205030. *More information is provided in SFFD-Appendix IV.*

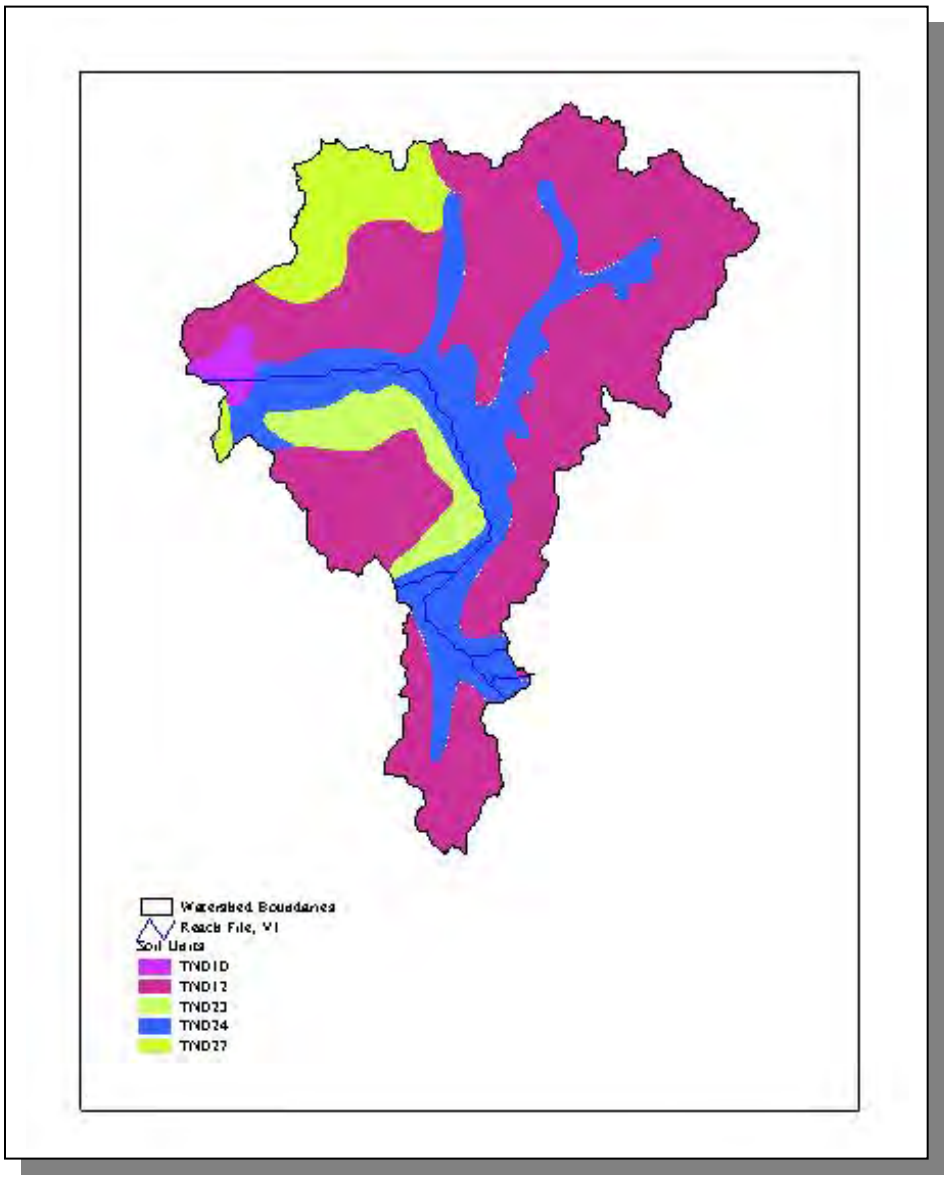

Figure 4-13. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205030.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN023	17.00	C	1.35	5.12	Silty Loam	0.42
TN024	61.00	D	2.18	5.35	Loam	0.29
TN027	0.00	C	1.26	5.25	Silty Loam	0.41

Table 4-13. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205030. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Chester	12,819	14,469	20.81	2,668	3,011	12.9
McNairy	22,422	23,678	0.09	20	21	5.0
Madison	77,982	84,942	1.06	823	897	9.0
Totals	**113,223**	**123,089**		**3,511**	**3,929**	**11.9**

Table 4-14. Population Estimates in Subwatershed 08010205030.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Finger	McNairy	273	119	2	115	2
Henderson	Chester	4,760	1,600	1,476	124	0
Totals		**5,033**	**1,719**	**1,478**	**239**	**2**

Table 4-15. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205030.

4.2.C.ii. Point Source Contributions.

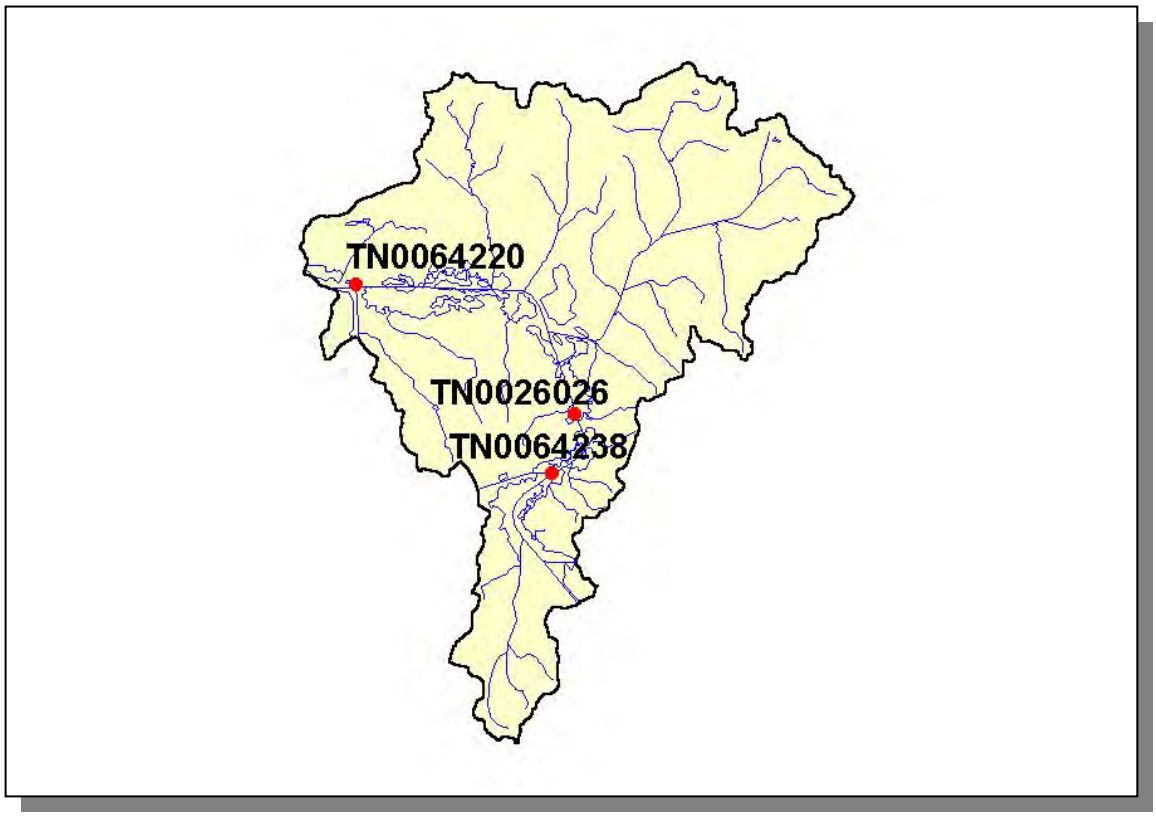

Figure 4-14. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205030. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

4.2.C.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)				
Beef Cow	Cattle	Chickens	Hogs	Sheep
30	2,666	<5	550	<5

Table 4-16. Summary of Livestock Count Estimates in Subwatershed 08010205030. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	10.45
Soybeans (Row Crops)	6.35
Cotton (Row Crops)	18.96
Wheat (Close Grown Cropland)	9.89
Grass (Hayland)	0.36
Other Cropland not Planted	0.38
Grass (Pastureland)	0.35
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.12
Other Vegetable and Truck Crops	26.31
Grass, Forbs, Legumes (Mixed Pasture)	0.65
Other Land in Farms	0.08
All Other Close Grown Cropland	0.47
Conservation Reserve Program Lands	0.44
Legume Grass (Hayland)	0.21
Forest Land (Grazed)	0.00
Sorghum (Row Crops)	3.62
Legume (Hayland)	0.12

Table 4-17. Annual Estimated Total Soil Loss in Subwatershed 08010205030.

4.2.D. 08010205040.

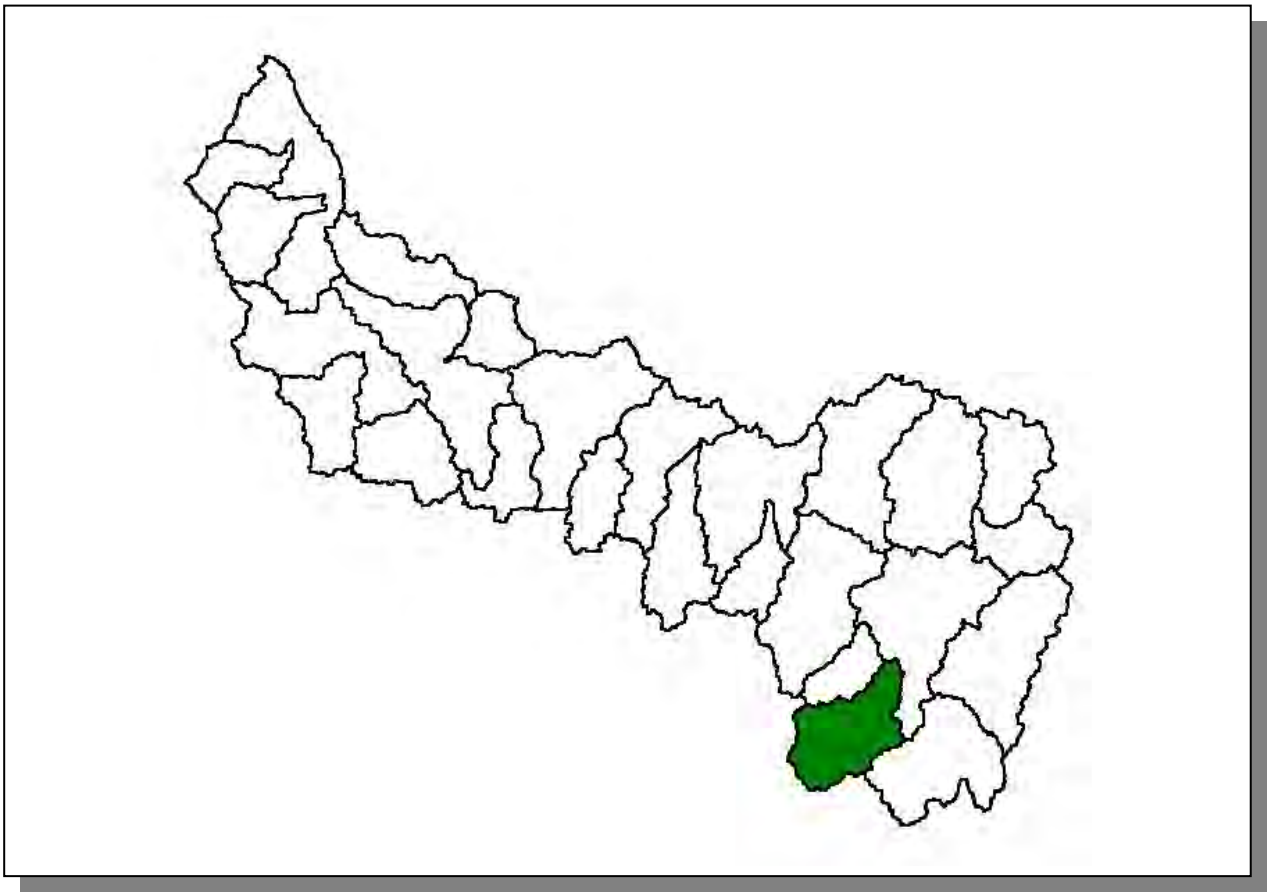

Figure 4-15. Location of Subwatershed 08010205040. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.D.i. General Description.

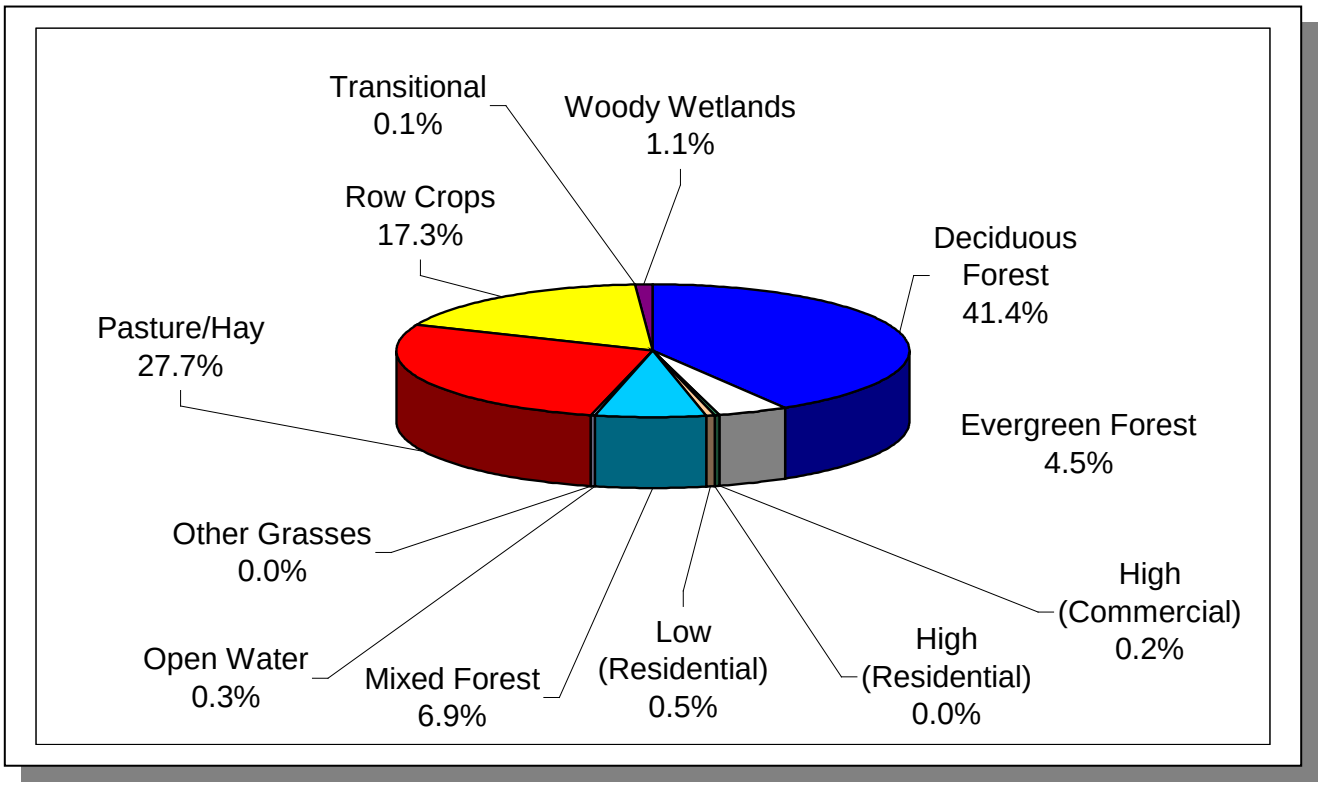

Figure 4-16. Land Use Distribution in Subwatershed 08010205040. *More information is provided in SFFD-Appendix IV.*

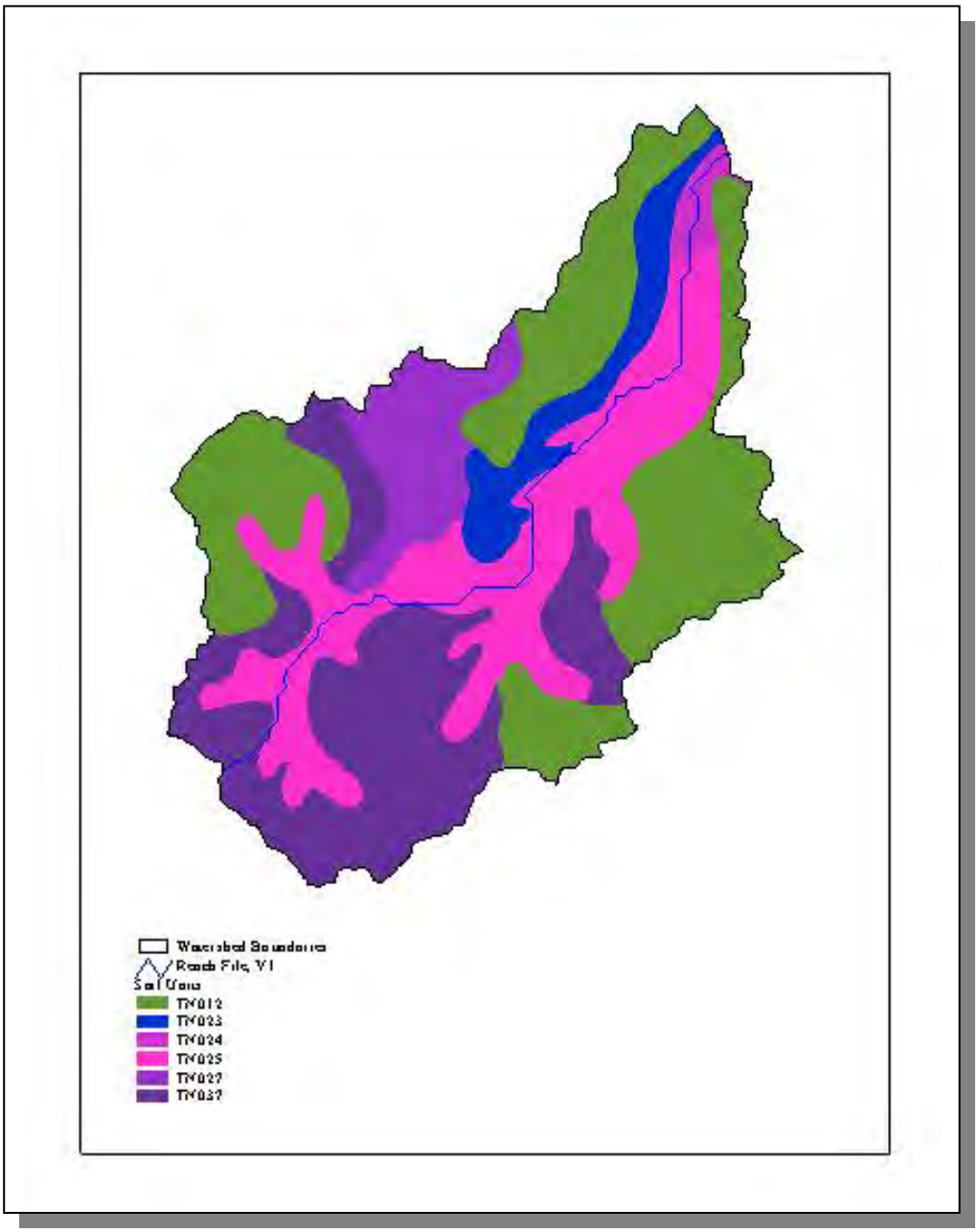

Figure 4-17. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205040.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN023	17.00	C	1.35	5.12	Silty Loam	0.42
TN024	61.00	D	2.18	5.35	Loam	0.29
TN025	53.00	C	2.00	5.52	Loam	0.25
TN027	0.00	C	1.26	5.25	Silty Loam	0.41
TN037	0.00	C	3.51	4.86	Sandy Loam	0.27

Table 4-18. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205040. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Chester	12,819	14,469	13.52	1,734	1,957	12.9
McNairy	22,422	23,678	0.19	43	46	7.0
Totals	**35,241**	**38,147**		**1,777**	**2,003**	**12.7**

Table 4-19. Population Estimates in Subwatershed 08010205040.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Finger	McNairy	273	119	2	115	2
Henderson	Chester	4,760	1,600	1,476	124	0
Totals		**5,033**	**1,719**	**1,478**	**239**	**2**

Table 4-20. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205040.

4.2.D.ii. Point Source Contributions.

Figure 4-18. Location of Active Mining Sites in Subwatershed 08010205040. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

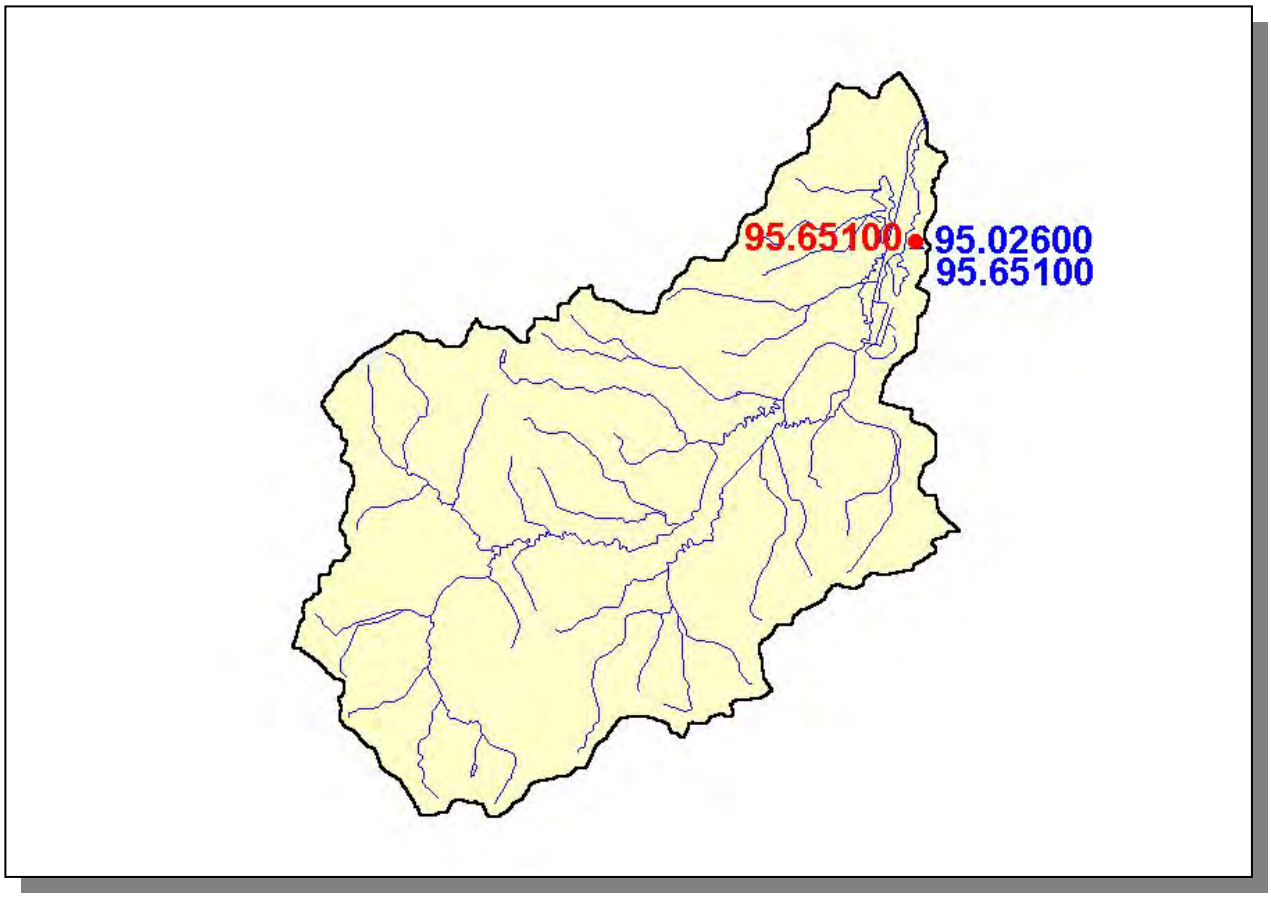

Figure 4-19. Location of Wetland Impact and Mitigation Sites in Subwatershed 08010205040. *Impact (Blue Triangle) and mitigation (Red Circle) sites are from ARAP database. More information is provided in SFFD-Appendix IV.*

4.2.D.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)				
Beef Cow	Cattle	Chickens	Hogs	Sheep
52	1,650	<5	331	<5

Table 4-21. Summary of Livestock Count Estimates in Subwatershed 08010205040. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Chester	99.4	99.4	0.3	1.3
Madison	140.7	140.7	2.4	11.5
Totals	**240.1**	**240.1**	**2.7**	**12.8**

Table 4-22. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 08010205040.

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	10.04
Soybeans (Row Crops)	6.20
Cotton (Row Crops)	19.29
Legume Grass (Hayland)	0.20
Grass (Pastureland)	0.35
Grass, Forbs, Legumes (Mixed Pasture)	0.39
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.09
Conservation Reserve Program Lands	0.44
Wheat (Close Grown Cropland)	10.36
Grass (Hayland)	0.29
Other Cropland not Planted	0.24
Other Vegetable and Truck Crops	28.15
Sorghum (Row Crops)	3.62
Legume (Hayland)	0.12

Table 4-23. Annual Soil Loss in Subwatershed 08010205040.

4.2.E. 08010208050.

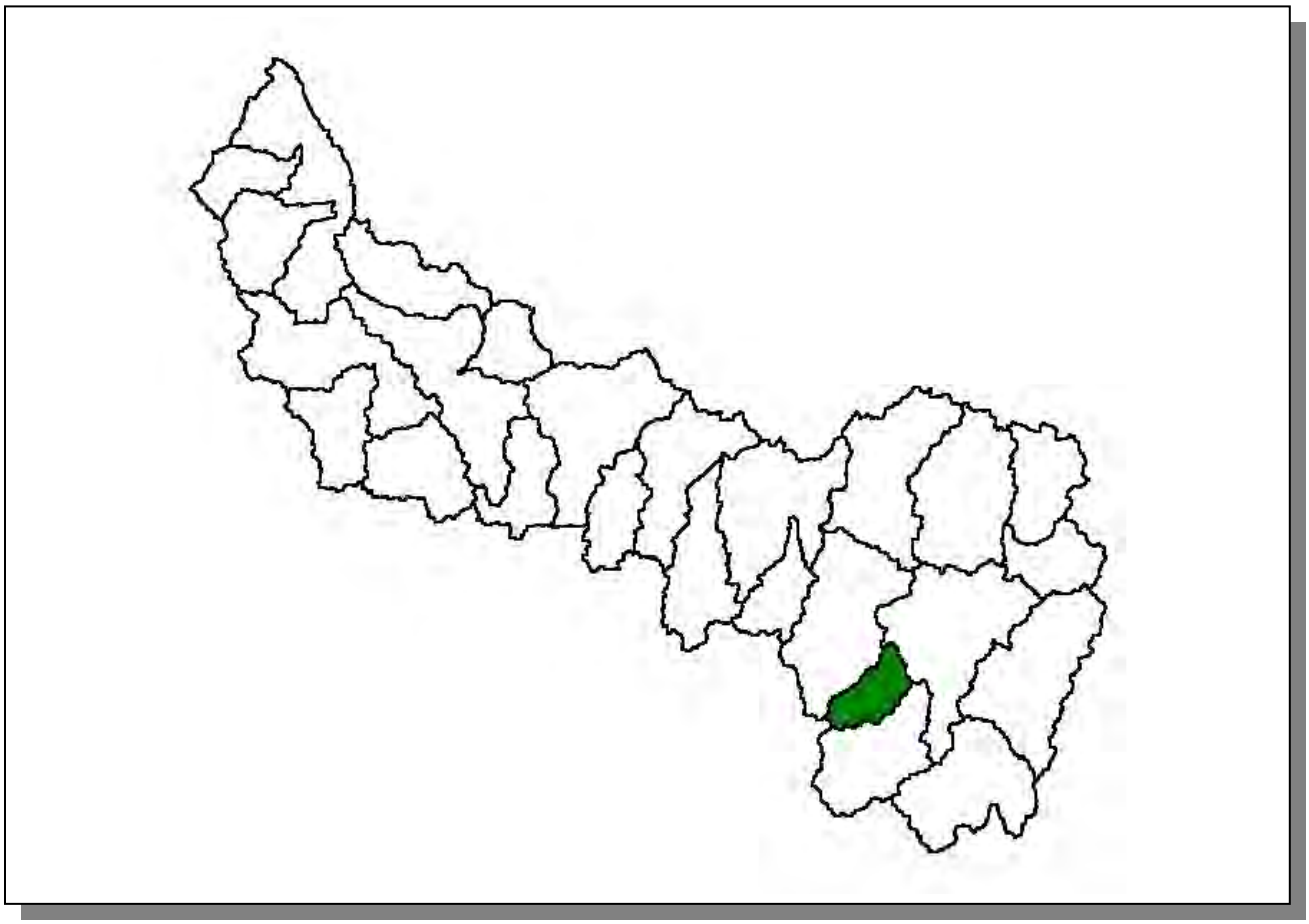

Figure 4-20. Location of Subwatershed 08010205050. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.E.i. General Description.

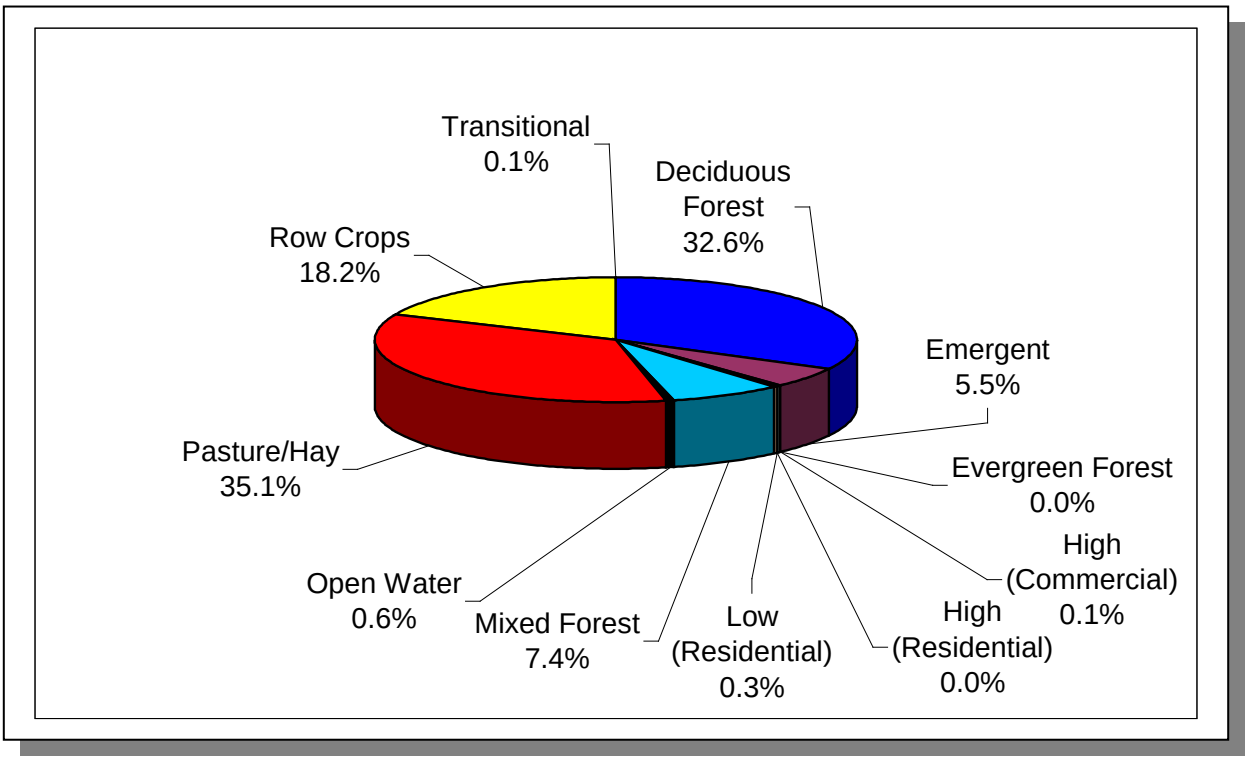

Figure 4-21. Land Use Distribution in Subwatershed 08010205050. *More information is provided in SFFD-Appendix IV.*

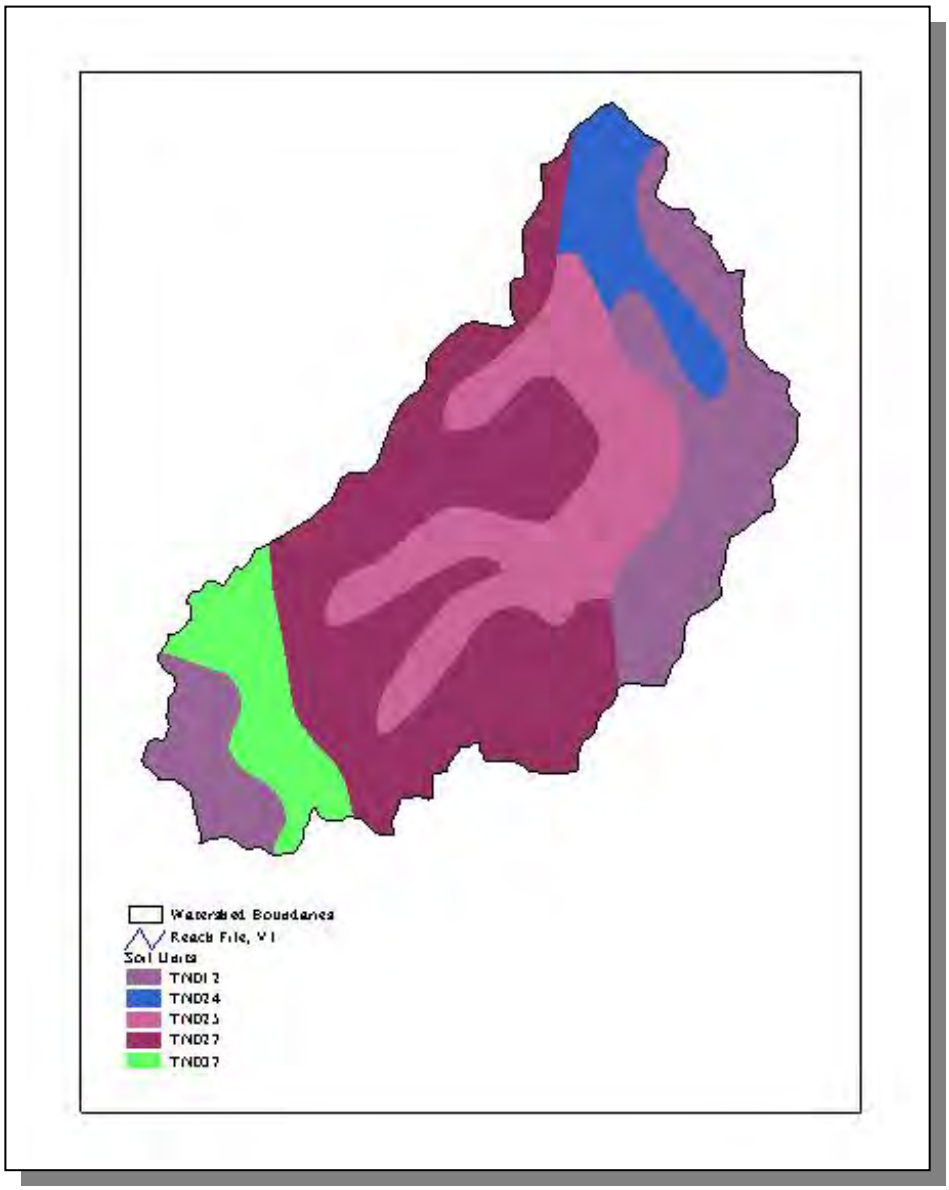

Figure 4-22. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205050.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATE SOIL TEXTURE	SOIL ERODIBILITY
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN024	61.00	D	2.18	5.35	Loam	0.29
TN025	53.00	C	2.00	5.52	Loam	0.25
TN027	0.00	C	1.26	5.25	Silty Loam	0.41
TN037	0.00	C	3.51	4.86	Sandy Loam	0.27

Table 4-24. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205050. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Chester	12,819	14,469	5.65	724	817	12.8

Table 4-25. Population estimates in Subwatershed 08010205050.

				Number of Housing Units		
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Henderson	Chester	4,760	1,600	1,476	124	0

Table 4-26. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205050.

4.2.E.ii. Point Source Contributions.

No Contribution

4.2.E.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)		
Cattle	Chickens	Hogs
832	<5	122

Table 4-27. Summary of Livestock Count Estimates in Subwatershed 08010205050. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Chester	99.4	99.4	0.3	1.3

Table 4-28. Forest Acreage and Annual Removal Rates (1987-1994) in Subwatershed 08010205050.

CROPS	TONS/ACRE/YEAR
Corn (Row Crops)	10.01
Soybeans (Row Crops)	6.10
Cotton (Row Crops)	19.67
Legume Grass (Hayland)	0.21
Grass (Pastureland)	0.34
Grass, Forbs, Legumes (Mixed Pasture)	0.39
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.09
Conservation Reserve Program Lands	0.44
Wheat (Close Grown Cropland)	10.59
Grass (Hayland)	0.30
Other Cropland not Planted	0.18
Other Vegetable and Truck Crops	28.15

Table 4-29. Annual Estimated Soil Loss in Subwatershed 08010205050.

4.2.F. 08010205060

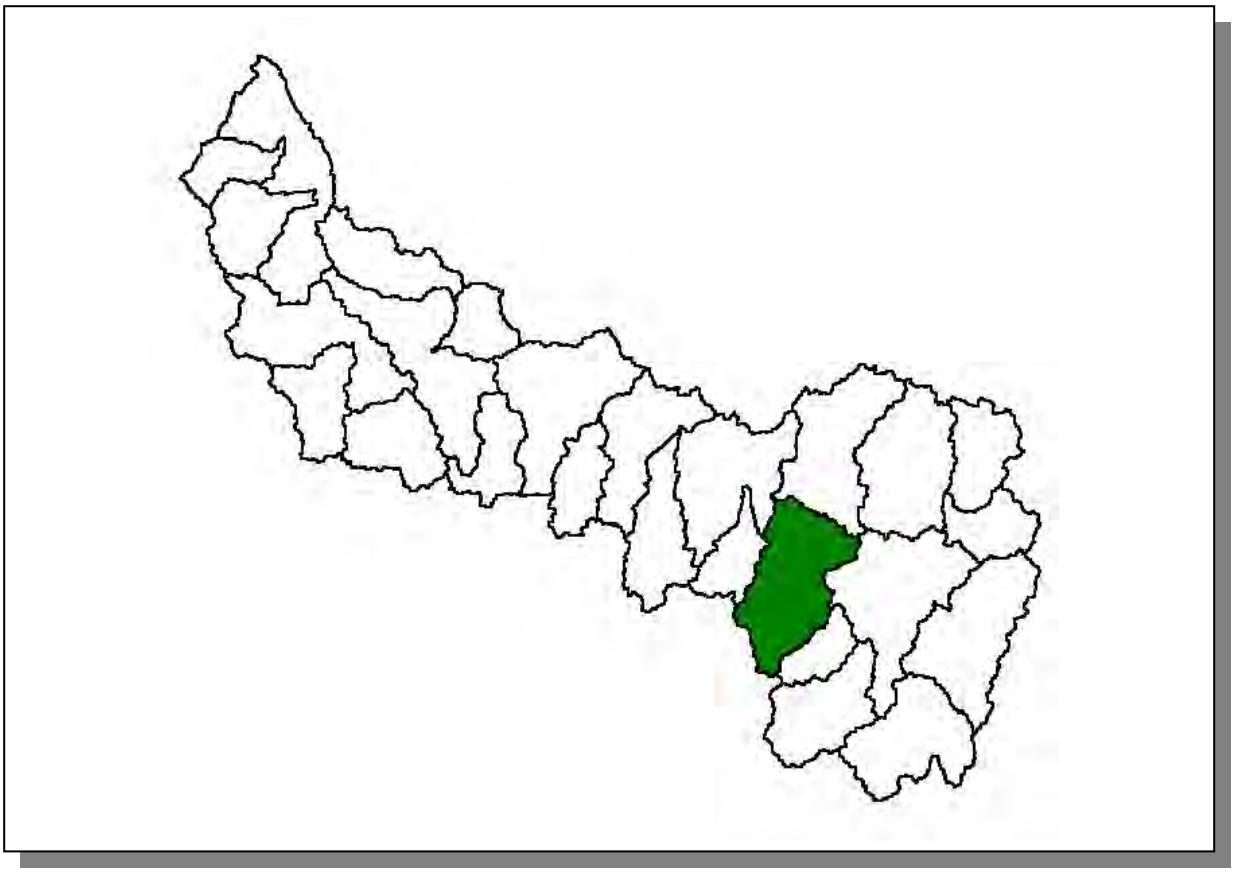

Figure 4-23. Location of Subwatershed 08010205060. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.F.i. General Description.

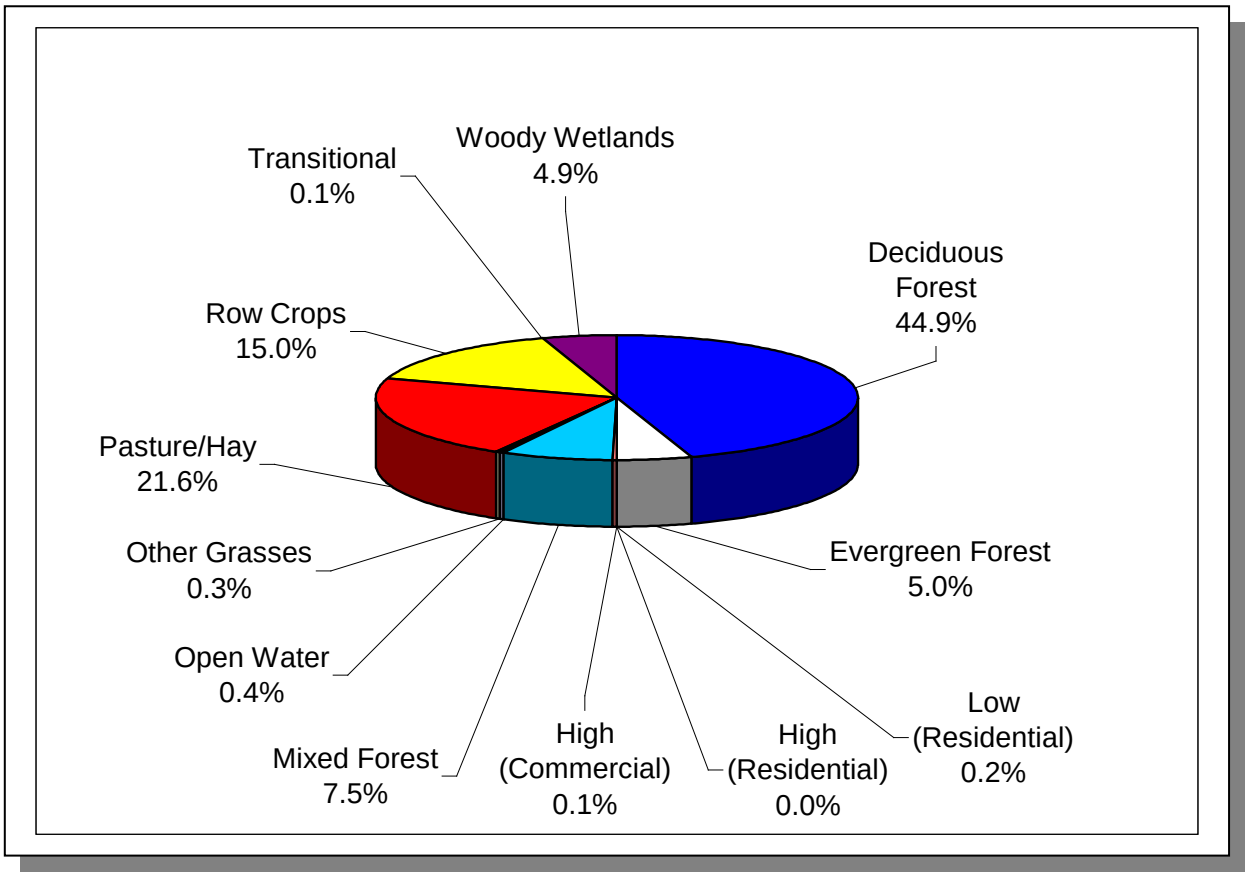

Figure 4-24. Land Use Distribution in Subwatershed 08010205060. *More information is provided in SFFD-Appendix IV.*

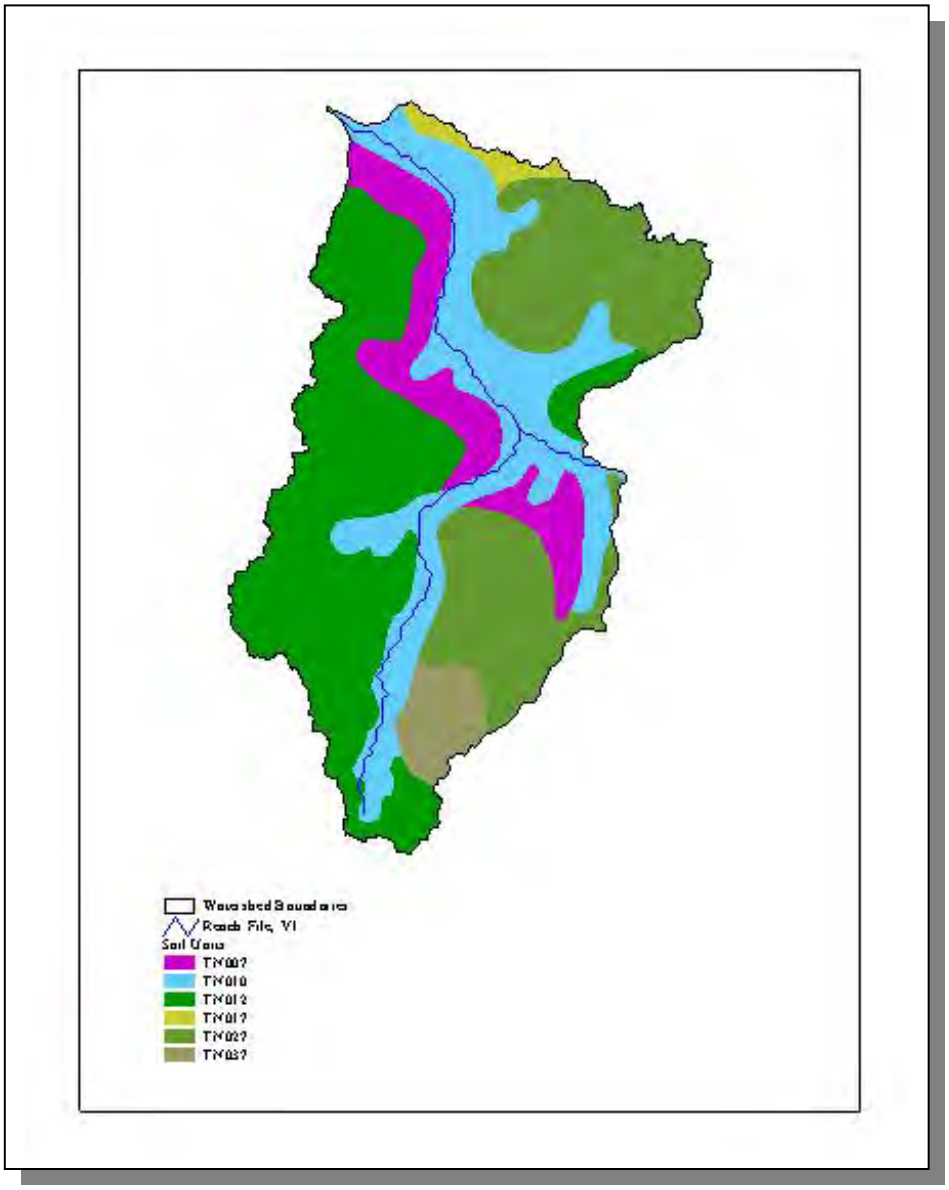

Figure 4-25. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205060.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATE SOIL TEXTURE	SOIL ERODIBILITY
TN007	29.00	C	1.30	5.36	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN012	1.00	C	2.52	5.30	Silty Loam	0.39
TN017	0.00	B	1.81	5.26	Silty Loam	0.45
TN027	0.00	C	1.26	5.25	Silty Loam	0.41
TN037	0.00	C	3.51	4.86	Sandy Loam	0.27

Table 4-30. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205060. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Chester	12,819	14,469	4.88	625	706	13.0
Madison	77,982	84,942	7.9	6,159	6,709	8.9
Totals	**90,801**	**99,411**		**6,784**	**7,415**	**9.3**

Table 4-31. Population Estimates in Subwatershed 08010205060.

Figure 4-26. Location of STORET Stations in Subwatershed 08010205060. *More information is provided in SFFD-Appendix IV.*

4.2.F.ii. Point Source Contributions.

Figure 4-27. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205060. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

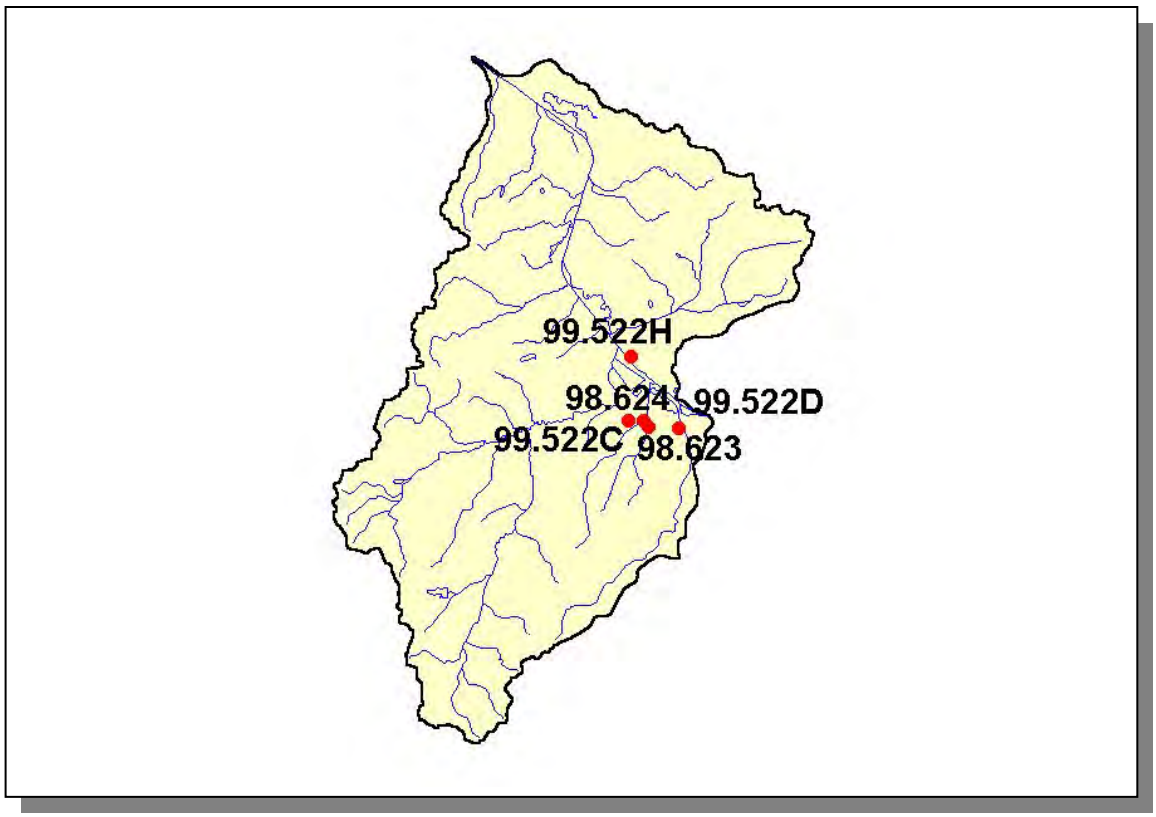

Figure 4-28. Location of ARAP Sites (Individual Permits) in Subwatershed 08010205060. *More information is provided in SFFD-Appendix IV.*

4.2.F.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)		
Cattle	Chickens	Hogs
1,382	<5	931

Table 4-32. Summary of Livestock Count Estimates in Subwatershed 08010205060. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

CROPS	TONS/ACRE/YEAR
Corn (Row Crops)	13.66
Soybeans (Row Crops)	8.04
Cotton (Row Crops)	14.57
Wheat (Close Grown Cropland)	5.22
Grass (Hayland)	0.79
Other Cropland not Planted	1.74
Grass (Pastureland)	0.40
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.37
Other Vegetable and Truck Crops	12.68
Grass, Forbs, Legumes (Mixed Pasture)	2.64
Other Land in Farms	0.08
All Other Close Grown Cropland	0.47
Conservation Reserve Program Lands	0.46
Legume Grass (Hayland)	0.21
Forest Land (Grazed)	0.00

Table 4-33. Annual Estimated Total Soil Loss in Subwatershed 08010205060.

4.2.G. 08010205070.

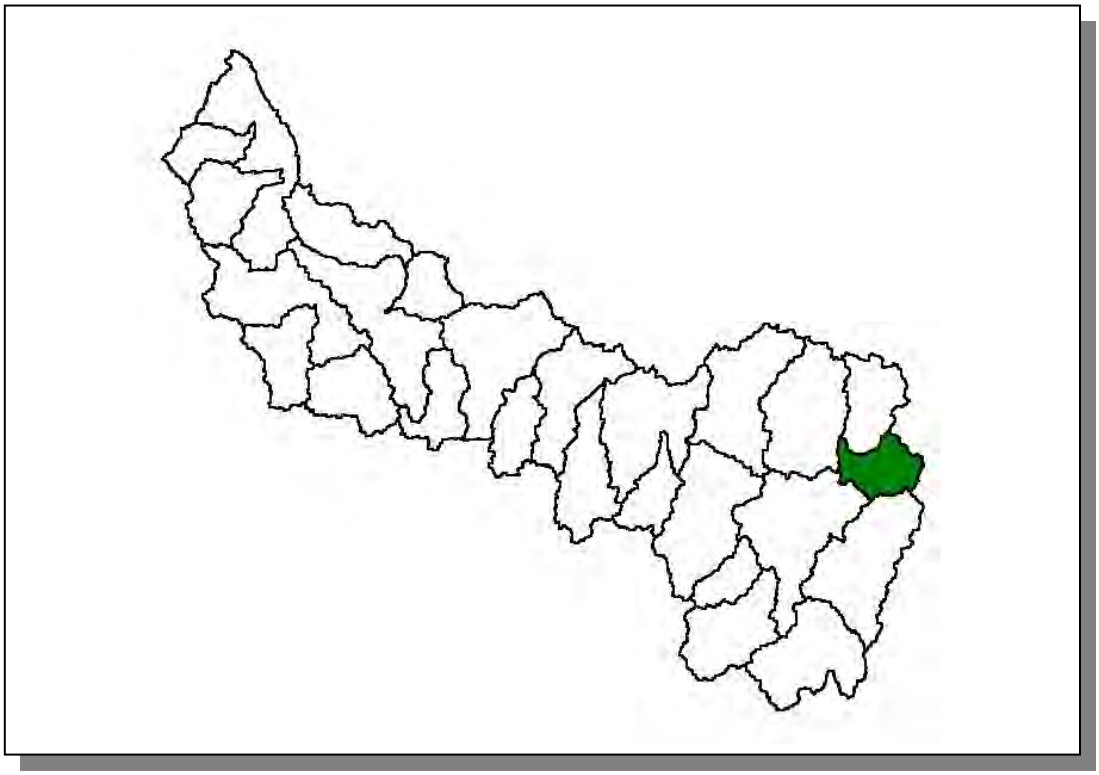

Figure 4-29. Location of Subwatershed 08010205070. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.G.i. General Description.

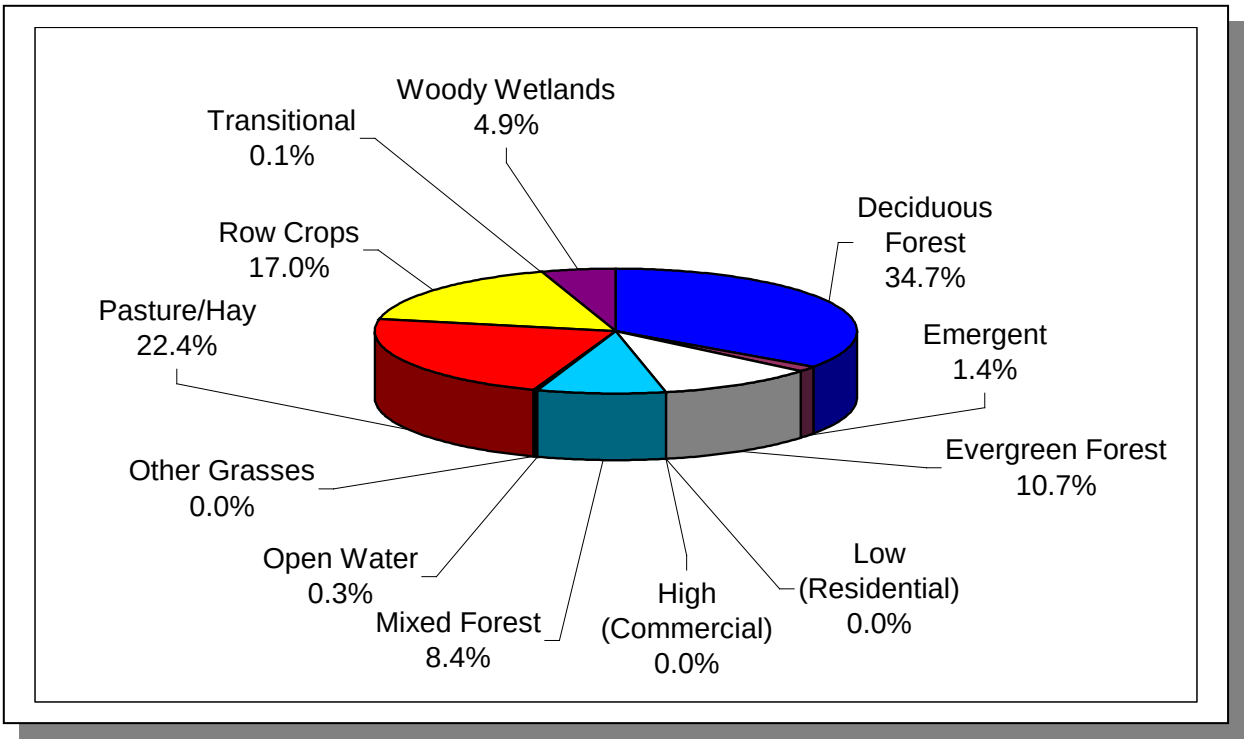

Figure 4-30. Land Use Distribution in Subwatershed 08010205070. *More information is provided in SFFD-Appendix IV.*

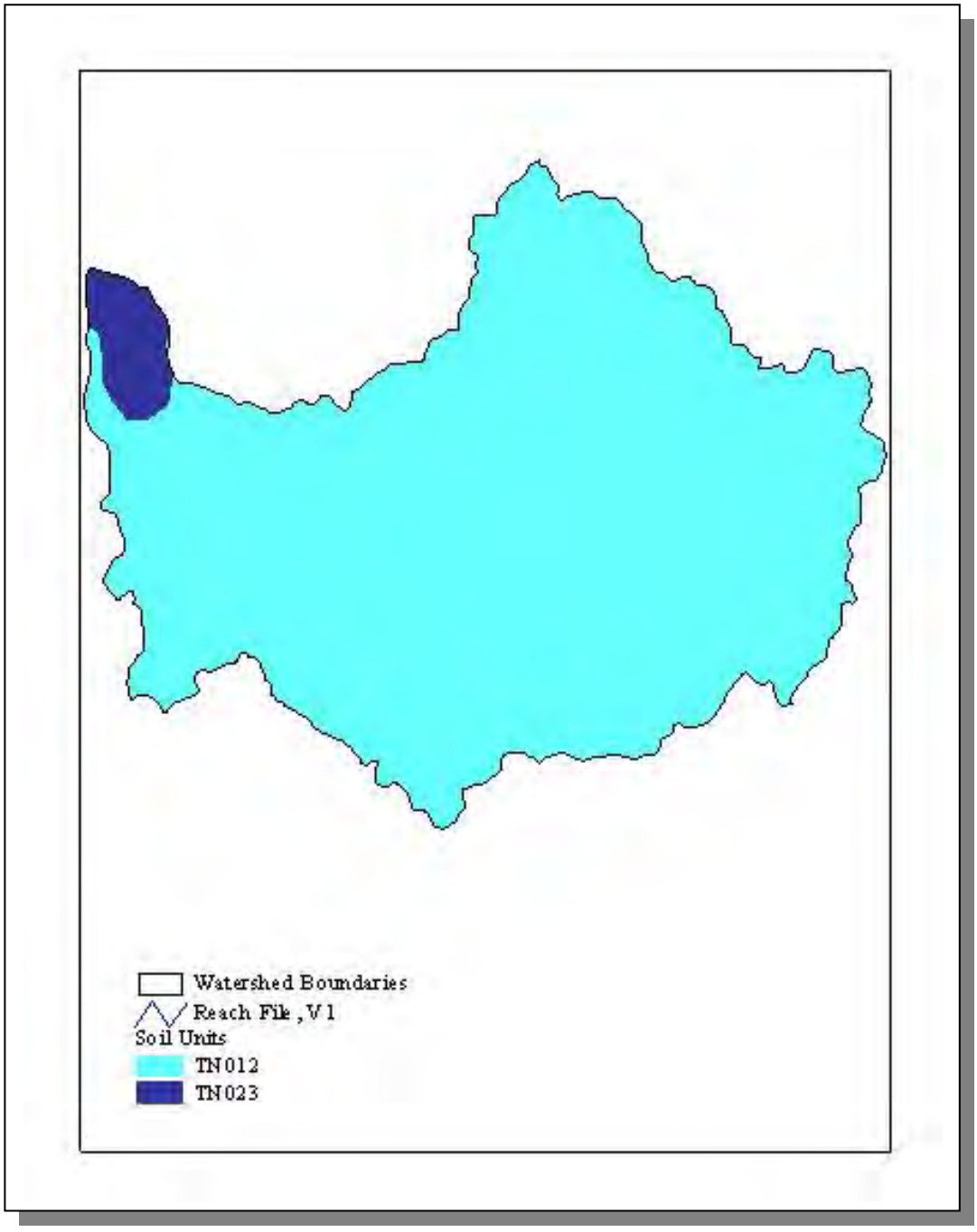

Figure 4-31. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010208070.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN023	17.00	C	1.35	5.12	Silty Loam	0.42

Table 4-34. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205070. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Chester	12,819	14,469	1.15	147	166	12.9
Henderson	21,844	24,000	3.7	809	889	9.9
Totals	**34,663**	**38,469**		**956**	**1,055**	**10.4**

Table 4-35. Population Estimates in Subwatershed 08010205070.

4.2.G.ii. Point Source Contributions.

No Contributions.

4.2.G.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Chickens	Hogs	Milk Cow	Sheep
699	1782	<5	605	<5	10

Table 4-36. Summary of Livestock Count Estimates in Subwatershed 08010205070. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Chester	99.4	99.4	0.3	1.3
Henderson	158.5	158.5	3.6	12.8
Totals	**257.9**	**257.9**	**3.9**	**14.1**

Table 4-37. Forest Acreage and Average Removal Rates (1987-1994) in Subwatershed 08010205070.

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	7.44
Soybeans (Row Crops)	6.23
Cotton (Row Crops)	7.35
Other Cropland not Planted	5.78
Grass (Pastureland)	0.79
Grass, Forbs, Legumes (Mixed Pasture)	1.35
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.42
Conservation Reserve Program Land	0.36
Grass (Hayland)	0.08
Legume Grass (Hayland)	0.21
Wheat (Close Grown Cropland)	10.59
Other Vegetable and Truck Crops	28.15

Table 4-38. Annual Estimated Total Soil Loss in Subwatershed 08010205070.

4.2.H. 08010205070.

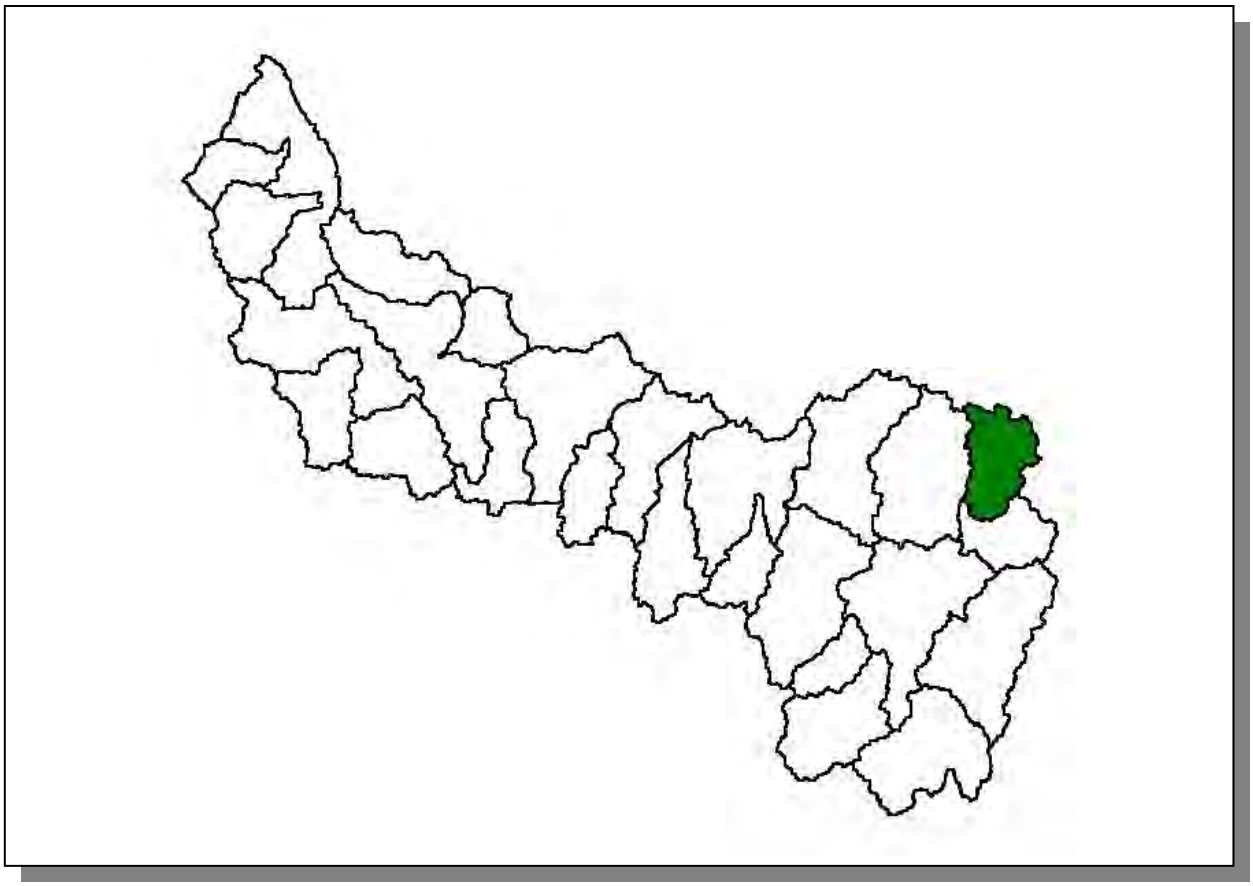

Figure 4-32. Location of Subwatershed 08010205080. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.H.i. General Description.

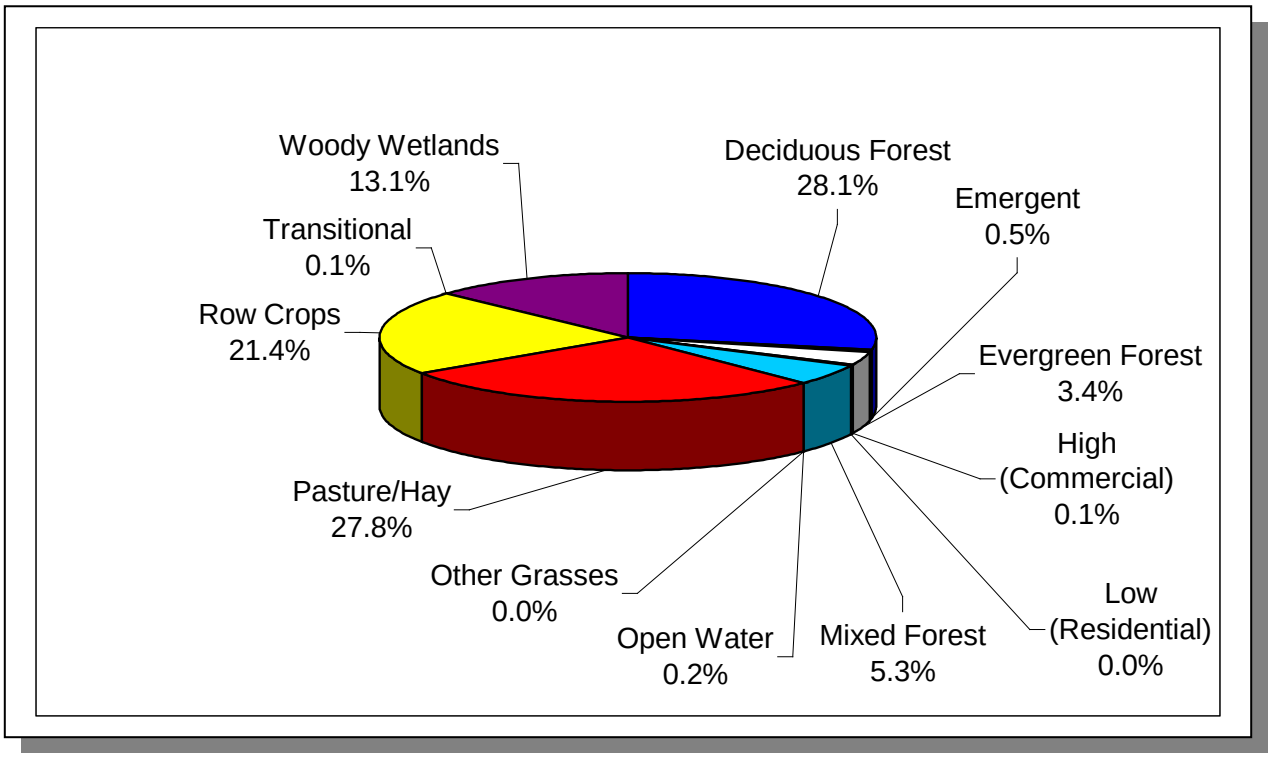

Figure 4-33. Land Use Distribution in Subwatershed 06010208080. More information is provided in SFFD-Appendix IV.

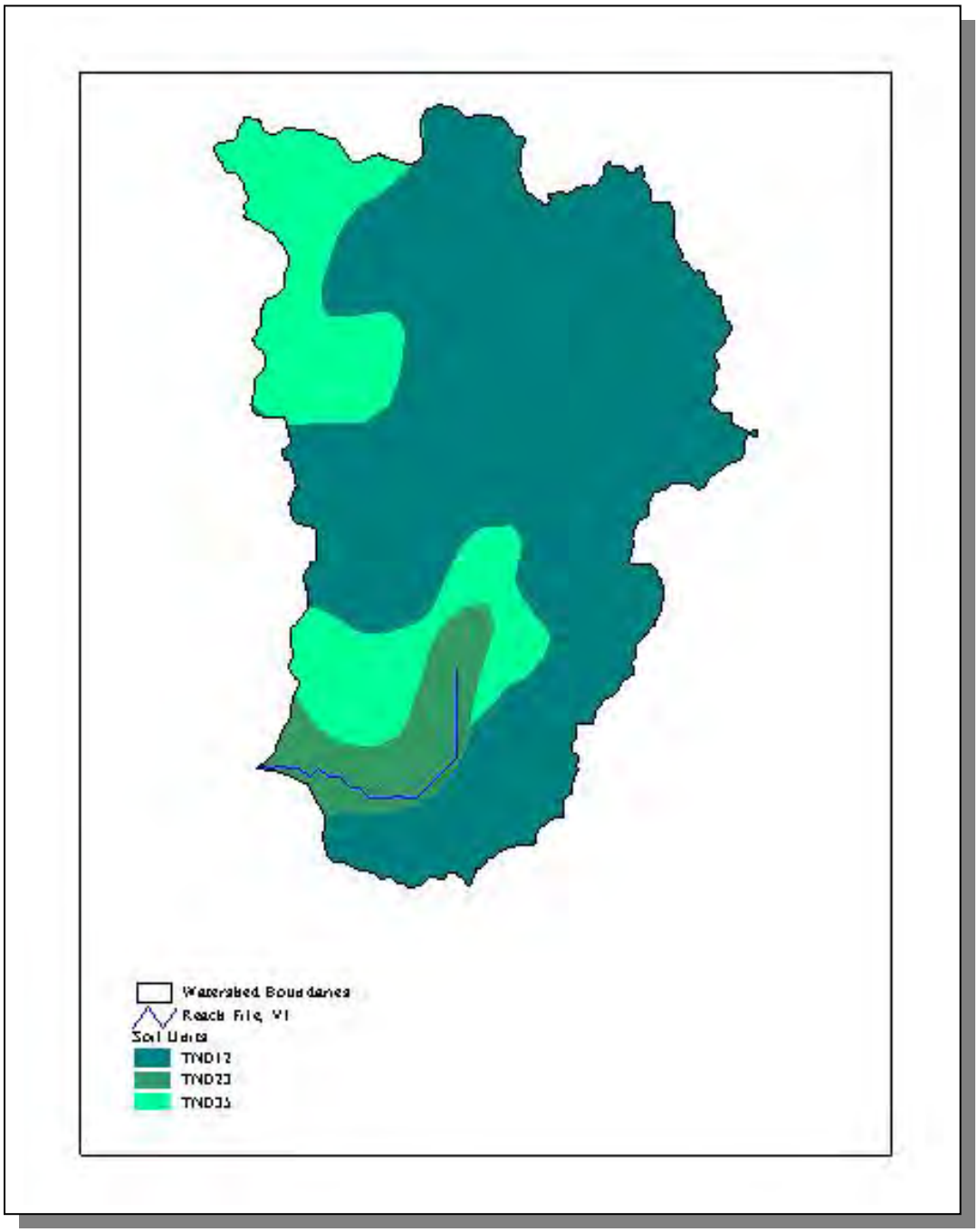

Figure 4-34. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205080.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN023	17.00	C	1.35	5.12	Silty Loam	0.42
TN035	16.00	C	1.46	4.97	Silty Loam	0.40

Table 4-39. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205080. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Henderson	21,844	24,000	5.49	1,199	1,317	9.8

Table 4-40. Population Estimates in Subwatershed 08010205080.

4.2.H.ii. Point Source Contributions.

No Contribution.

4.2.H.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Milk Cow	Hogs	Chickens	Sheep
1,484	3,378	8	1,225	<5	21

Table 4-41. Summary of Livestock Count Estimates in Subwatershed 08010205080. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Henderson	158.5	158.5	3.6	12.8

Table 4-42. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 08010205080.

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	7.00
Soybeans (Row Crops)	6.25
Cotton (Row Crops)	5.27
Other Cropland not Planted	6.72
Grass (Pastureland)	0.86
Grass, Forbs, Legumes (Mixed Pasture)	1.51
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.47
Conservation Reserve Program Land	0.35
Grass (Hayland)	0.04

Table 4-43. Annual Estimated Total Soil Loss in Subwatershed 08010205080.

4.2.I. 08010205090.

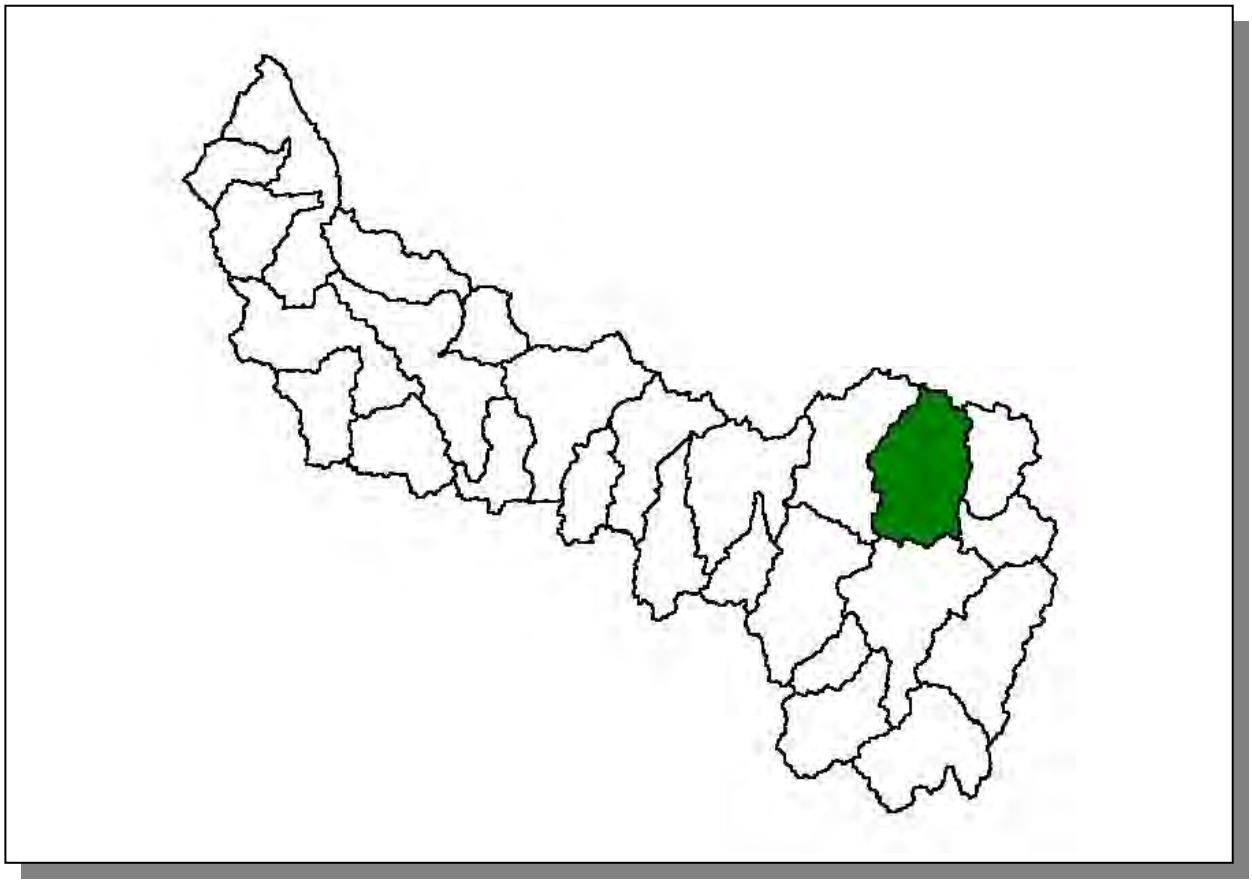

Figure 4-35. Location of Subwatershed 08010205090. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.I.i. General Description.

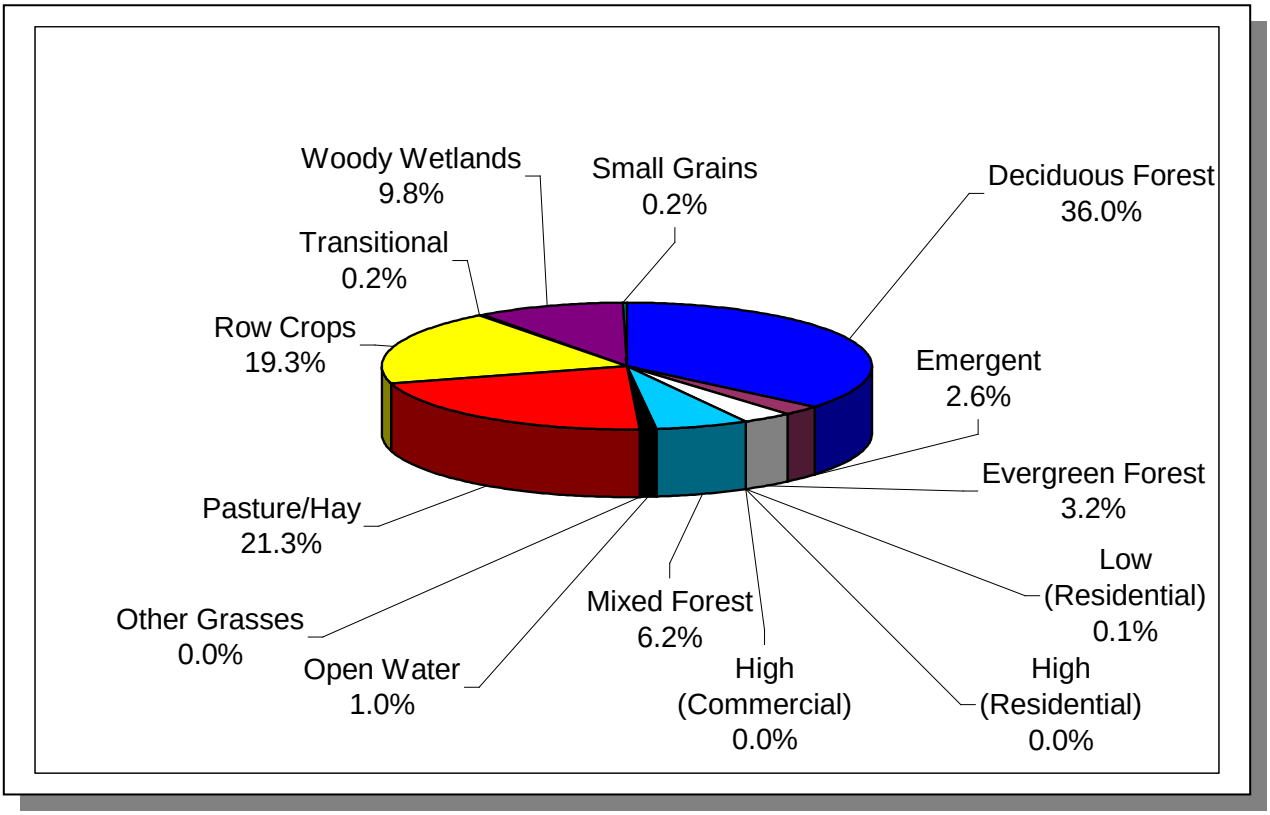

Figure 4-36. Land Use Distribution in Subwatershed 08010205090. *More information is provided in SFFD-Appendix IV.*

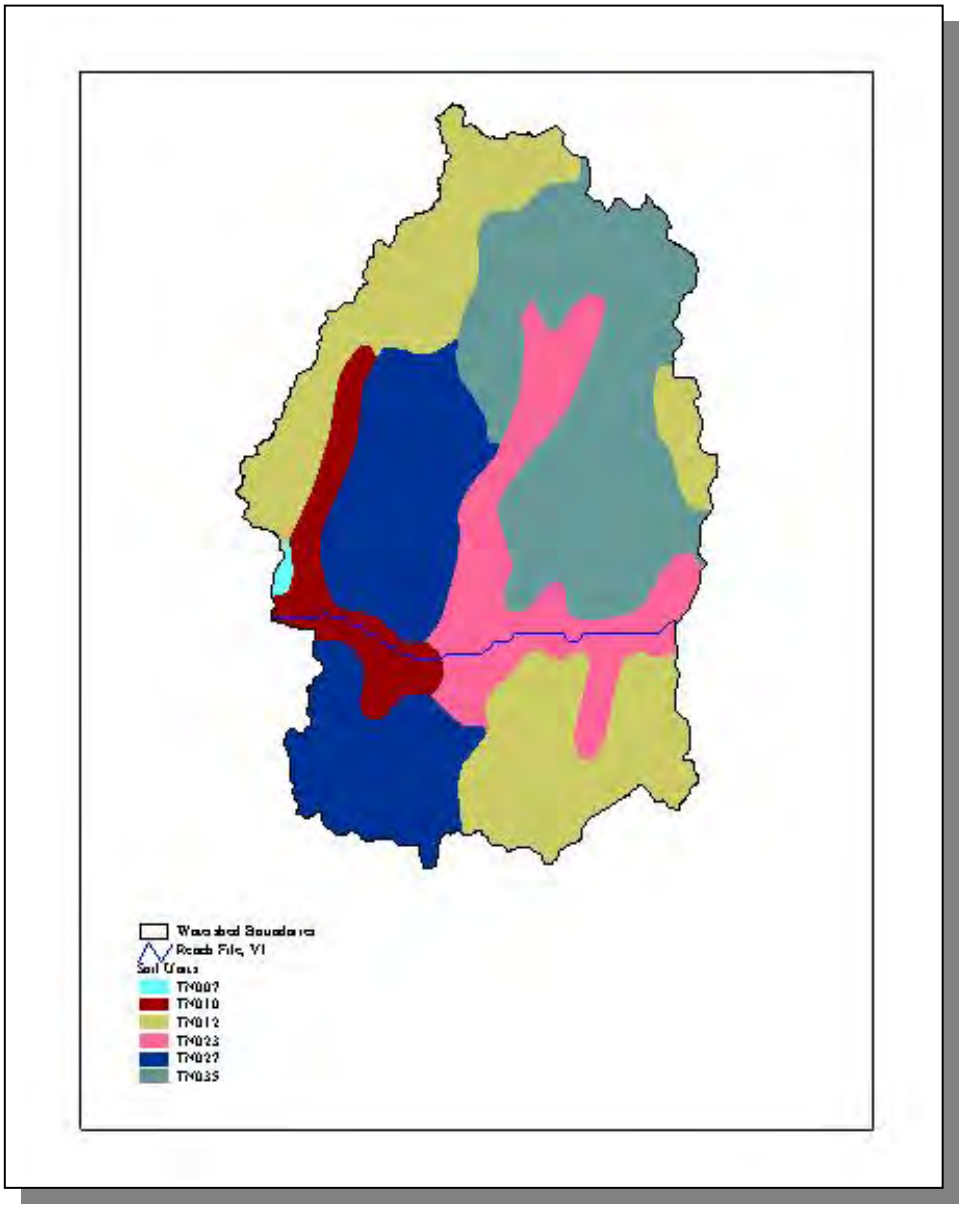

Figure 4-37. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205090.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN007	29.00	C	1.30	5.36	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN012	1.00	C	2.52	5.30	Silty Loam	0.39
TN023	17.00	C	1.35	5.12	Silty Loam	0.40
TN027	0.00	C	1.26	5.25	Silty Loam	0.41
TN035	16.00	C	1.46	4.97	Silty Loam	0.40

Table 4-44. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205090. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Chester	12,819	14,469	3.22	413	466	12.8
Henderson	21,844	24,000	4.04	882	969	9.9
Madison	77,982	84,942	4.68	3,647	3,972	8.9
Totals	**112,645**	**123,411**		**4,942**	**5,407**	**9.4**

Table 4-45. Population Estimates in Subwatershed 08010205090.

4.2.I.ii. Point Source Contributions.

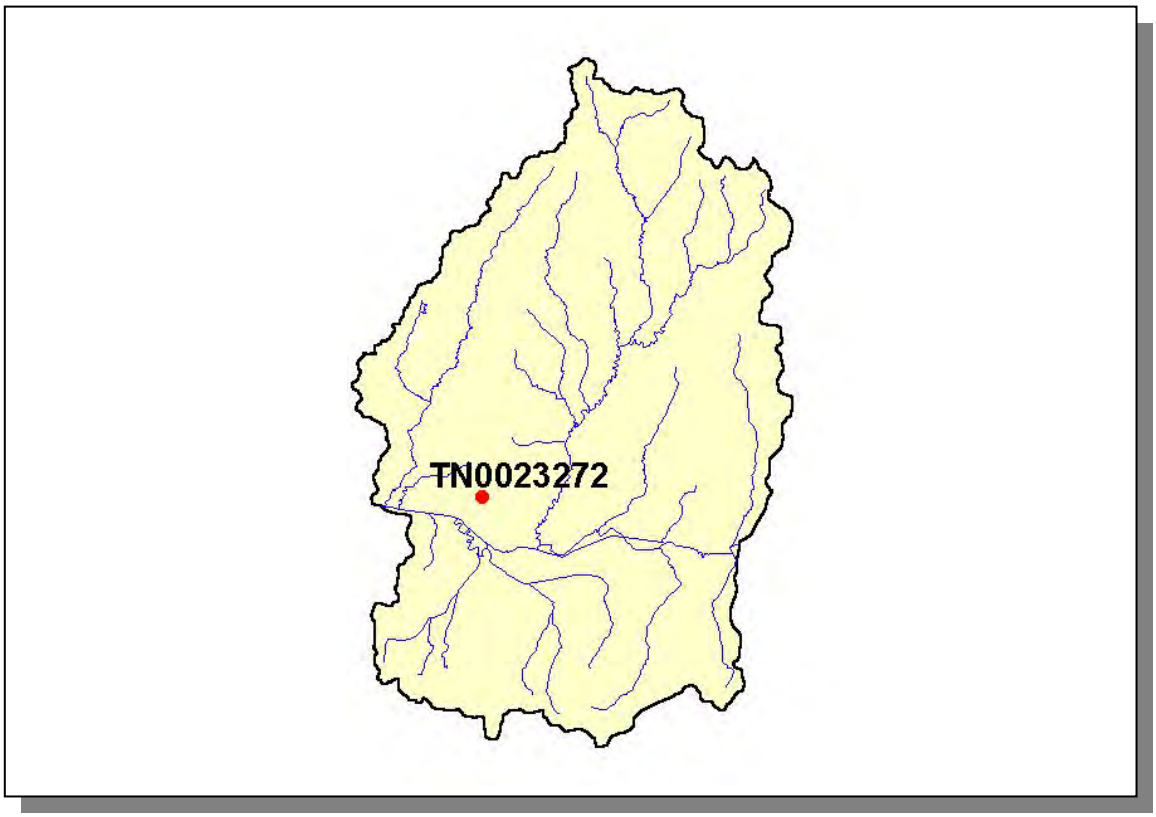

Figure 4-38. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205090. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

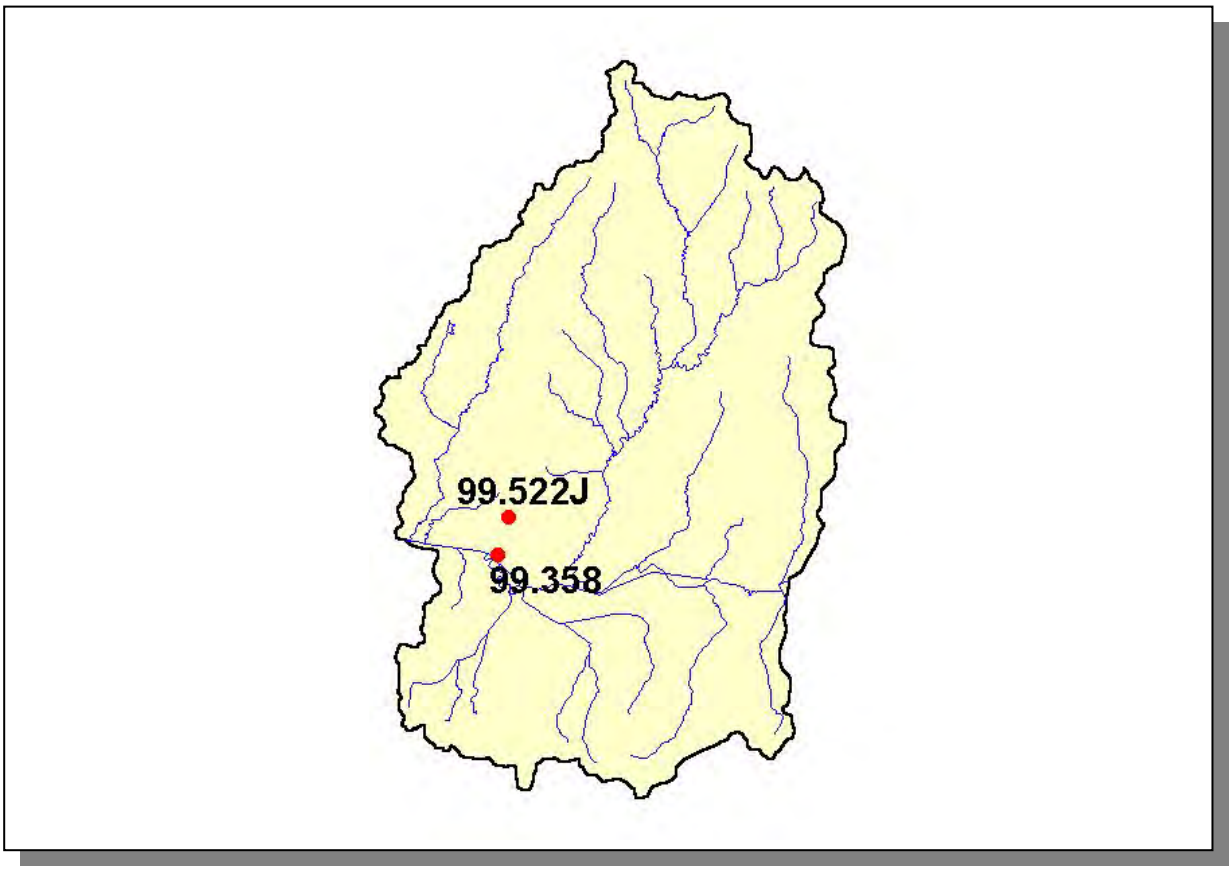

Figure 4-39. Location of ARAP Sites (Individual Permits) in Subwatershed 08010205090. *More information is provided in SFFD-Appendix IV.*

4.2 I.ii.a. Dischargers to Waterbodies Listed on the 1998 303(d) List.

There is one NPDES facility discharging to water bodies listed on the 1998 303(d) list in Subwatershed 08010205090:

- TN0023272 discharges to RM 0.1 of a tributary to the North Fork of the South Fork Forked Deer River @ RM 8.1

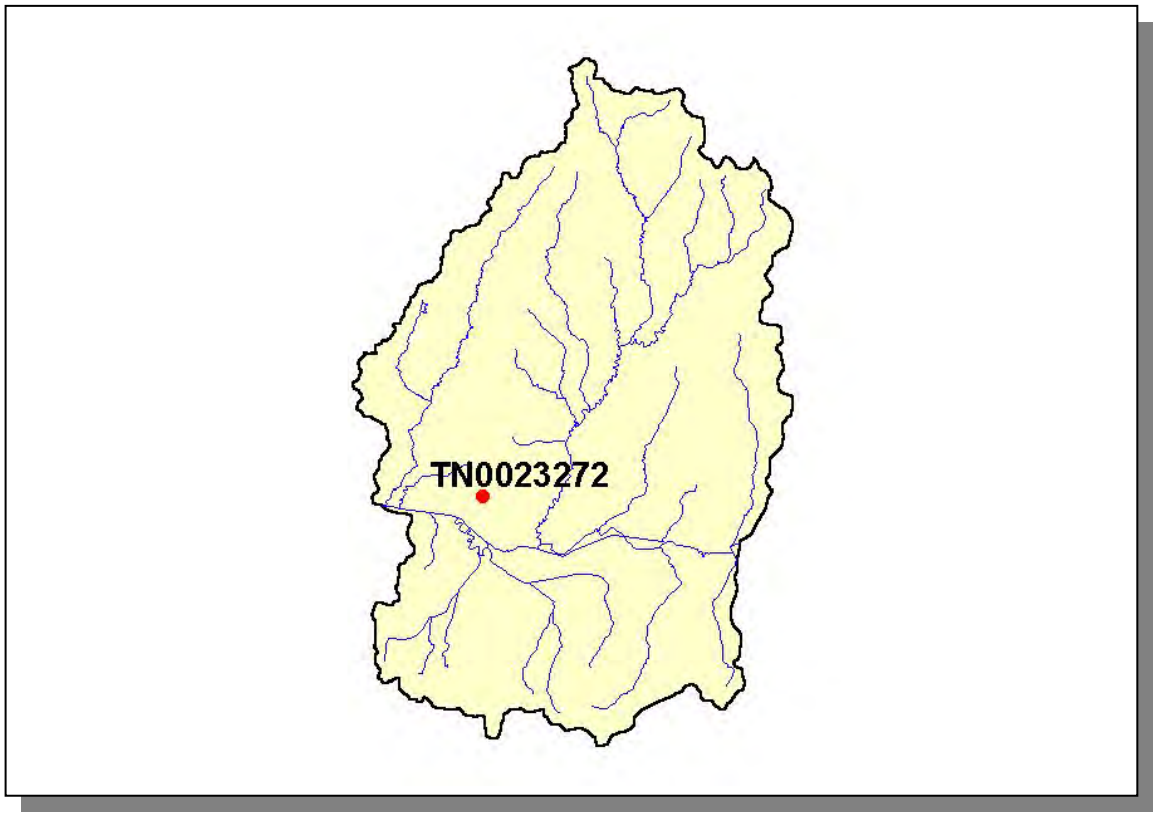

Figure 4-40. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205090. *The names of facilities are provided in SFFD-Appendix IV.*

PERMIT #	7Q10	1Q20	30Q2	QDESIGN
TN0023272	0	0	0	0.005

Table 4-46. Receiving Stream Flow Information for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205090. *Data are in million gallons per day (MGD). Data were calculated using data in Flow Duration and Low Flows of Tennessee Streams Through 1992.*

PERMIT #	$CBOD_5$	NH_3	FECAL
TN0023272	X	X	X

Table 4-47. Monitoring Requirements for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205090.

4.2.I.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Milk Cow	Hogs	Chickens	Sheep
808	2,721	<5	1,183	<5	12

Table 4-48. Summary of Livestock Count Estimates in Subwatershed 08010205090. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	11.12
Soybeans (Row Crops)	7.34
Cotton (Row Crops)	11.19
Other Cropland not Planted	3.57
Grass (Pastureland)	0.57
Grass, Forbs, Legumes (Mixed Pasture)	2.18
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.40
Conservation Reserve Program Land	0.42
Grass (Hayland)	0.51
Wheat (Close Grown Cropland)	5.36
Other Vegetable and Truck Crops	13.10
Other Land in Farms	0.08
All Other Close Grown Cropland	0.47
Legume Grass (Hayland)	0.21

Table 4-49. Annual Estimated Total Soil Loss in Subwatershed 08010205090.

4.2.J. 08010205100.

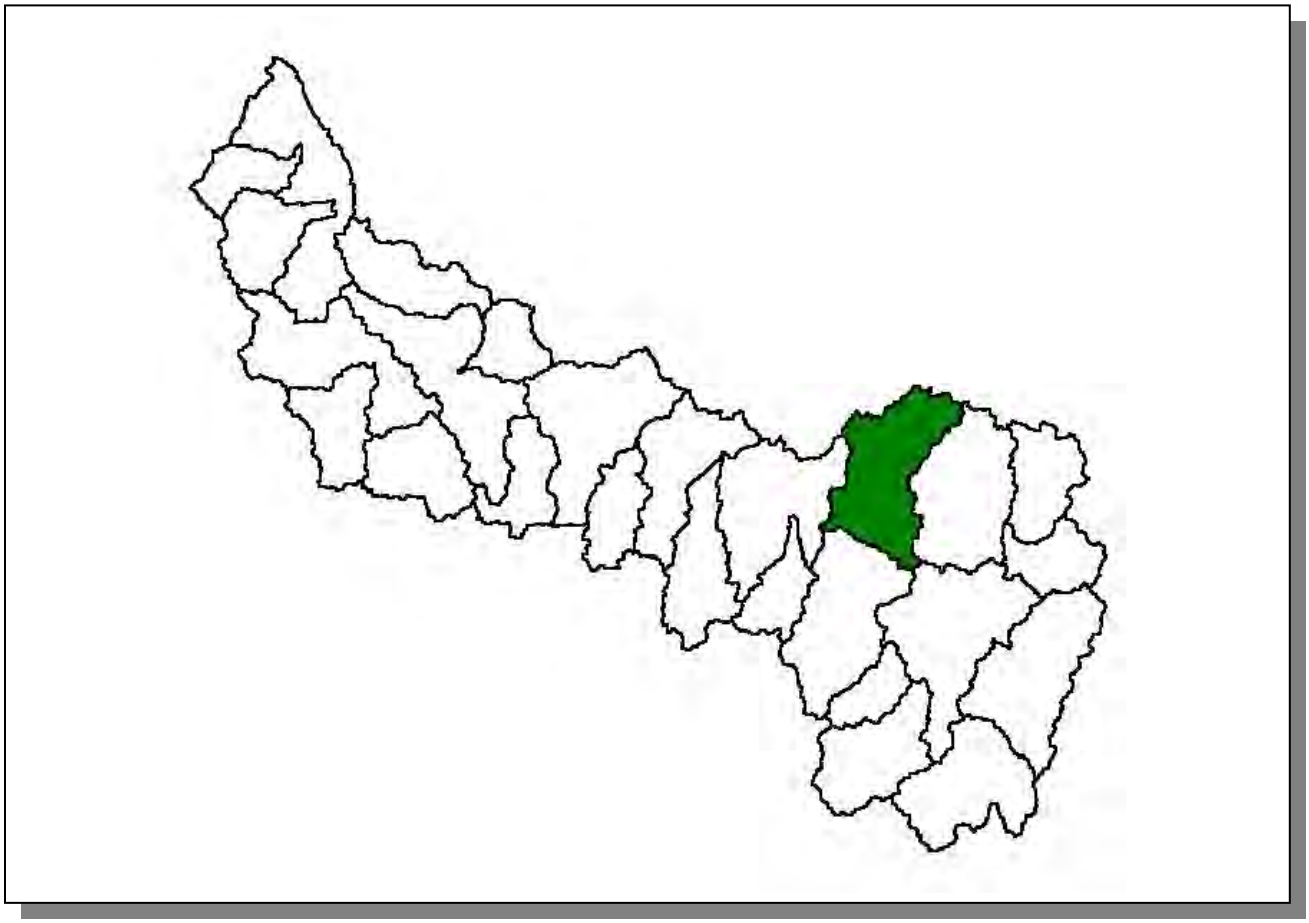

Figure 4-41. Location of Subwatershed 08010205100. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.J.i. General Description.

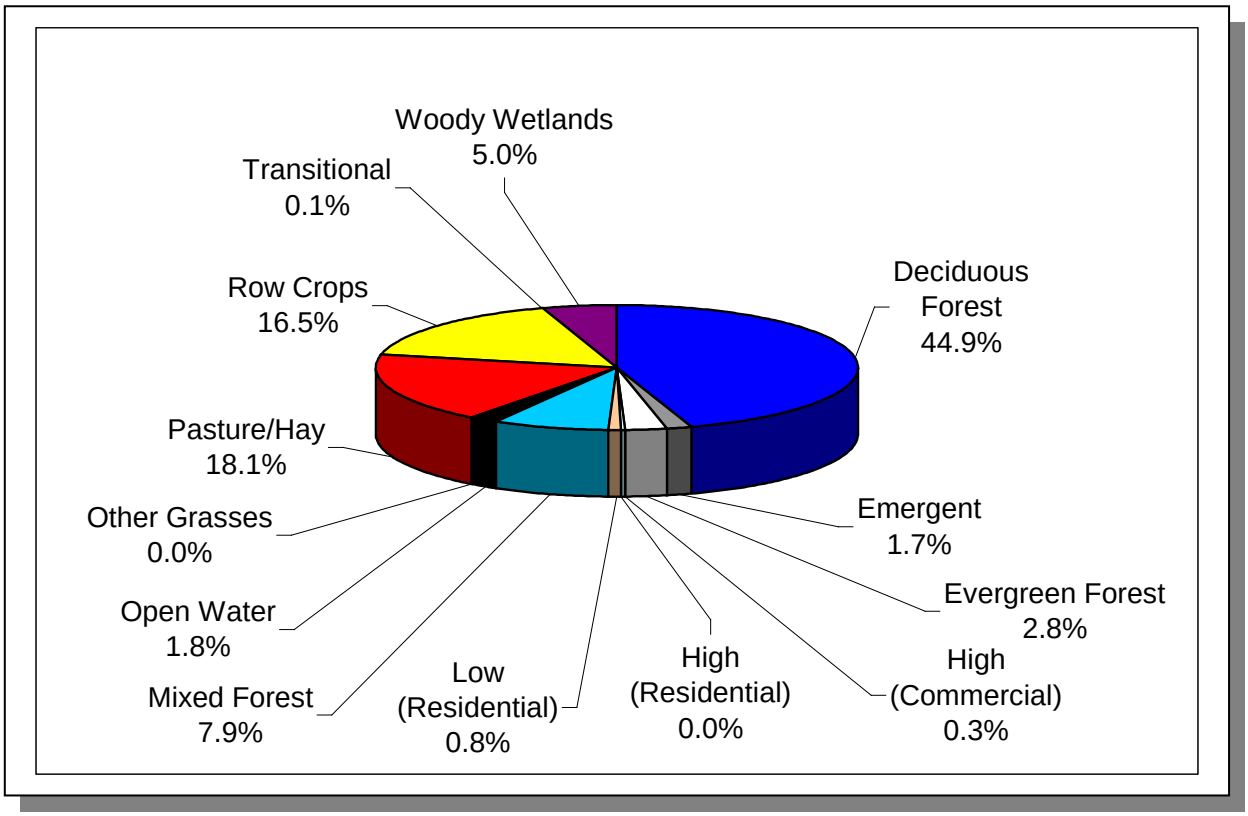

Figure 4-42. Land Use Distribution in Subwatershed 08010205100. *More information is provided in SFFD-Appendix IV.*

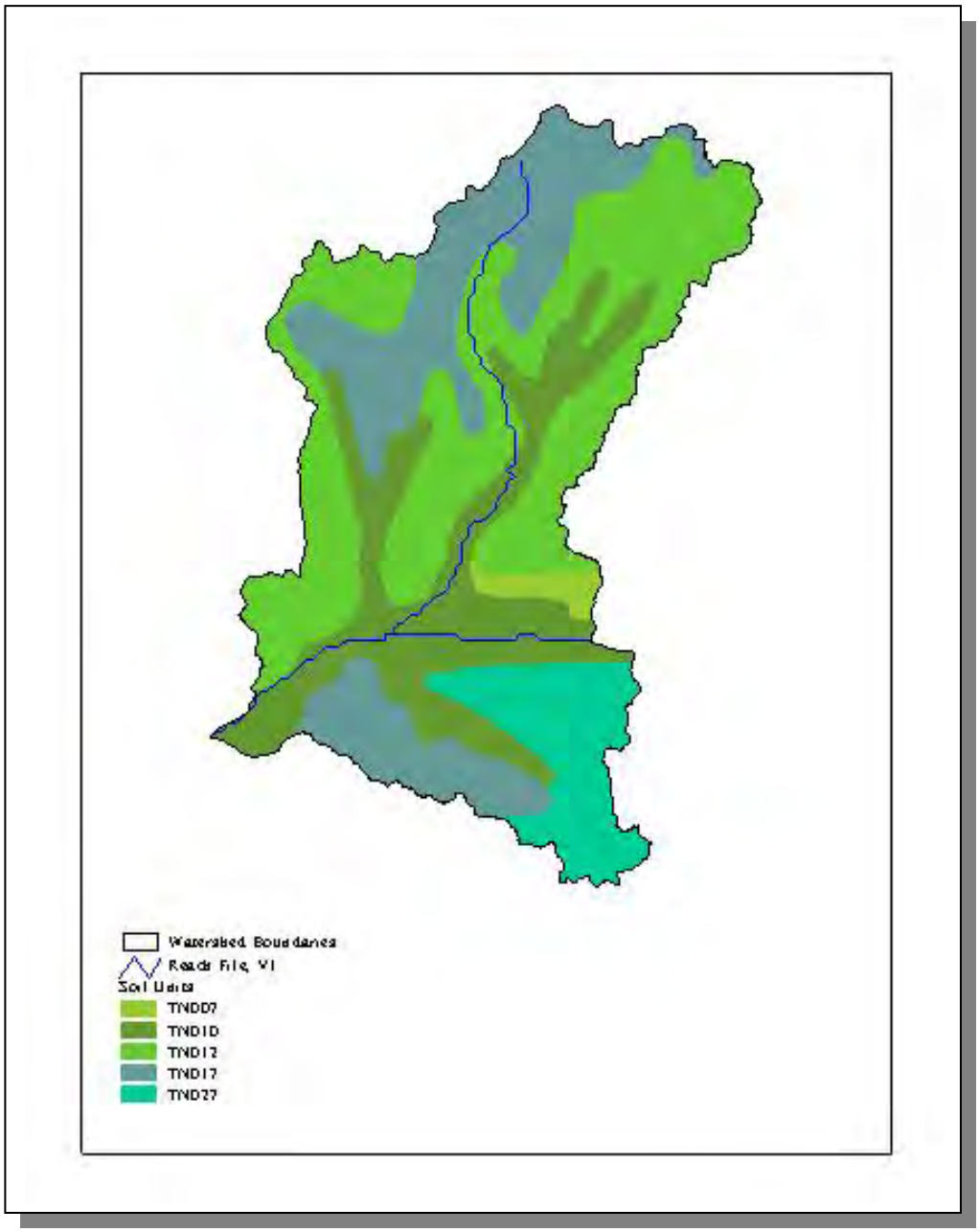

Figure 4-43. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205100.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN007	29.00	C	1.30	5.36	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN017	0.00	B	1.81	5.26	Silty Loam	0.45
TN027	0.00	C	1.26	5.25	Silty Loam	0.41

Table 4-50. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205100. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Madison	77,982	84,942	9.82	7,654	8,337	8.9

Table 4-51. Population Estimates in Subwatershed 08010205100.

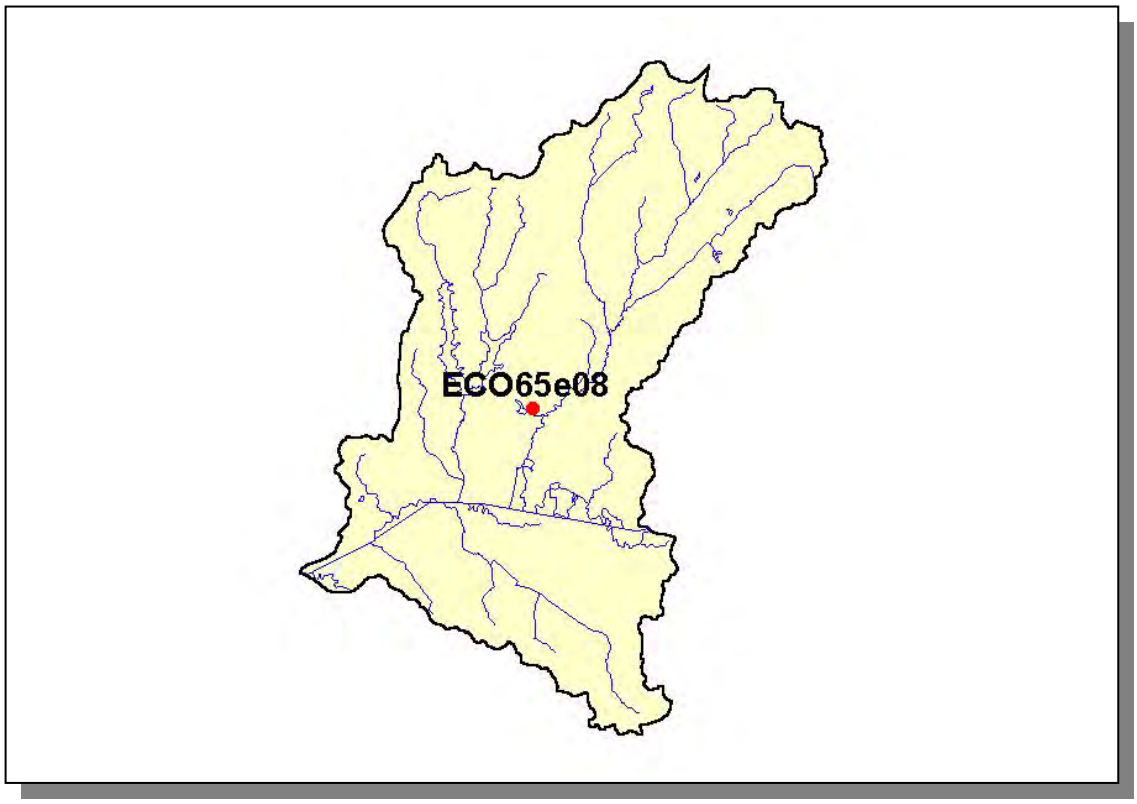

Figure 4-44. Location of STORET Stations in Subwatershed 08010205100. *More information is provided in SFFD-Appendix IV.*

4.2.J.ii. Point Source Contributions.

No contributions.

4.2.J.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)		
Cattle	Chickens	Hogs
1,022	<5	839

Table 4-52. Summary of Livestock Count Estimates in Subwatershed 08010205100. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	14.81
Soybeans (Row Crops)	8.65
Cotton (Row Crops)	12.97
Wheat (Close Grown Cropland)	3.53
Grass (Hayland)	0.95
Other Cropland not Planted	2.23
Grass (Pastureland)	0.41
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.46
Other Vegetable and Truck Crops	7.81
Grass, Forbs, Legumes (Mixed Pasture)	3.34
Other Land in Farms	0.08
All Other Close Grown Cropland	0.47
Conservation Reserve Program Land	0.47

Table 4-53. Annual Estimated Total Soil Loss in Subwatershed 08010205100.

4.2.K. 08010205110.

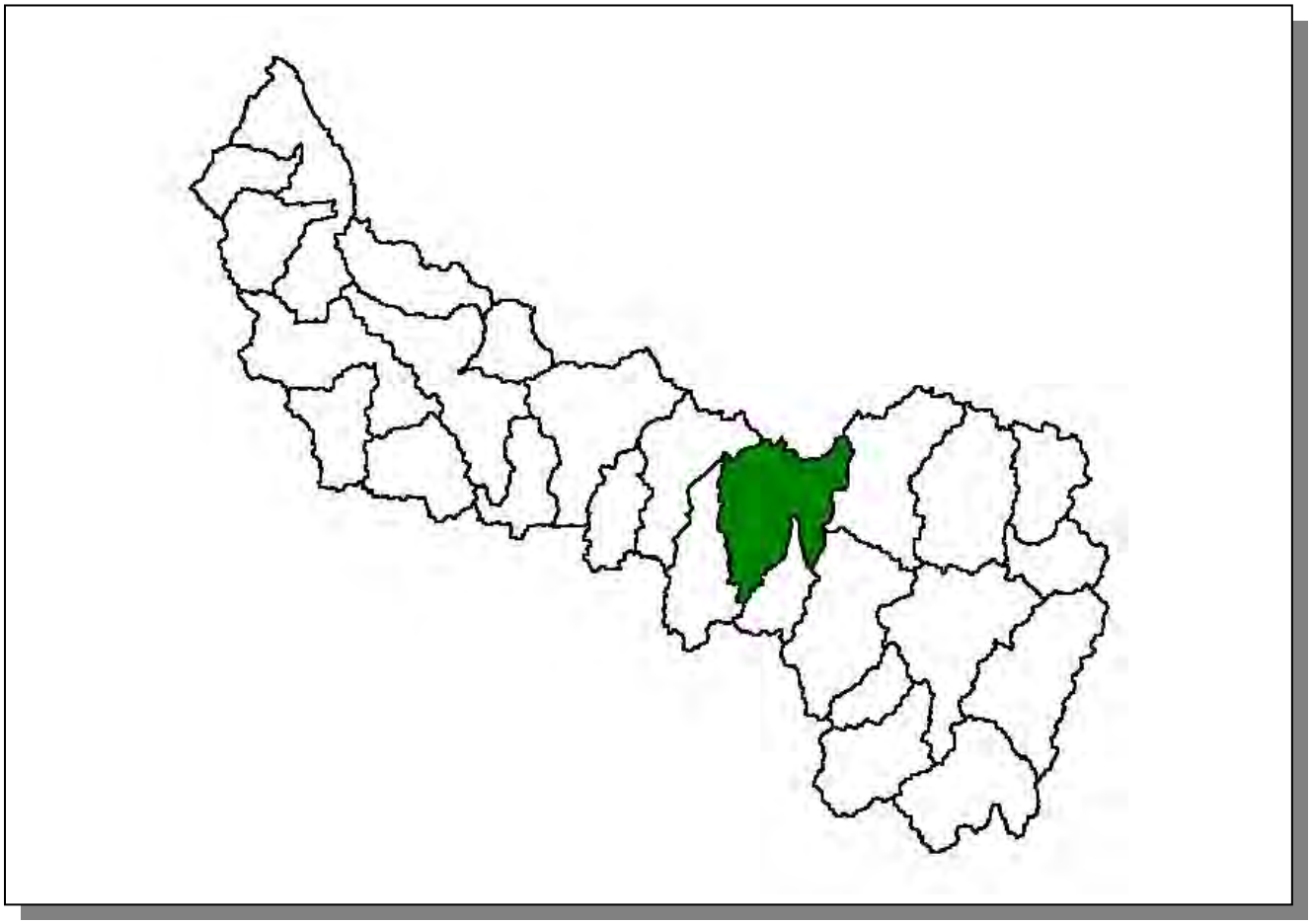

Figure 4-45. Location of Subwatershed 08010205110. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.K.i. General Description.

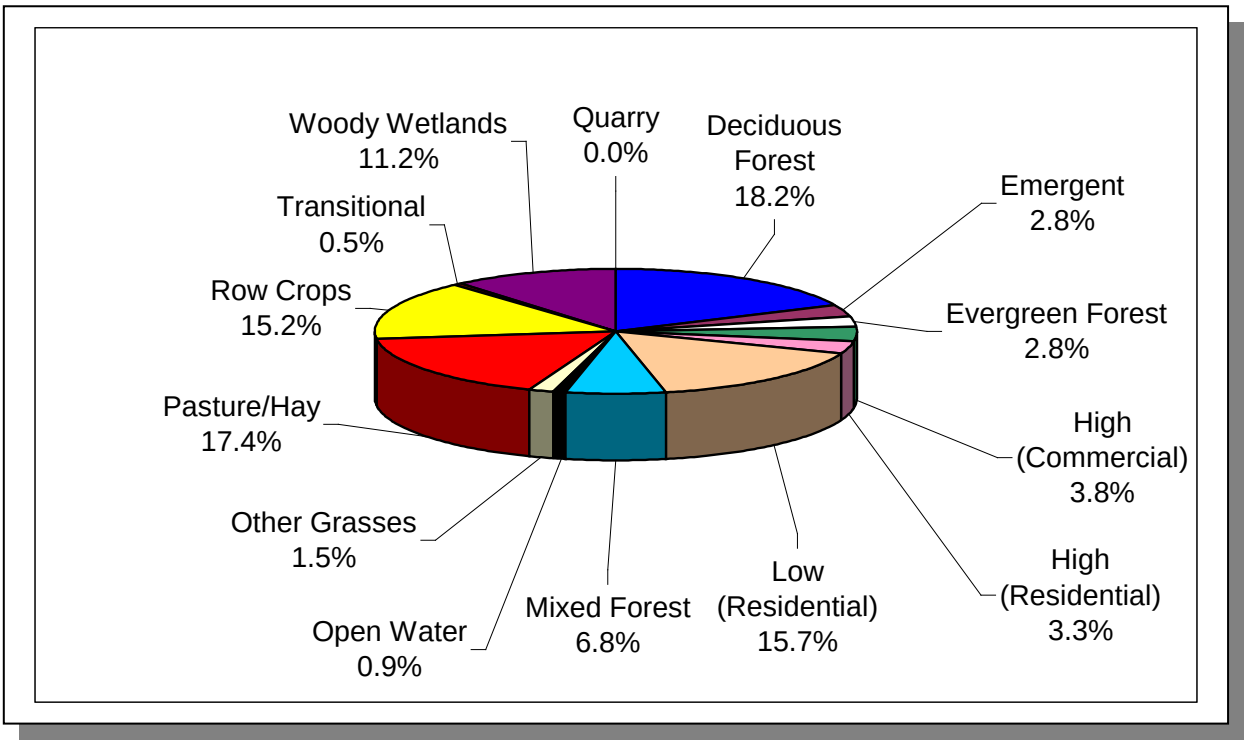

Figure 4-46. Land Use Distribution in Subwatershed 08010205110. *More information is provided in SFFD-Appendix IV.*

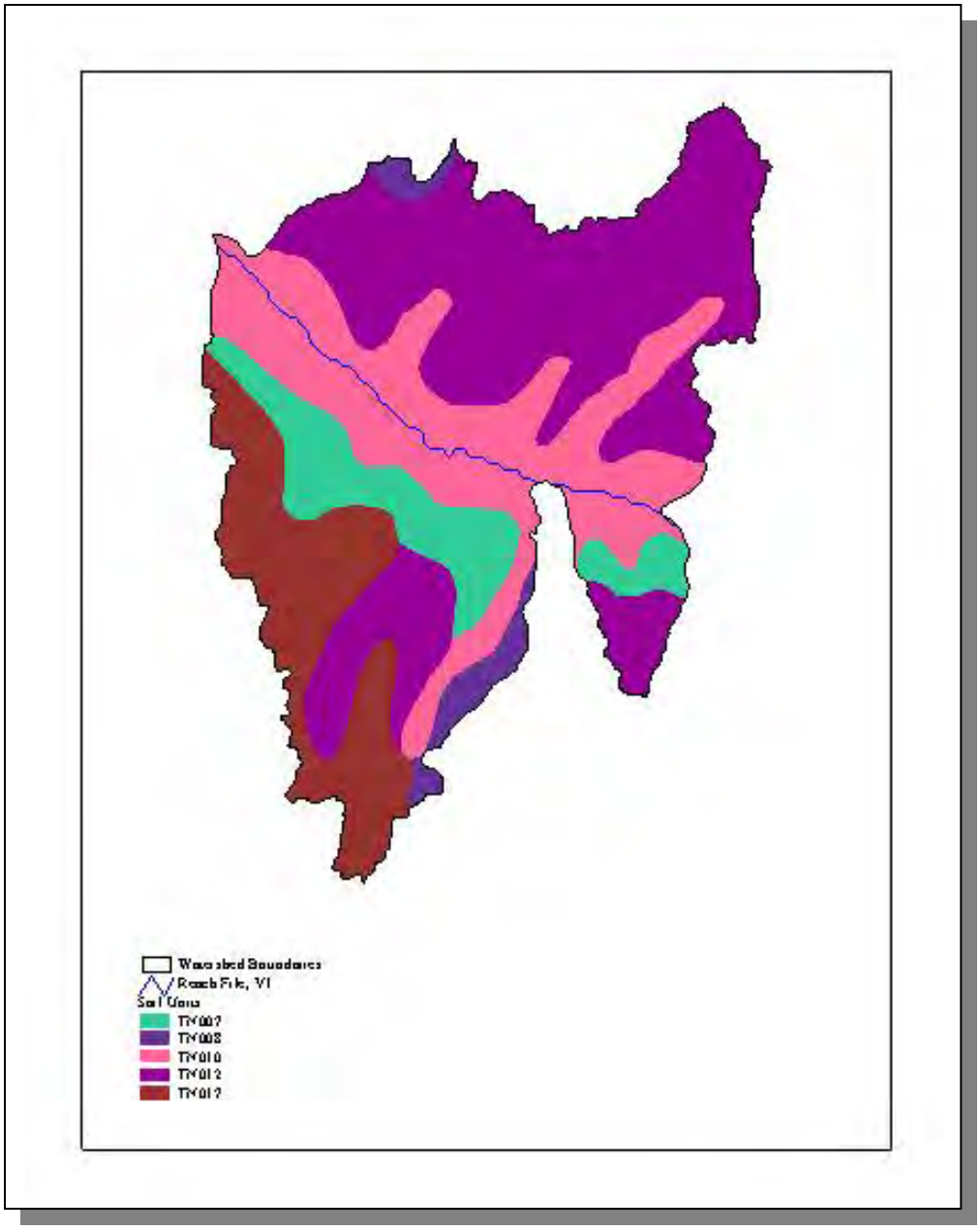

Figure 4-47. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205110.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN007	29.00	C	1.30	5.36	Silty Loam	0.48
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN017	0.00	B	1.81	5.26	Silty Loam	0.45

Table 4-54. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205110. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Madison	77,982	84,942	10.11	7,883	8,587	8.9

Table 4-55. Population Estimates in Subwatershed 08010205110.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Jackson	Madison	48,949	20,739	20,197	512	30

Table 4-56. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205110.

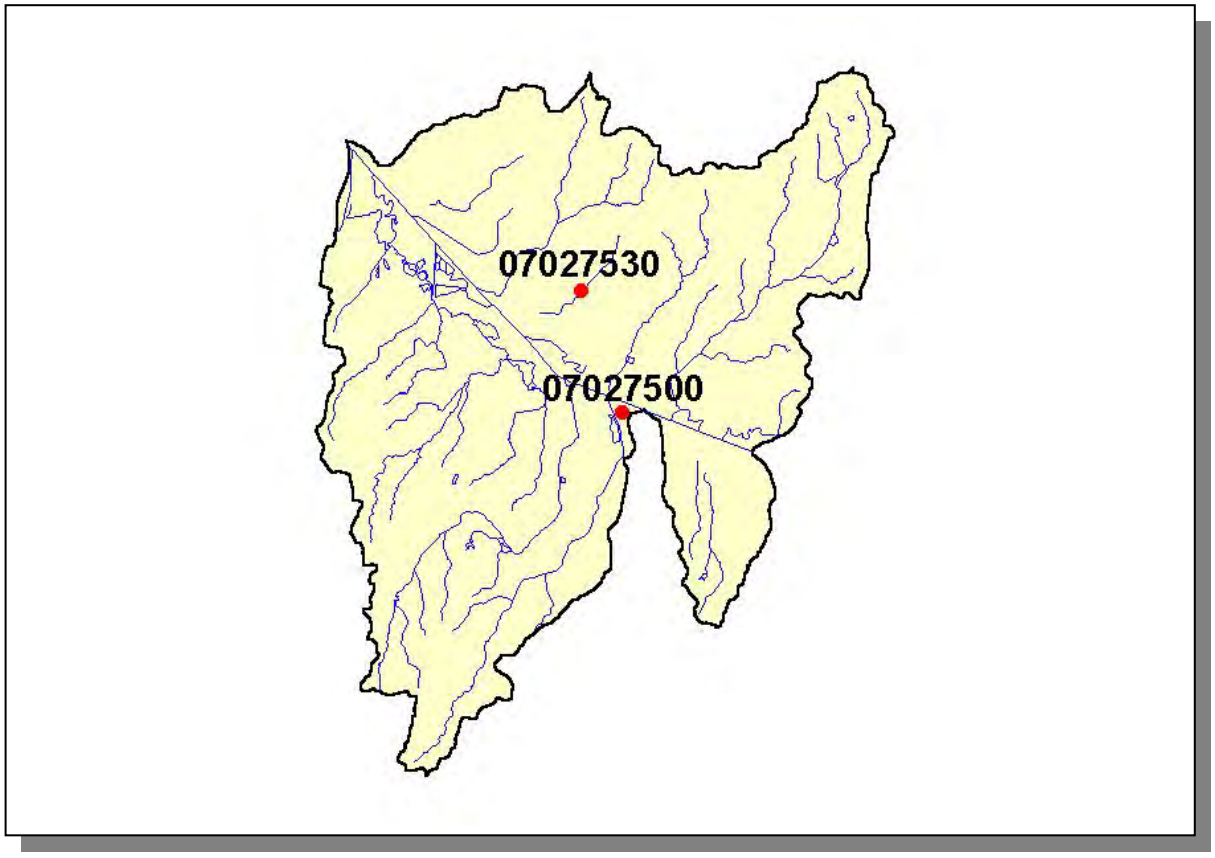

Figure 4-48. Location of Historical Streamflow Data Collection Sites in Subwatershed 08010205110. *More information is provided in SFFD-Appendix IV.*

4.2.K.ii. Point Source Contributions.

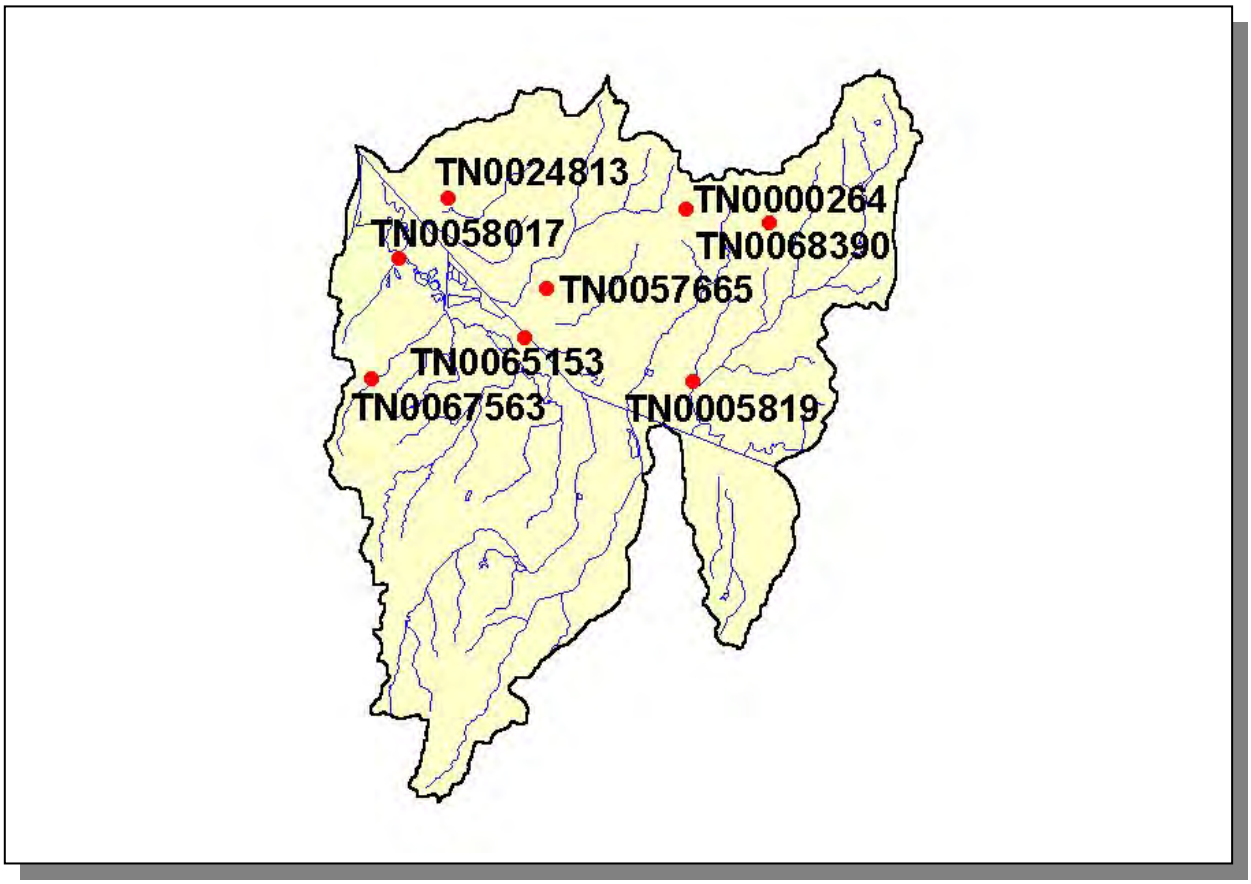

Figure 4-49. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205110. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

Figure 4-50. Location of Active Mining Sites in Subwatershed 08010205110. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

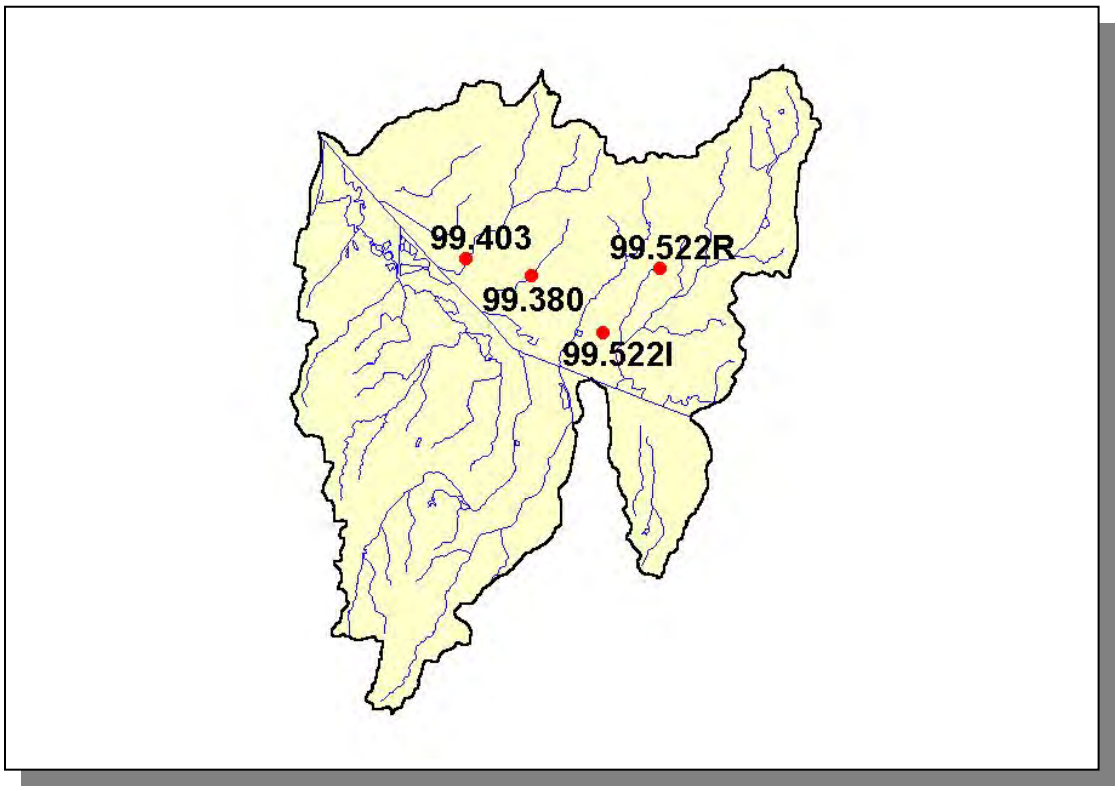

Figure 4-51. Location of ARAP Sites (Individual Permits) in Subwatershed 08010205110. *More details may be found in SFFD-Appendix IV.*

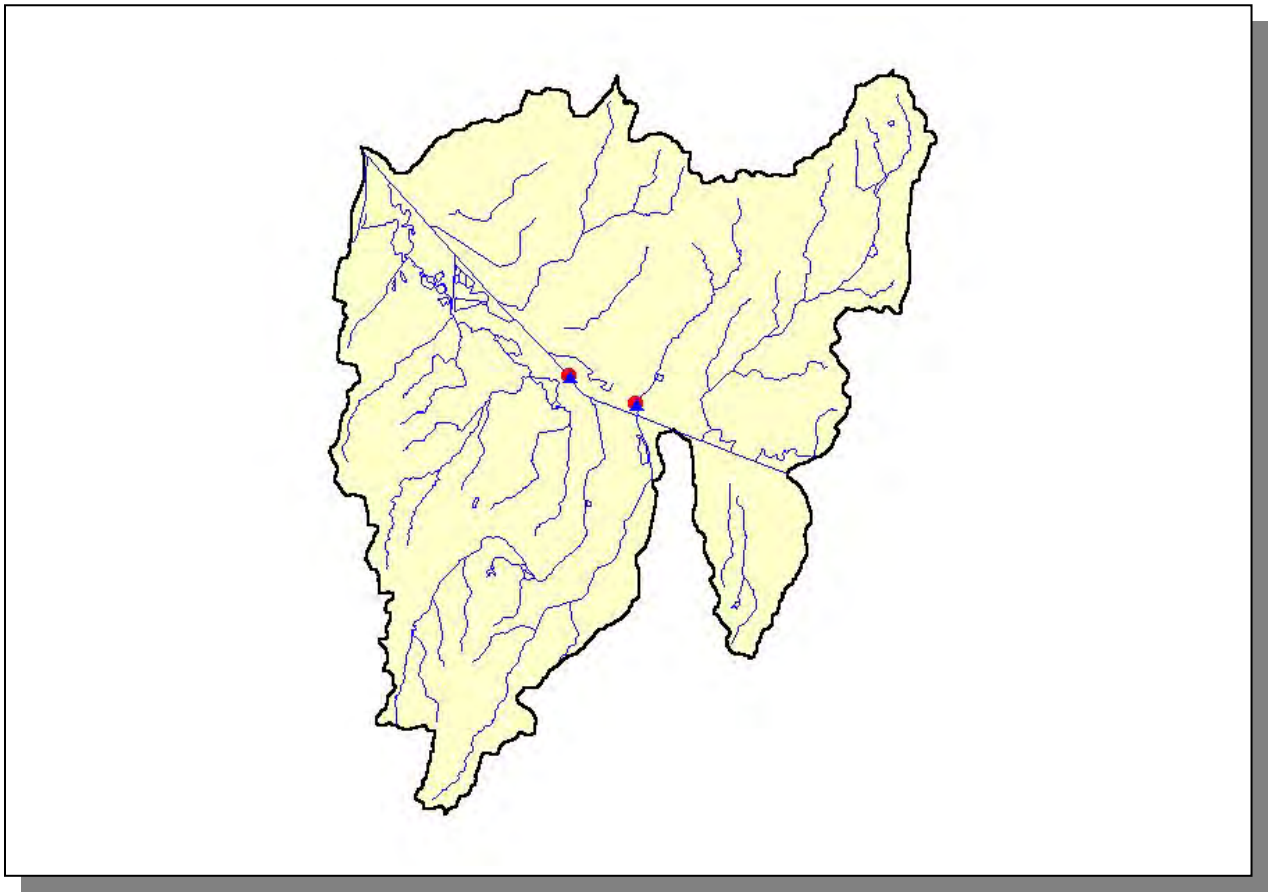

Figure 4-52. Location of Wetland Impact and Mitigation Sites in Subwatershed 08010205110. *Impact (Blue Triangle) and mitigation (red Circle) sites are from ARAP database. More information is provided in SFFD-Appendix IV.*

4.2 K.ii.a. Dischargers to Waterbodies Listed on the 1998 303(d) List.

There are five NPDES facilities discharging to water bodies listed on the 1998 303(d) list in Subwatershed 08010205110:

- TN0000264 discharges to RM 2.6 of a trib to Anderson Branch @ RM 2.5
- TN0024813 discharges to Fork Forked Deer River @ RM 50.8
- TN0057665 discharges to RM 0.5 of a tributary to Sandy Creek @ RM 0.7
- TN0058017 discharges to a storm drain @ RM0.5 of Sandy Creek
- TN0067563 discharges to mile 2.5 of a tributary to SFFD @ RM 51.7

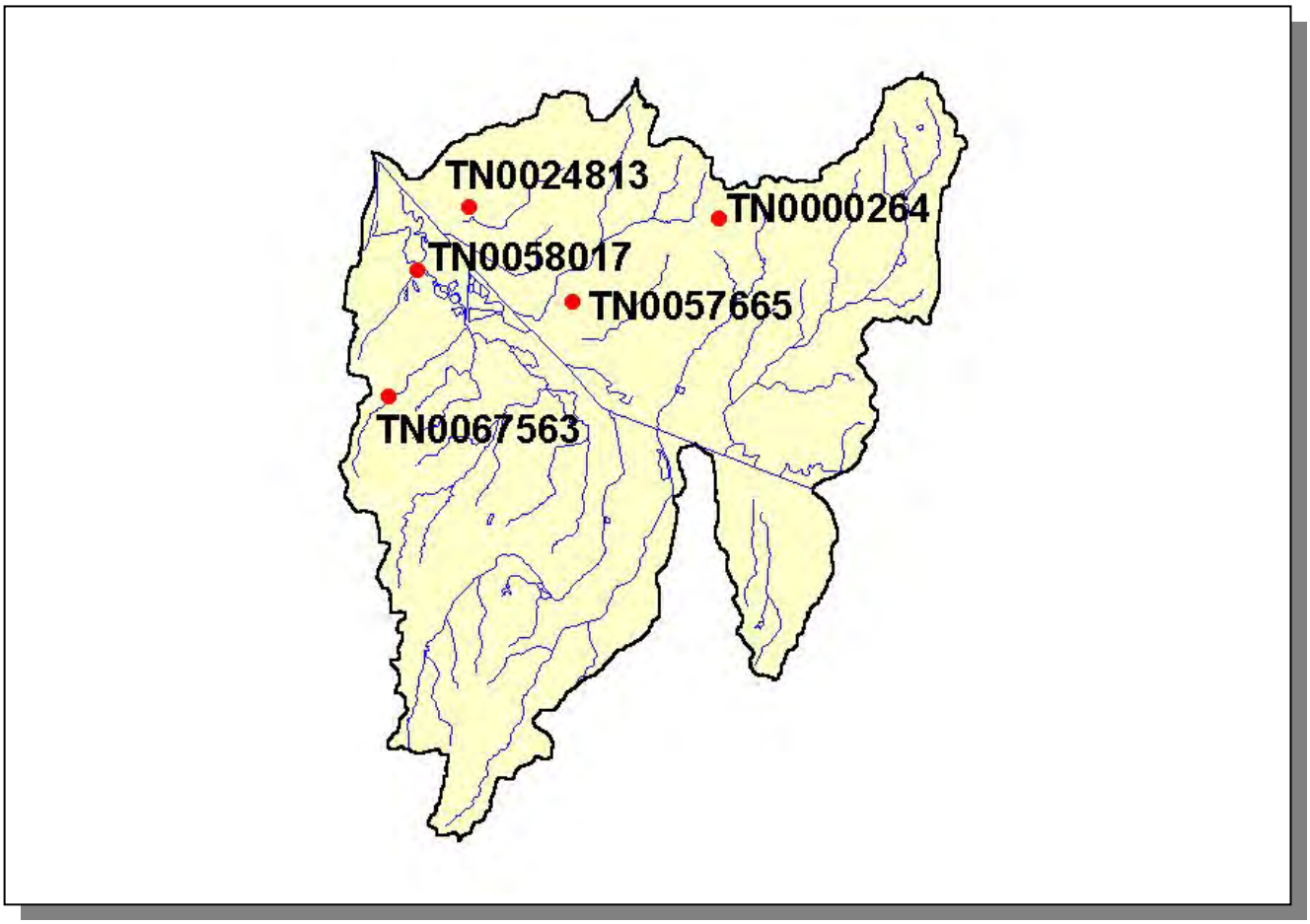

Figure 4-53. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205110. *The names of facilities are provided in SFFD-Appendix IV.*

PERMIT #	7Q10	1Q20	30Q2	QDESIGN	QLTA
TN0000264	0	0	0		3.28
TN0024813	52.72	46.99	54.27	17.4	10.015
TN0057665	0	0	0		0.064
TN0058017	0	0	0		0.0729
TN0067563	0	0	0		0.028

Table 4-57. Receiving Stream Flow Information for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205110. *Data are in million gallons per day (MGD). Data were calculated using data in Flow Duration and Low Flows of Tennessee Streams Through 1992.*

PERMIT #	$CBOD_5$	NH_3	FECAL	METALS	WET
TN0000264				X	X
TN0024813	X	X	X	X	X

Table 4-58. Monitoring Requirements for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205110.

PERMIT #	Cu	Zn	Cr	Al	Hg	Pb
TN0000264	X	X	X	X	X	X
TN0024813					X	X

Table 4-59. Parameters Monitored for Daily Maximum (mg/L) Limits for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 08010205110.

PERMIT #	TSS	pH	TRC	Pb	TEMP	Cr	DURATION
TN00264						1	01/90-04/99
TN24813				2			01/90-08/99
TN58017			14		2		04/92-05/96
TN67563	4	48	6				09/93-04/98

Table 4-60. Number of Permit Violations Based on DMR Data for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205110.

4.2.K.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)		
Cattle	Chickens	Hogs
1,009	<5	828

Table 4-61. Summary of Livestock Count Estimates in Subwatershed 08010205110. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	14.81
Soybeans (Row Crops)	8.65
Cotton (Row Crops)	12.97
Wheat (Close Grown Cropland)	3.53
Grass (Hayland)	0.95
Other Cropland not Planted	2.23
Grass (Pastureland)	0.41
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.46
Other Vegetable and Truck Crops	7.81
Grass, Forbs, Legumes (Mixed Pasture)	3.34
Other Land in Farms	0.08
All Other Close Grown Cropland	0.47
Conservation Reserve Program Land	0.47

Table 4-62. Annual Estimated Total Soil Loss in Subwatershed 08010205110.

4.2.L. 08010205120.

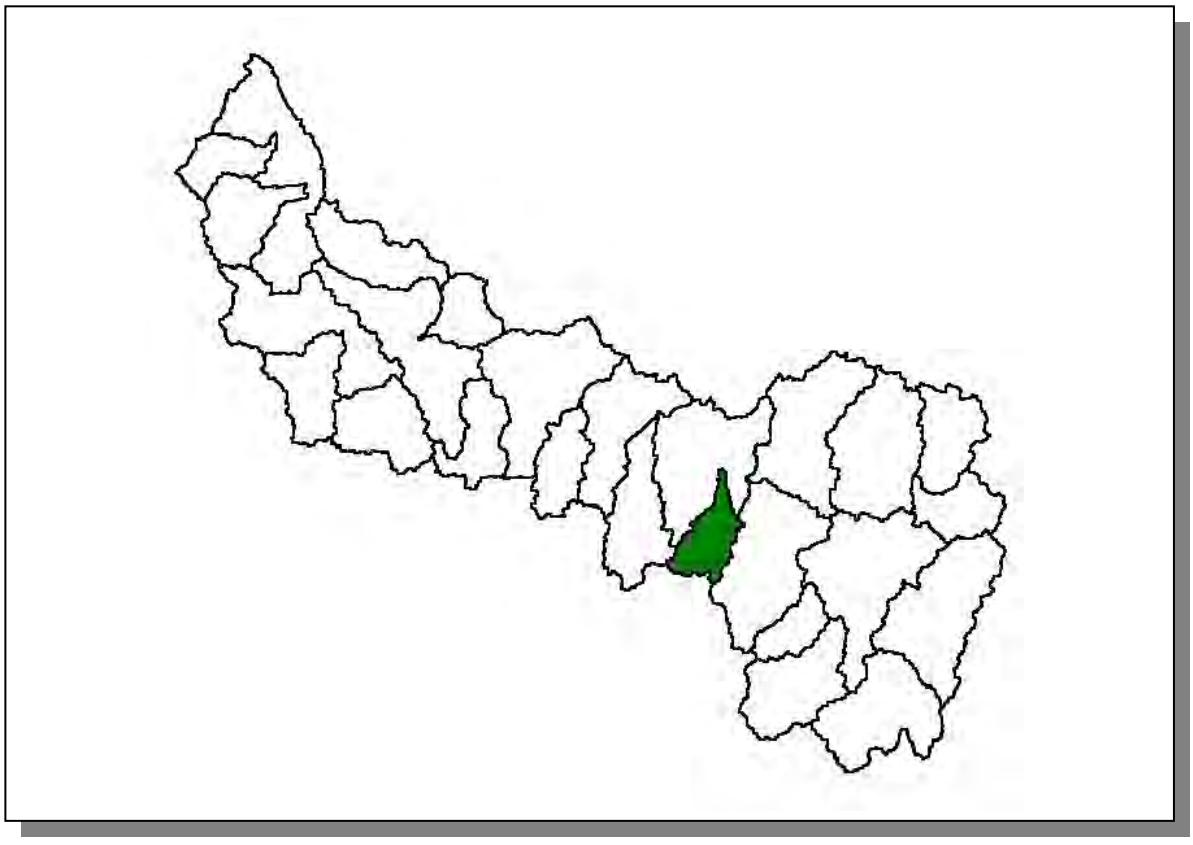

Figure 4-54. Location of Subwatershed 08010205120. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.L.i. General Description.

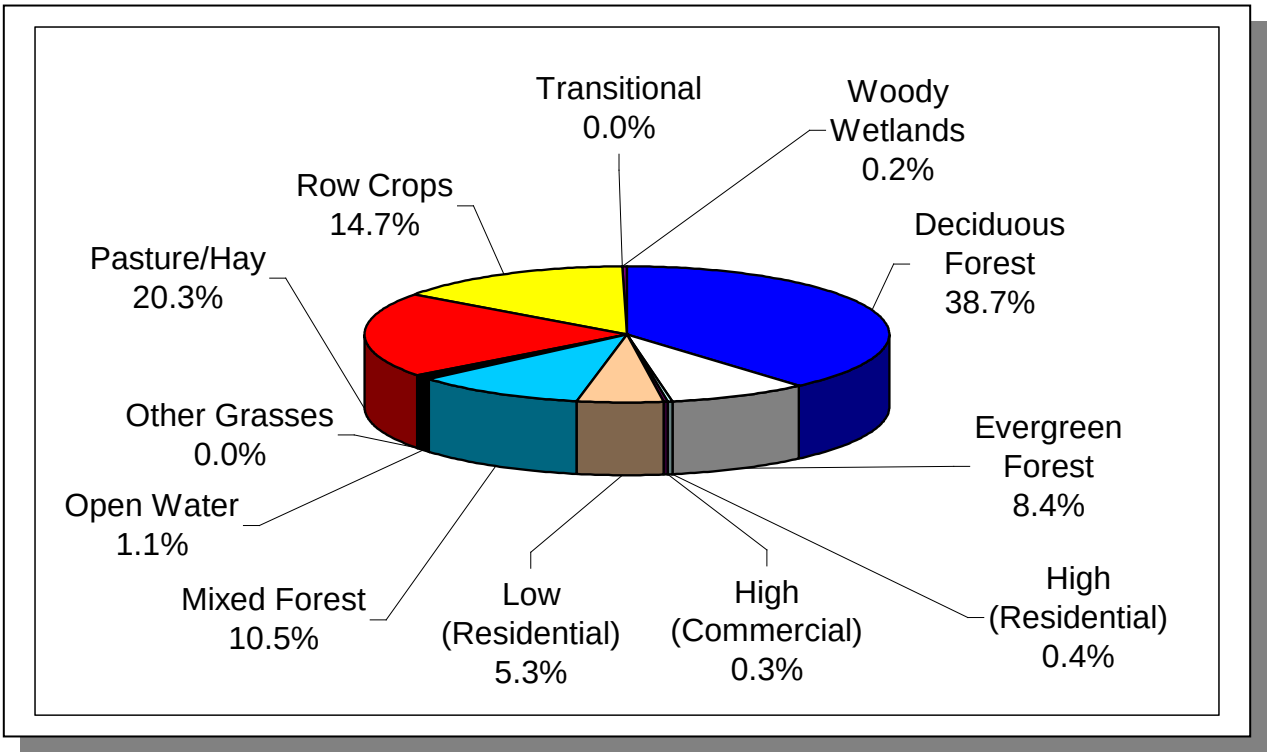

Figure 4-55. Land Use Distribution in Subwatershed 08010205120. *More information is provided in SFFD-Appendix IV.*

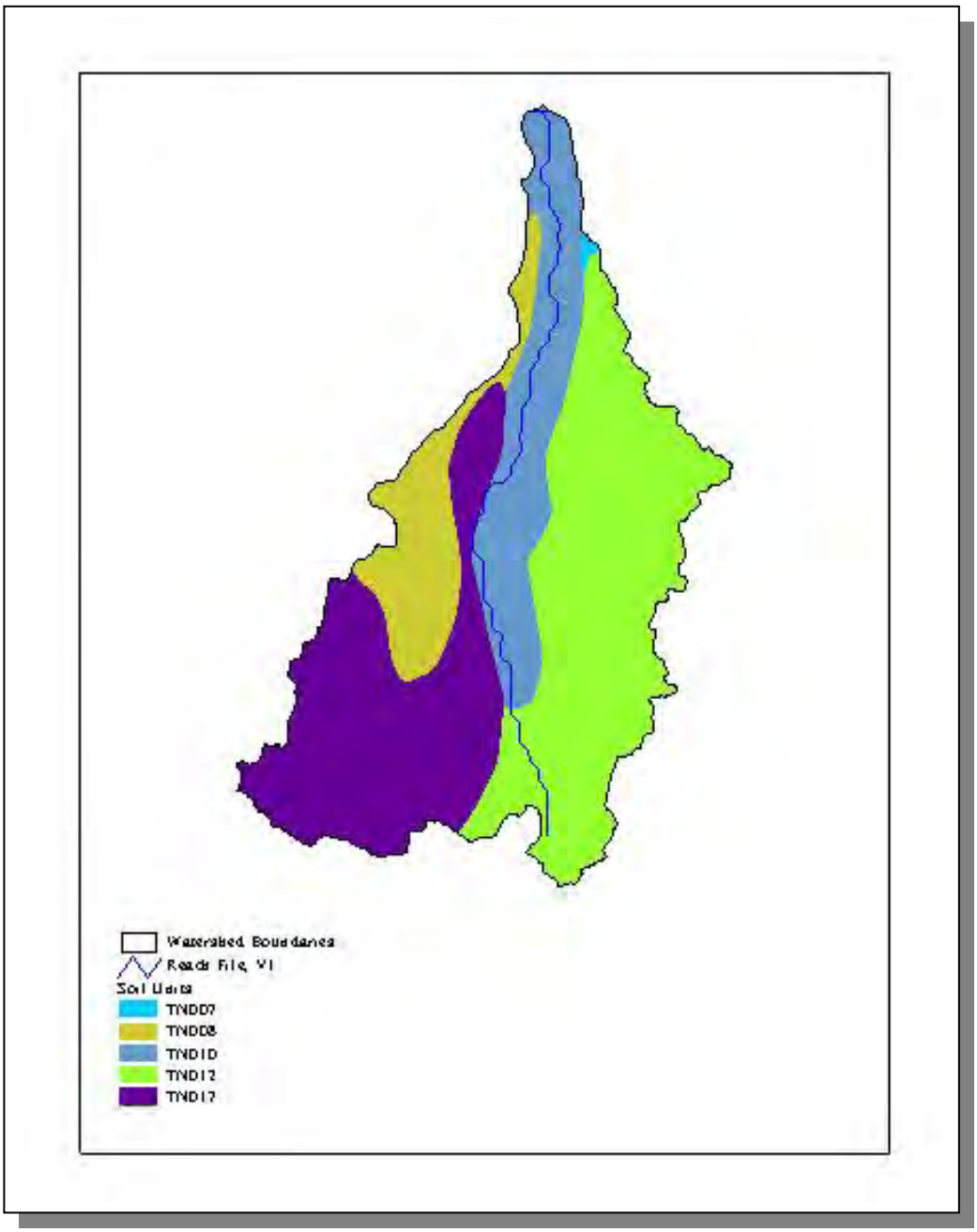

Figure 4-56. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205120.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN007	29.00	C	1.30	5.36	Silty Loam	0.48
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN012	1.00	C	2.52	5.13	Silty Loam	0.39
TN017	0.00	B	1.81	5.26	Silty Loam	0.45

Table 4-63. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205120. *More information is provided in SFFD-Appendix IV*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Madison	77,982	84,942	3.55	2,770	3,017	8.9

Table 4-64. Population Estimates in Subwatershed 08010205120.

NUMBER OF HOUSING UNITS						
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Jackson	Madison	48,949	20,739	20,197	512	30

Table 4-65. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205120.

4.2.L.ii. Point Source Contributions.

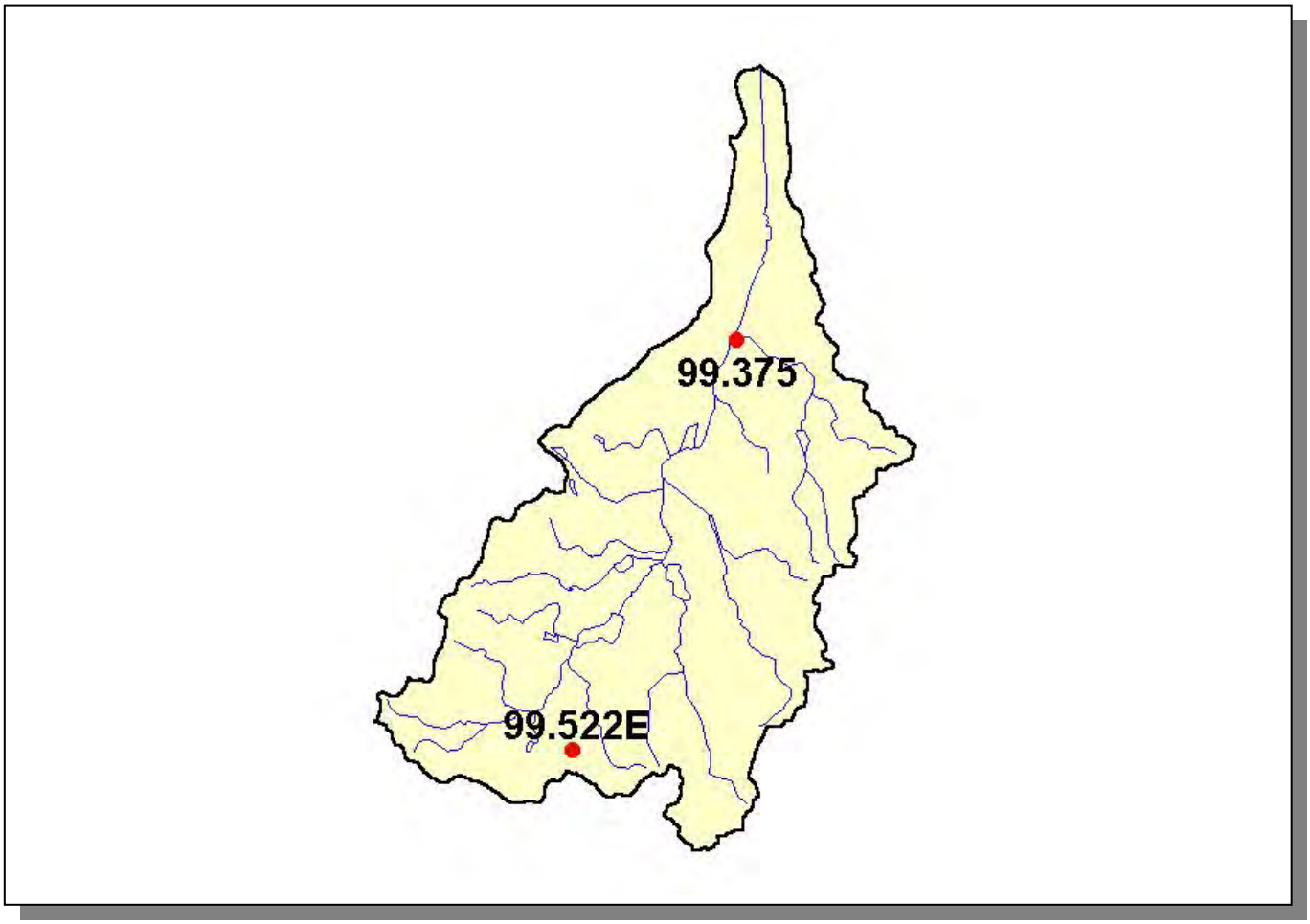

Figure 4-57. Location of ARAP Sites (Individual Permits) in Subwatershed 08010205120.
More information is provided in SFFD-Appendix IV.

4.2.L.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)	
Cattle	Hogs
414	340

Table 4-66. Summary of Livestock Count Estimates in Subwatershed 08010205120.
According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	14.81
Soybeans (Row Crops)	8.65
Cotton (Row Crops)	12.97
Wheat (Close Grown Cropland)	3.53
Grass (Hayland)	0.95
Other Cropland not Planted	2.23
Grass (Pastureland)	0.41
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.46
Other Vegetable and Truck Crops	7.81
Grass, Forbs, Legumes (Mixed Pasture)	3.34
Other Land in Farms	0.08
All Other Close Grown Cropland	0.47
Conservation Reserve Program Land	0.47

Table 4-67. Annual Estimated Total Soil Loss in Subwatershed 08010205120.

4.2.M. 08010205130.

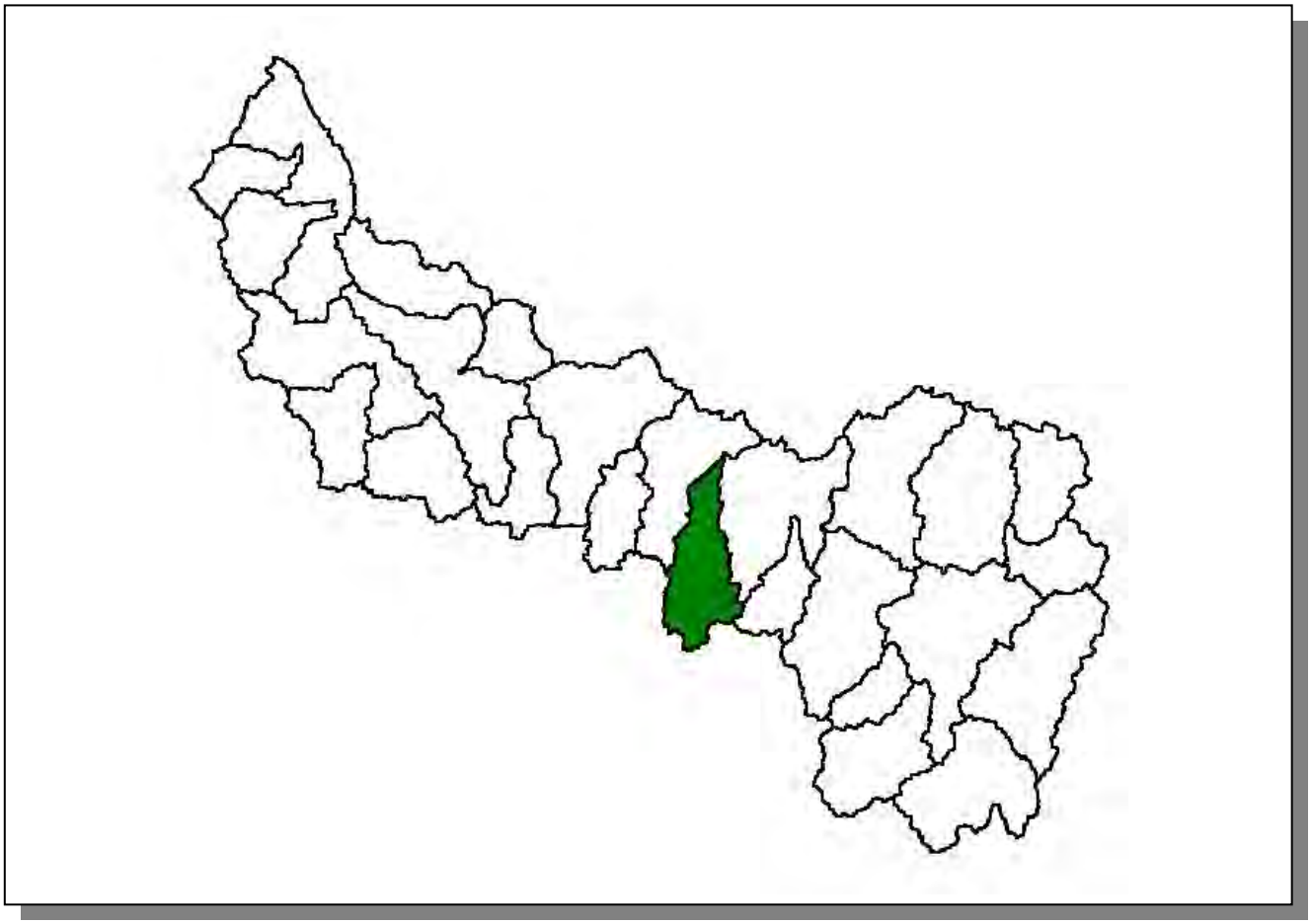

Figure 4-58. Location of Subwatershed 08010205130. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.M.i. General Description.

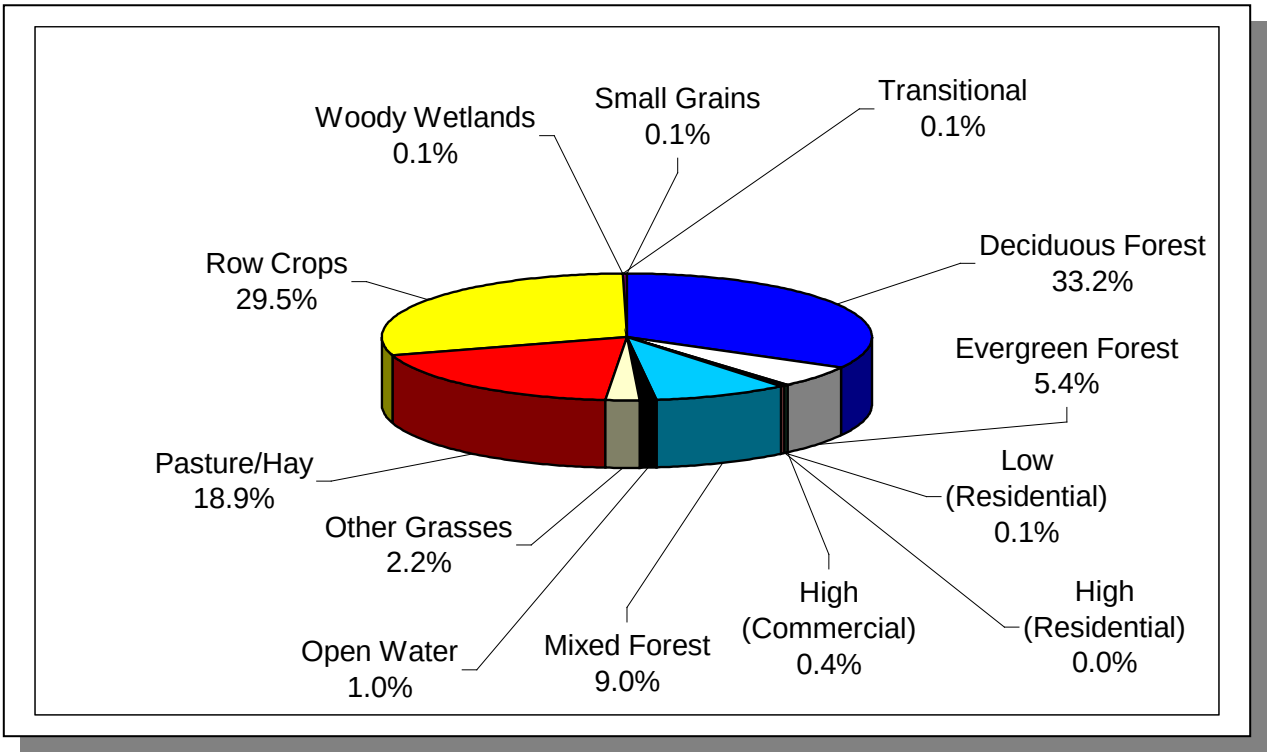

Figure 4-59. Land Use Distribution in Subwatershed 08010205130. *More information is provided in SFFD-Appendix IV.*

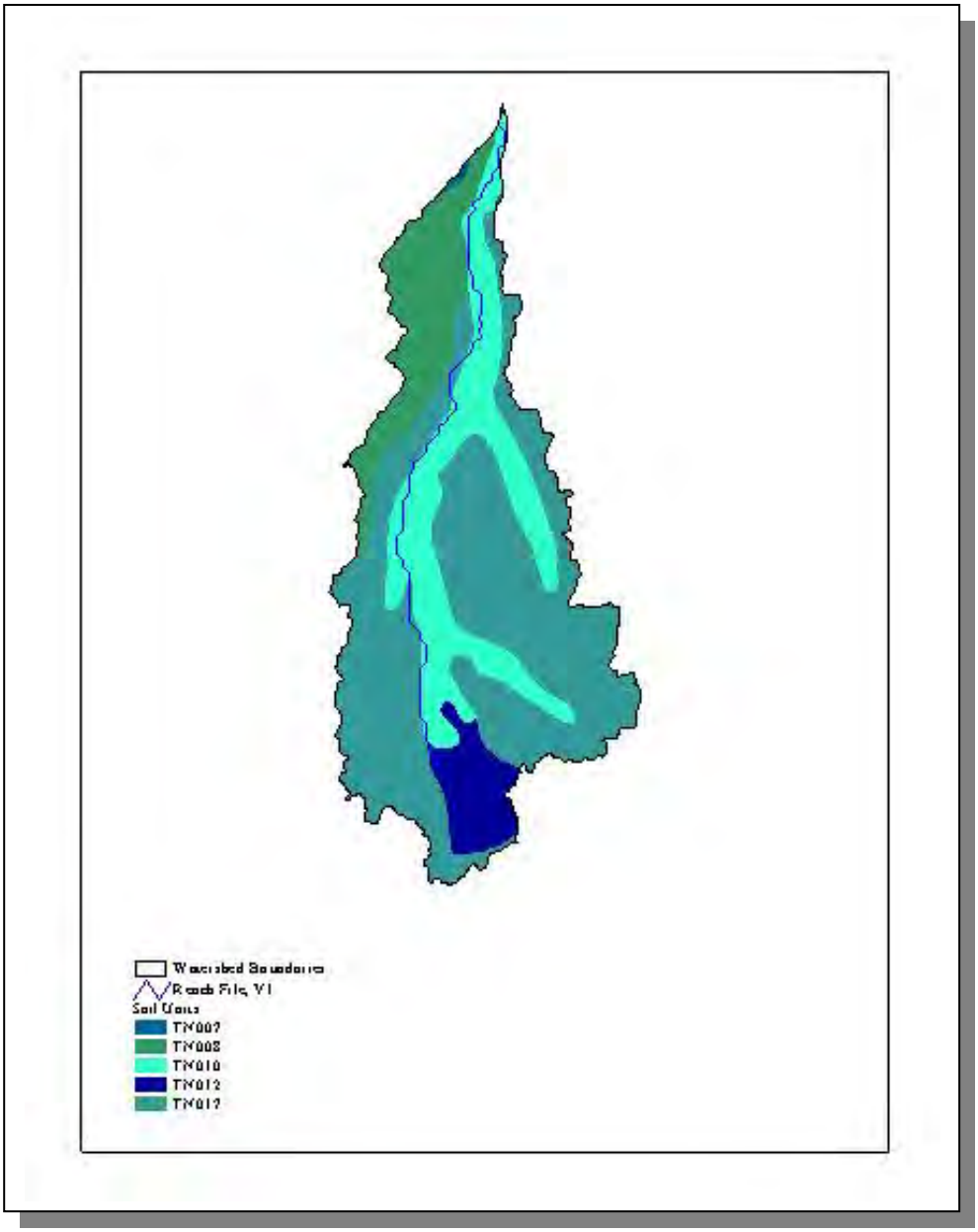

Figure 4-60. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205130.

STATSGO MAP UNIT ID	**PERCENT HYDRIC**	**HYDROLOGIC GROUP**	**PERMEABILITY (in/hour)**	**SOIL pH**	**ESTIMATED SOIL TEXTURE**	**SOIL ERODIBILITY**
TN007	36.00	C	1.30	5.36	Silty Loam	0.48
TN008	11.00	C	1.38	5.20	Silty Loam	0.48
TN010	92.00	C	1.33	5.11	Silty Loam	0.44
TN012	5.00	C	2.52	5.13	Silty Loam	0.39
TN017	0.00	B	1.81	5.26	Silty Loam	0.45

Table 4-68. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205130. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Madison	77,982	84,942	6.43	5,013	5,461	8.9

Table 4-69. Population Estimates in Subwatershed 08010205130.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Jackson	Madison	48,949	20,739	20,197	512	30

Table 4-70. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205130.

4.2.M.ii. Point Source Contributions.

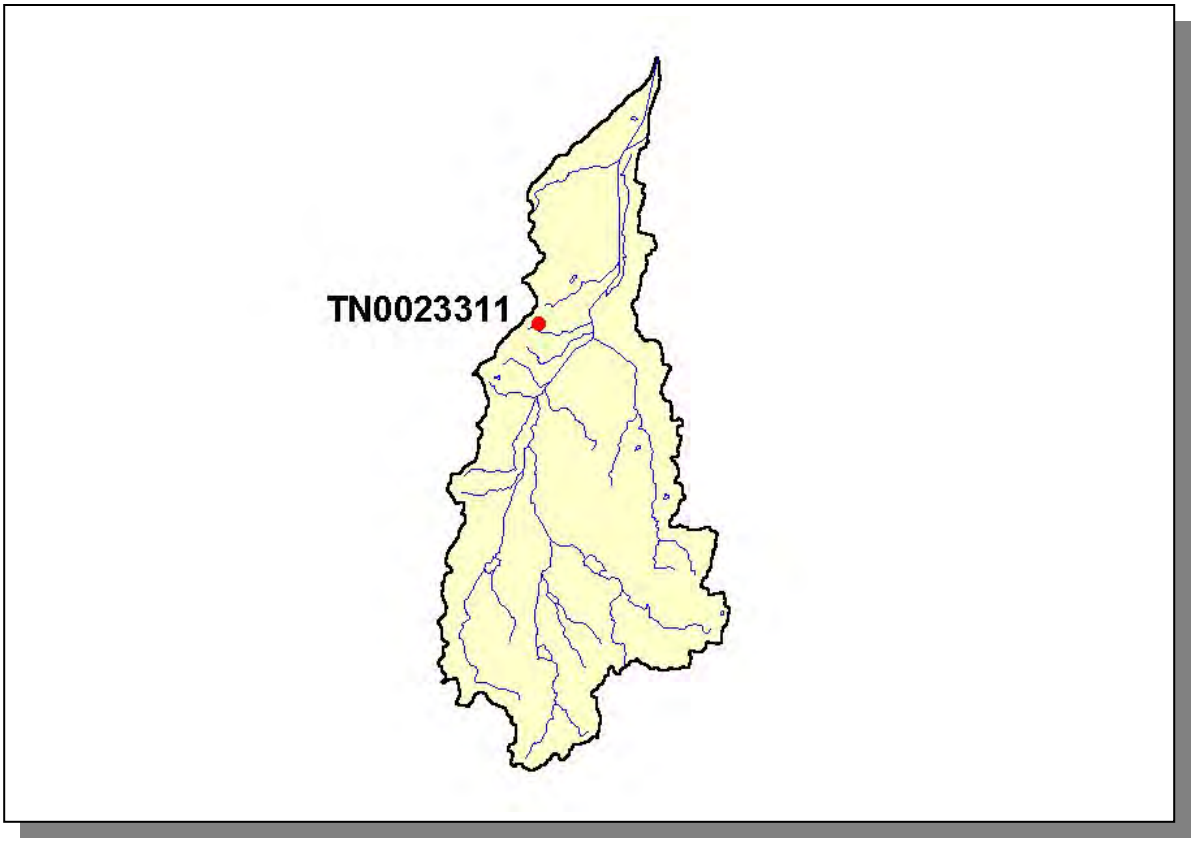

Figure 4-61. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205130. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

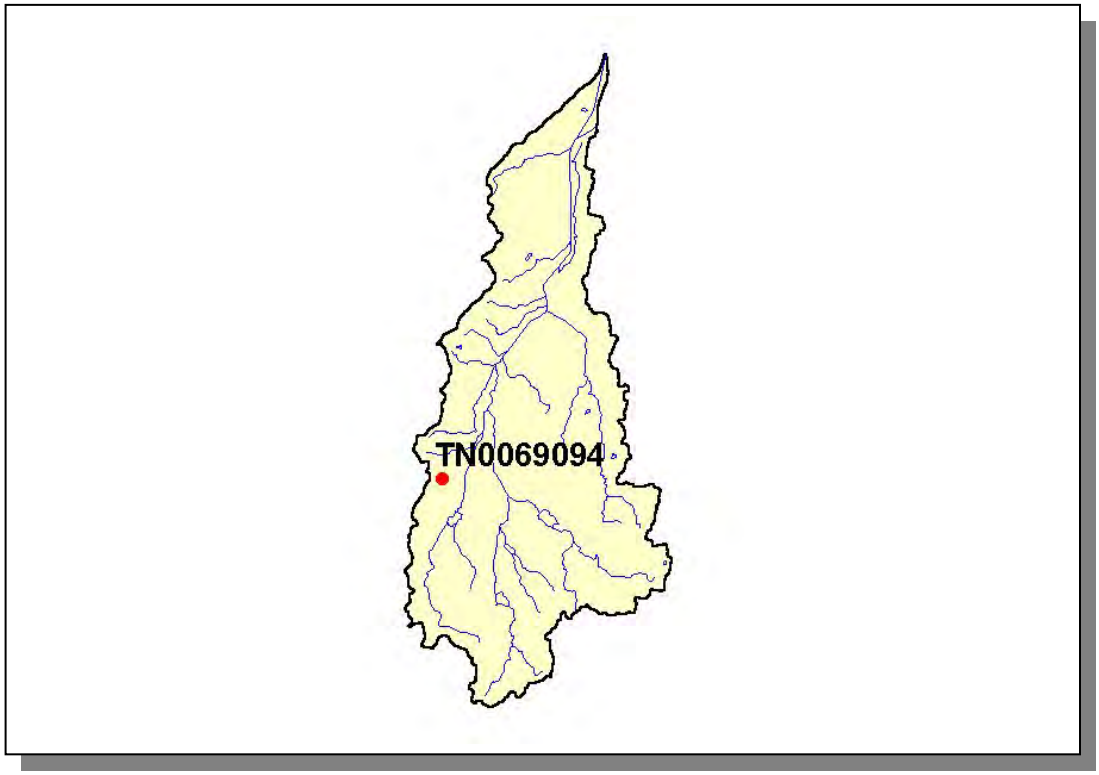

Figure 4-62. Location of Active Mining Sites in Subwatershed 08010205130. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

4.2 M.ii.a. Dischargers to Waterbodies Listed on the 1998 303(d) List.

There is one NPDES facility discharging to water bodies listed on the 1998 303(d) list in Subwatershed 08010205130:

- TN0023311discharges to RM 0.1 of a tributary to Johnson Creek @ RM 5.3

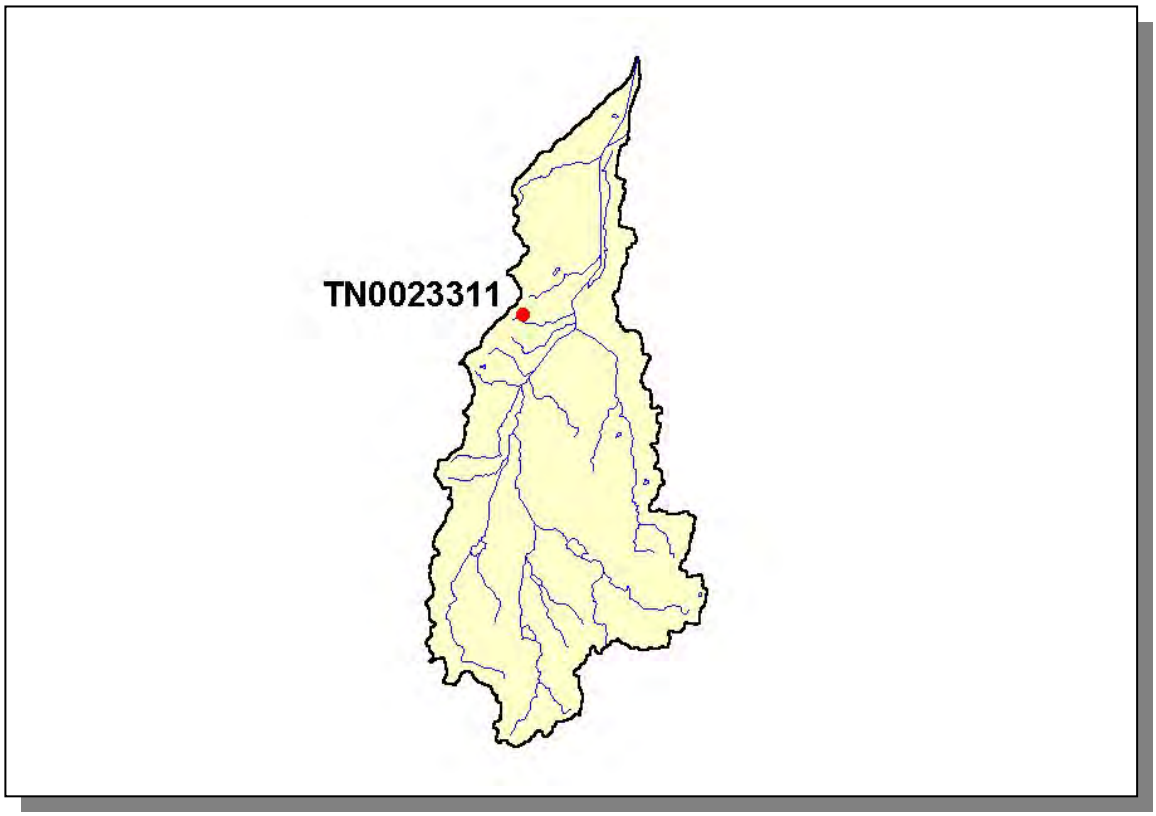

Figure 4-63. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205130. *The names of facilities are provided in SFFD-Appendix IV.*

PERMIT #	7Q10	QDESIGN
TN0023311	0.31	0.0125

Table 4-71. Receiving Stream Flow Information for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205130. *Data are in million gallons per day (MGD). Data were calculated using data in Flow Duration and Low Flows of Tennessee Streams Through 1992.*

PERMIT #	$CBOD_5$	NH_3	FECAL
TN0023311	X	X	X

Table 4-72. Monitoring Requirements for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205130.

4.2.M.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)		
Cattle	Chickens	Hogs
698	<5	573

Table 4-73. Summary of Livestock Count Estimates in Subwatershed 08010205130. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	14.81
Soybeans (Row Crops)	8.65
Cotton (Row Crops)	12.97
Wheat (Close Grown Cropland)	3.53
Grass (Hayland)	0.95
Other Cropland not Planted	2.23
Grass (Pastureland)	0.41
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.46
Other Vegetable and Truck Crops	7.81
Grass, Forbs, Legumes (Mixed Pasture)	3.34
Other Land in Farms	0.08
All Other Close Grown Cropland	0.47
Conservation Reserve Program Land	0.47

Table 4-74. Annual Estimated Total Soil Loss in Subwatershed 08010205130.

4.2.N.08010205140

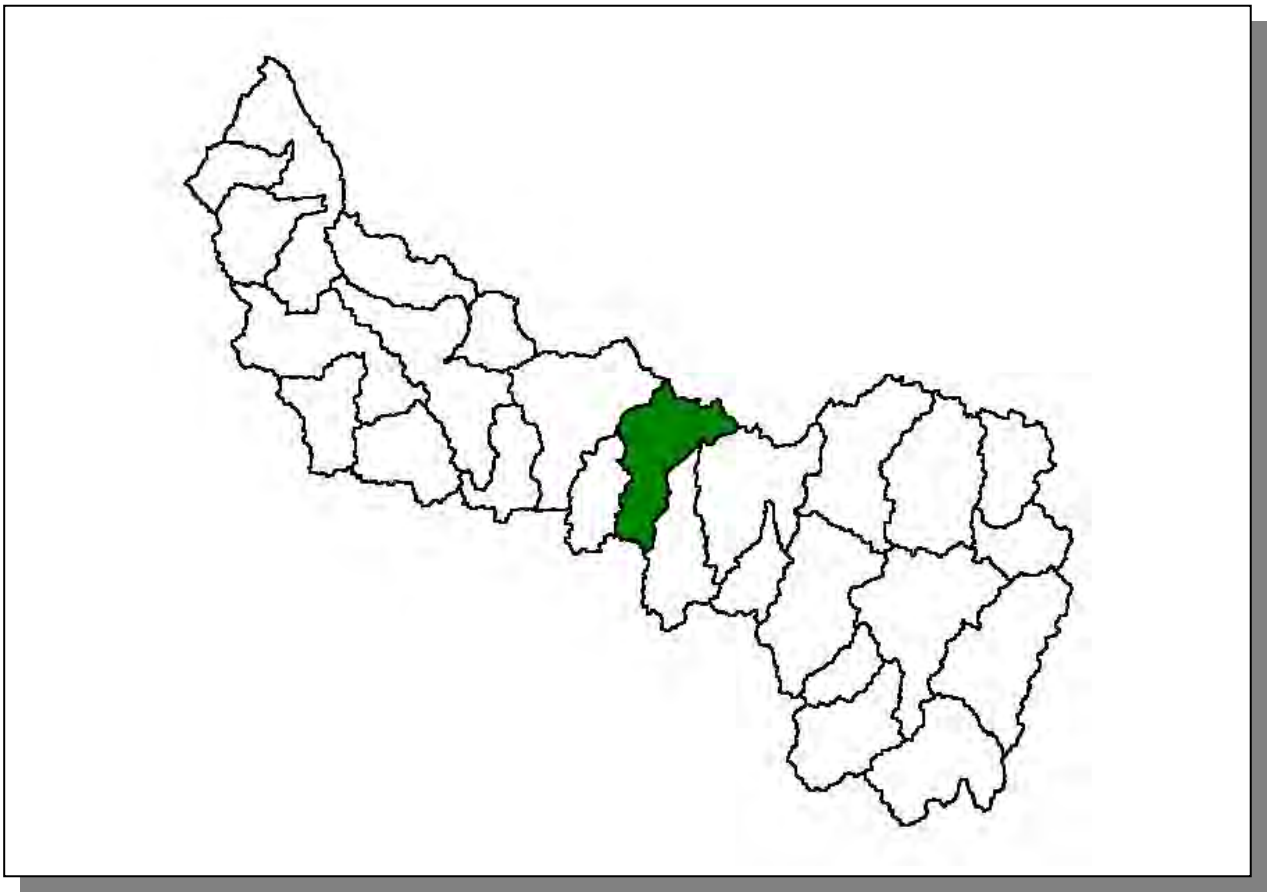

Figure 4-64. Location of Subwatershed 08010205140. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.N.i. General Description.

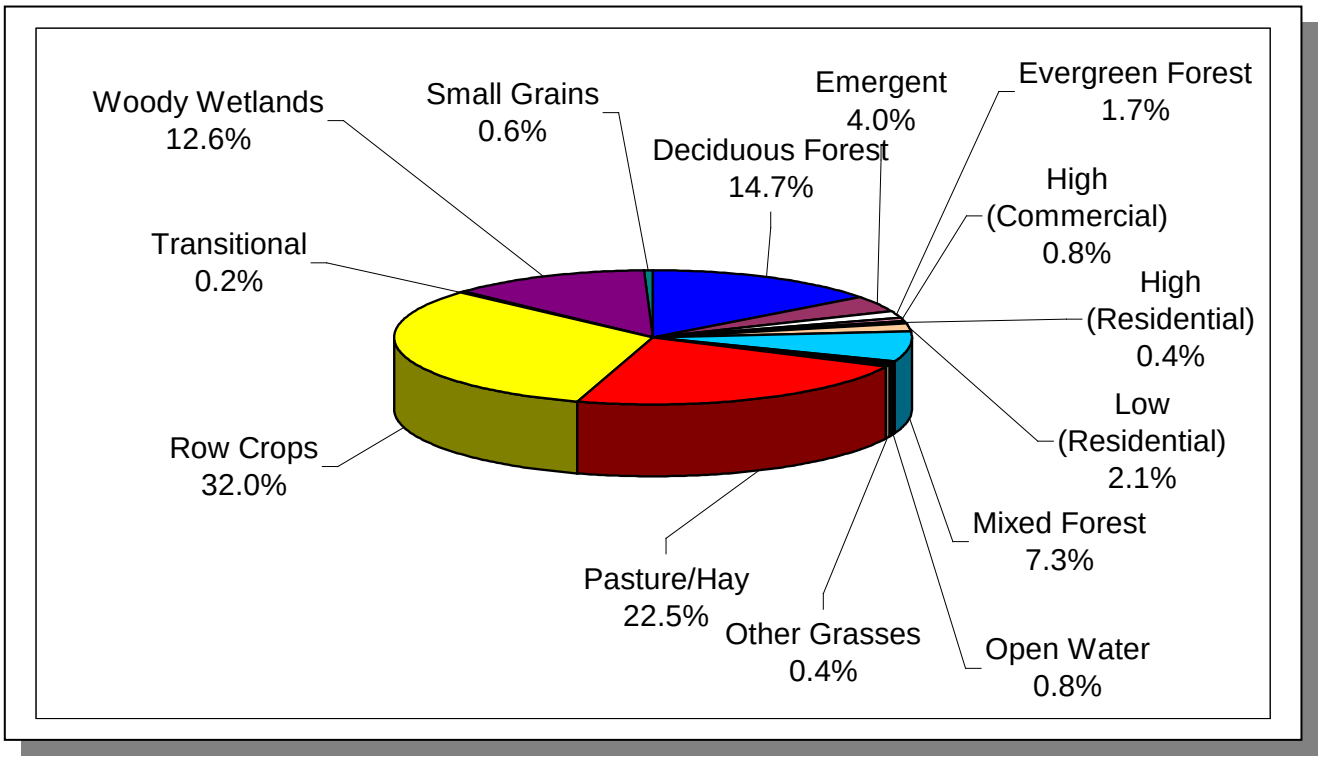

Figure 4-65. Land Use Distribution in Subwatershed 08010205140. *More information is provided in SFFD-Appendix IV.*

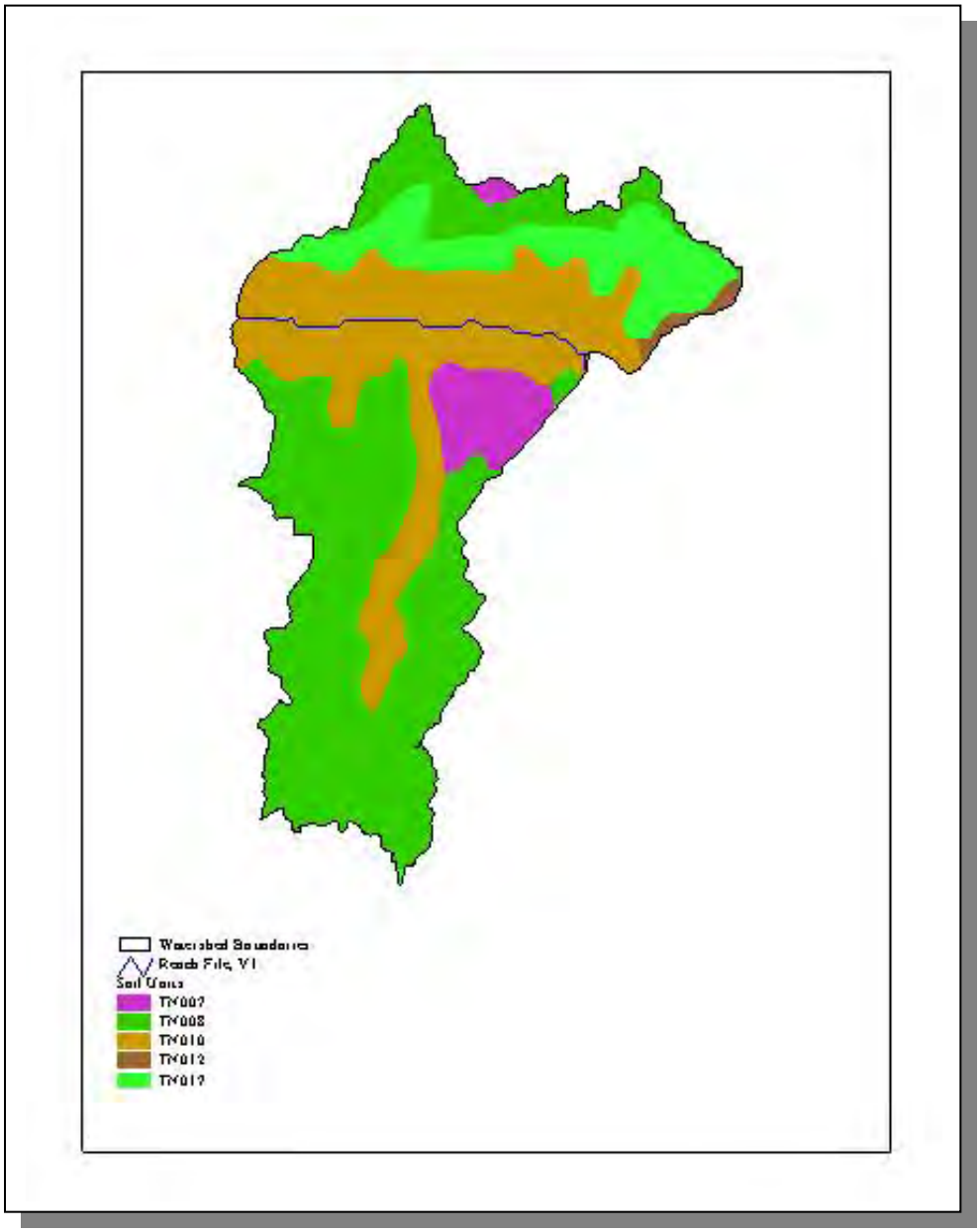

Figure 4-66. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205140.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN007	36.00	C	1.30	5.36	Silty Loam	0.48
TN008	11.00	C	1.38	5.20	Silty Loam	0.48
TN010	92.00	C	1.33	5.11	Silty Loam	0.44
TN012	5.00	C	2.52	5.13	Silty Loam	0.39
TN017	0.00	B	1.81	5.26	Silty Loam	0.45

Table 4-75. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205140. *More details are provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Madison	77,982	84,942	7.54	5,877	6,401	8.9

Table 4-76. Population Estimates in Subwatershed 08010205140.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Jackson	Madison	48,949	20,739	20,197	512	30

Table 4-77. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205140.

4.2.N.ii Point Source Contributions.

Figure 4-67. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205140. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

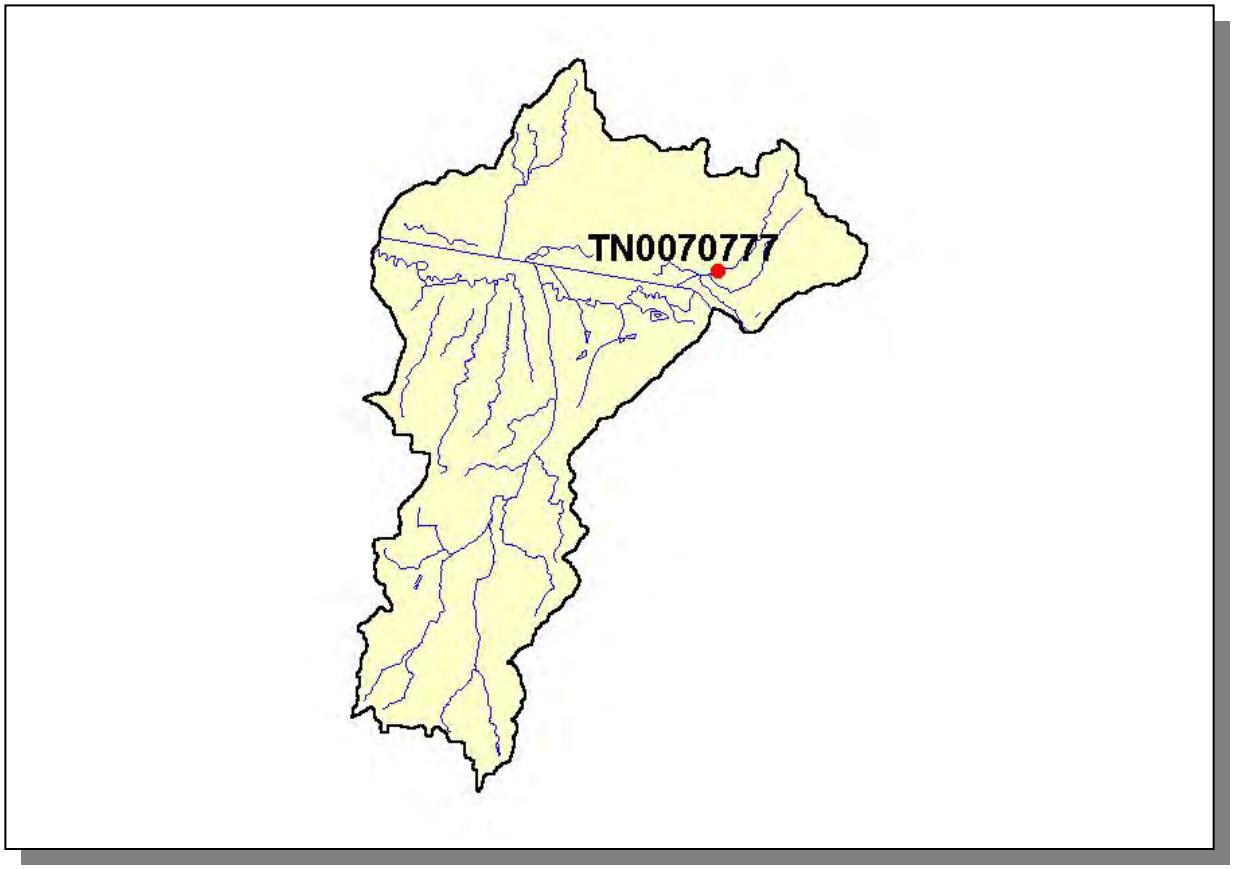

Figure 4-68. Location of Active Mining Sites in Subwatershed 08010205140. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

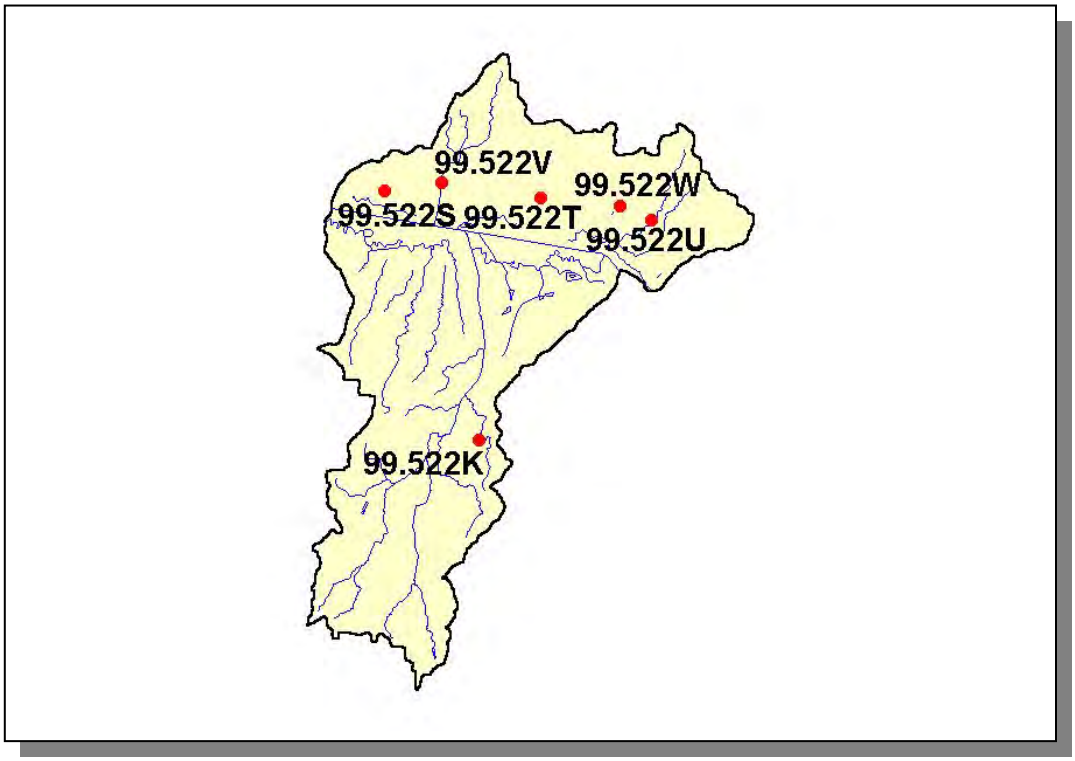

Figure 4-69. Location of ARAP Sites (Individual Sites) in Subwatershed 08010205140. *More information is provided in SFFD-Appendix IV.*

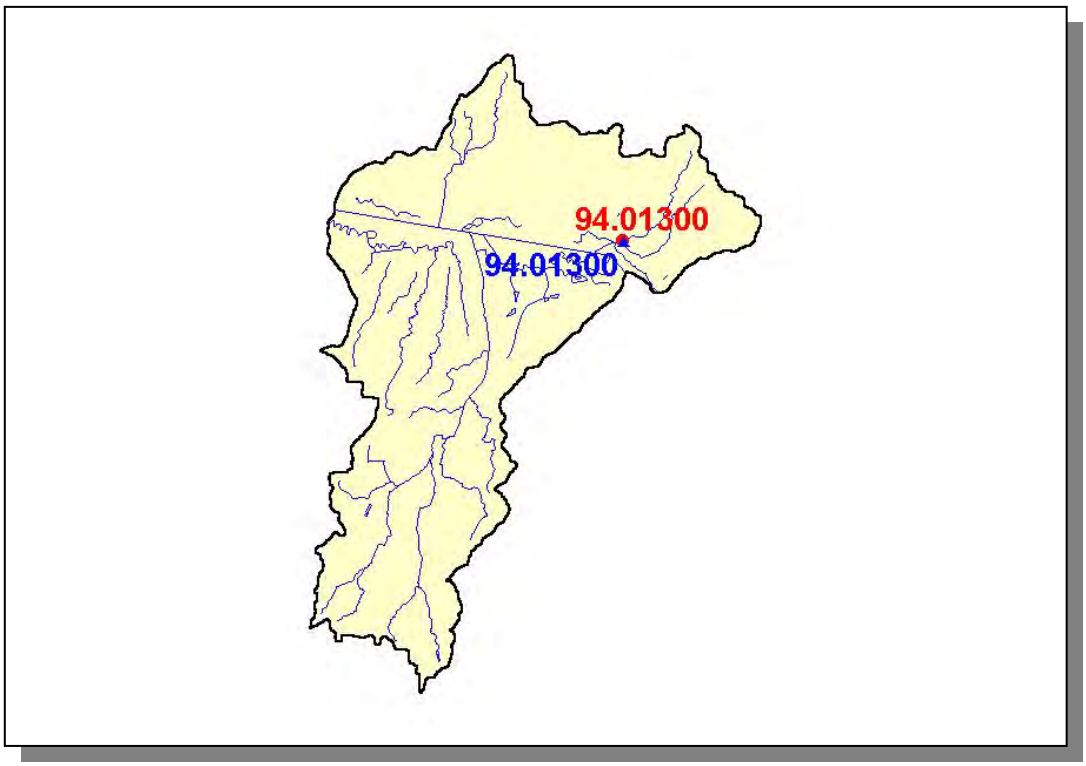

figure 4-70. Wetland Impact and Mitigation Sites in Subwatershed 08010205140. *Impact (Blue Triangle) and mitigation (red Circle) sites are from ARAP database. More information is provided in SFFD-Appendix IV.*

4.2.N.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)		
Cattle	Chickens	Hogs
974	<5	799

Table 4-78. Summary of Livestock Count Estimates in Subwatershed 08010205140. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

CROP	WATERSHED
Corn (Row Crops)	14.81
Soybeans (Row Crops)	8.65
Cotton (Row Crops)	12.97
Wheat (Close Grown Cropland)	3.53
Grass (Hayland)	0.95
Other Cropland not Planted	2.23
Grass (Pastureland)	0.41
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.46
Other Vegetable and Truck Crops	7.81
Grass, Forbs, Legumes (Mixed Pasture)	3.34
Other Land in Farms	0.08
All Other Close Grown Cropland	0.47
Conservation Reserve Program Land	0.47

Table 4-79. Annual Estimated Total Soil Loss in Subwatershed 08010205140.

4.2.O. 08010205150.

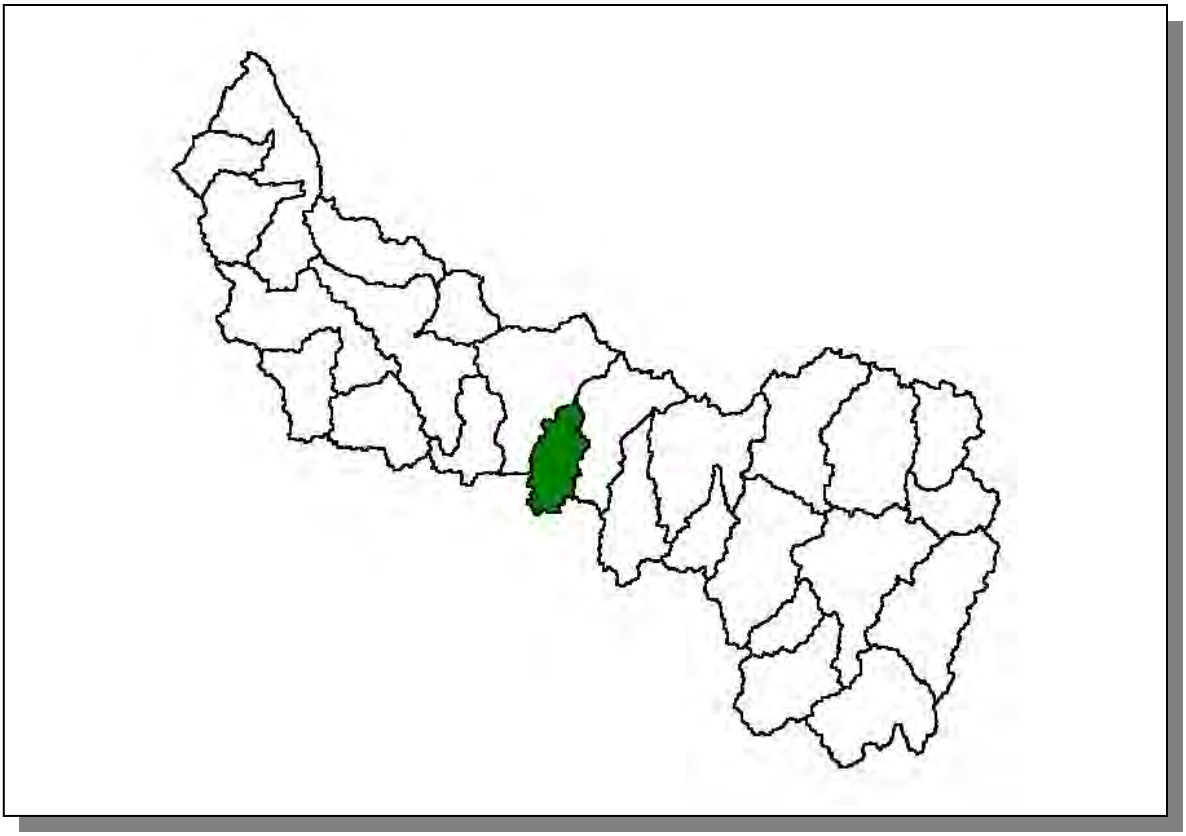

Figure 4-71. Location of Subwatershed 08010205150. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.O.i. General Description.

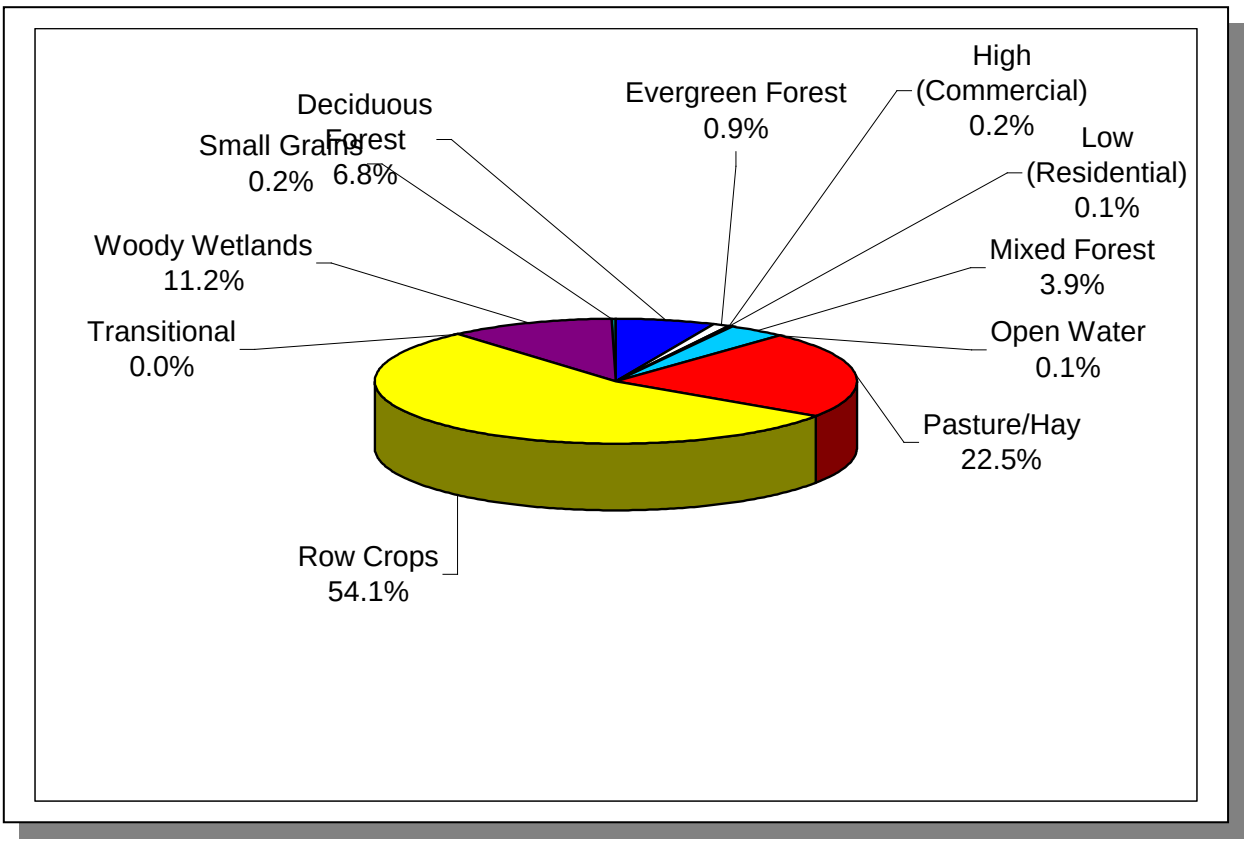

Figure 4-72. Land Use Distribution in Subwatershed 08010205150. *More information is provided in SFFD-Appendix IV.*

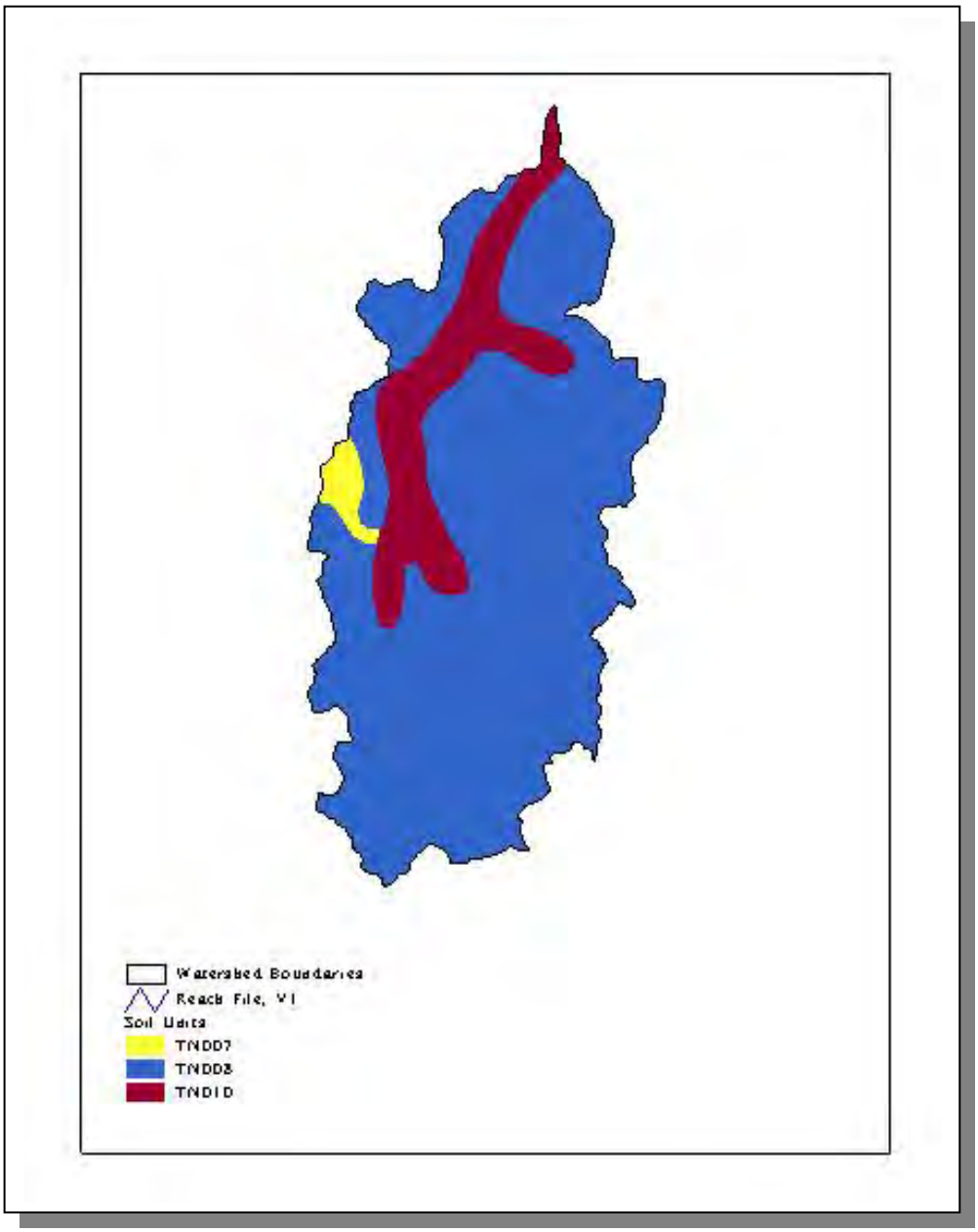

Figure 4-73. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205150.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN007	36.00	C	1.30	5.36	Silty Loam	0.48
TN008	11.00	C	1.38	5.20	Silty Loam	0.48
TN010	92.00	C	1.33	5.11	Silty Loam	0.44

Table 4-80. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205150. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Madison	77,982	84,942	4.11	3,206	3,492	8.9

Table 4-81. Population Estimates in Subwatershed 08010205150.

4.2.O.ii. Point Source Contributions.

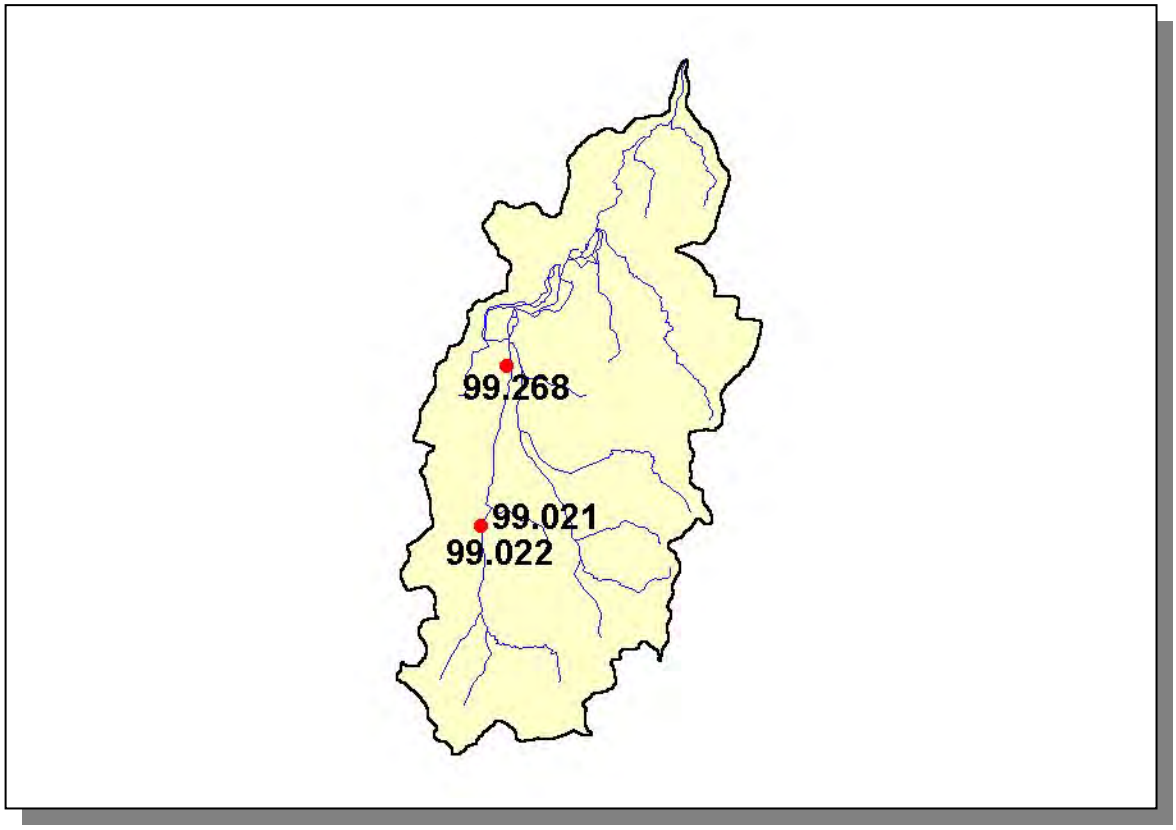

Figure 4-74. Location of ARAP Sites (Individual Permits) in Subwatershed 08010205150.
More information is provided in SFFD-Appendix IV.

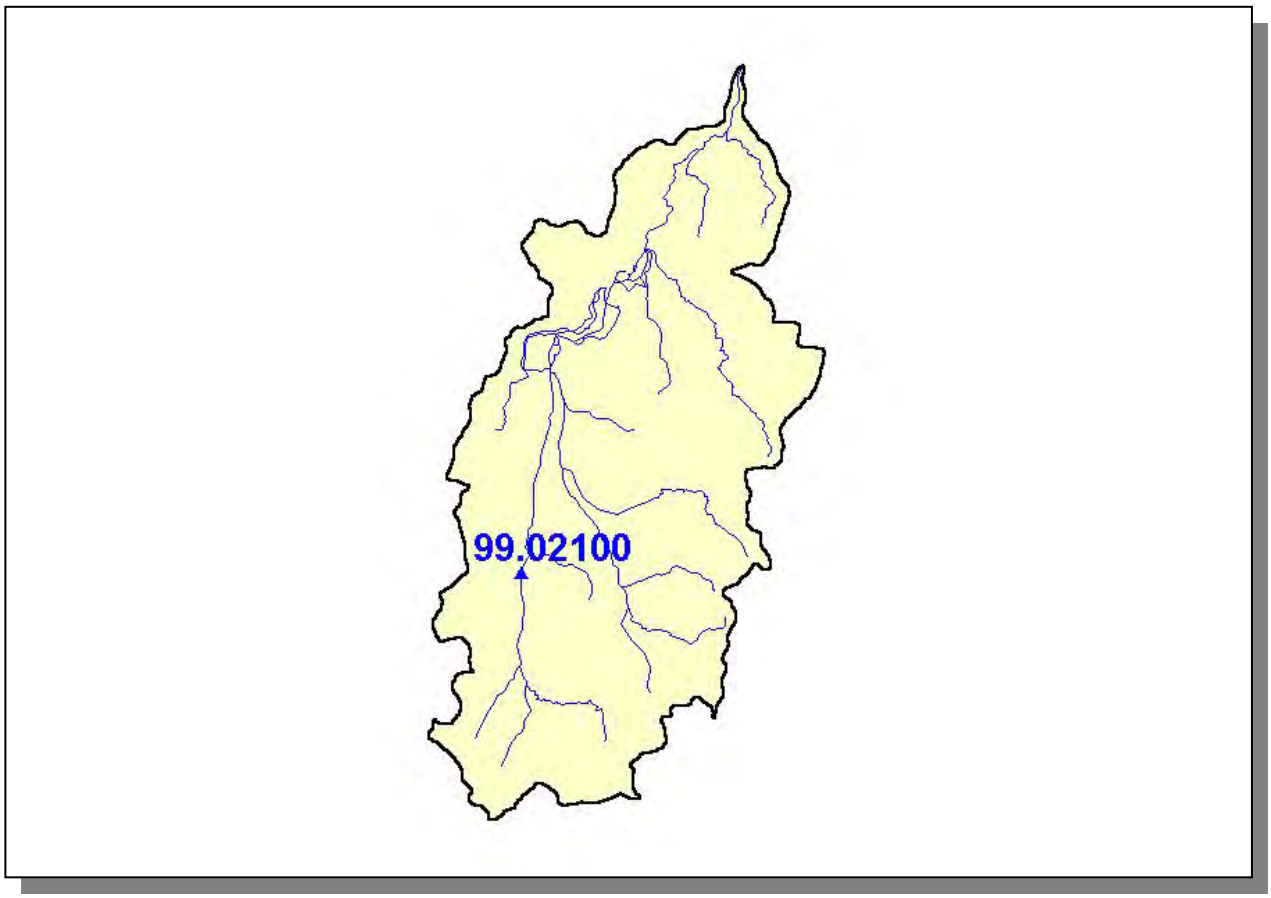

Figure 4-75. Wetland Impact Site in Subwatershed 08010205150. *Impact Site Location is from ARAP database. More information is provided in SFFD-Appendix IV.*

4.2.B.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)	
Cattle	Hogs
533	437

Table 4-82. Summary of Livestock Count Estimates in Subwatershed 08010205150. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	14.81
Soybeans (Row Crops)	8.65
Cotton (Row Crops)	12.97
Wheat (Close Grown Cropland)	3.53
Grass (Hayland)	0.95
Other Cropland not Planted	2.23
Grass (Pastureland)	0.41
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.46
Other Vegetable and Truck Crops	7.81
Grass, Forbs, Legumes (Mixed Pasture)	3.34
Other Land in Farms	0.08
All Other Close Grown Cropland	0.47
Conservation Reserve Program Land	0.47

Table 4-83. Annual Estimated Total Soil Loss in Subwatershed 08010205150.

4.2.P. 08010205160.

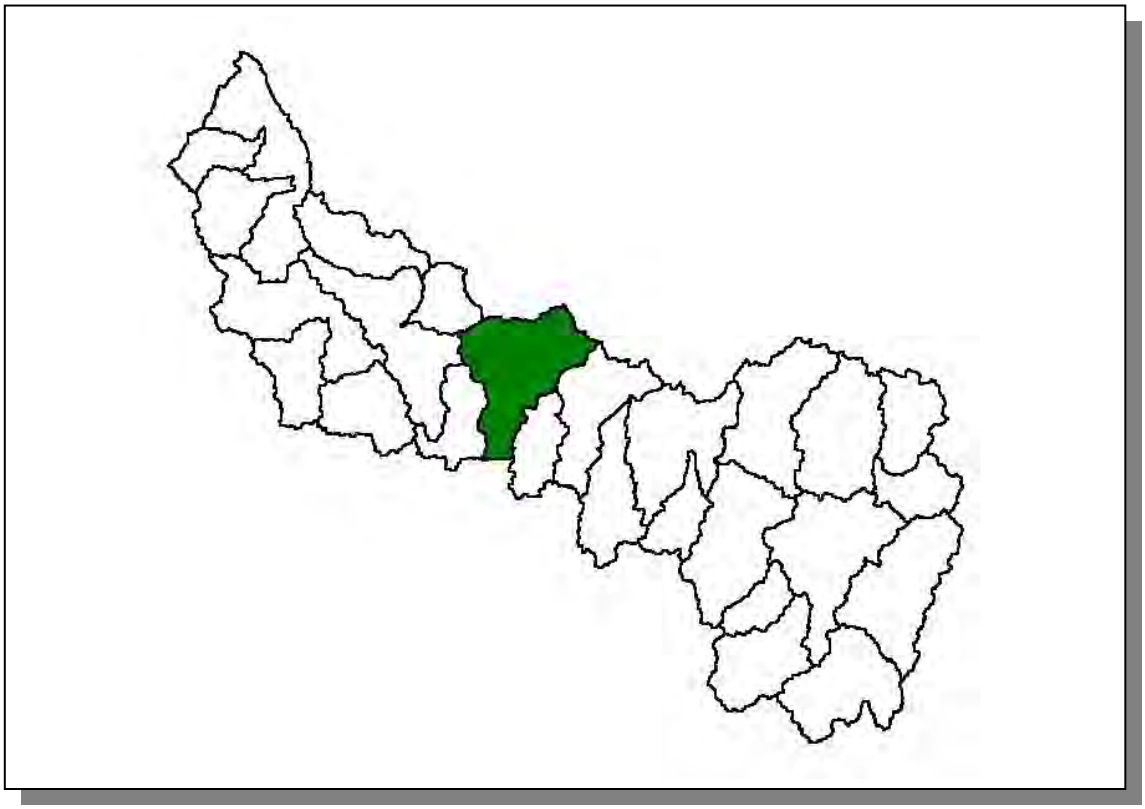

Figure 4-76. Location of Subwatershed 08010205160. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.P.i. General Description.

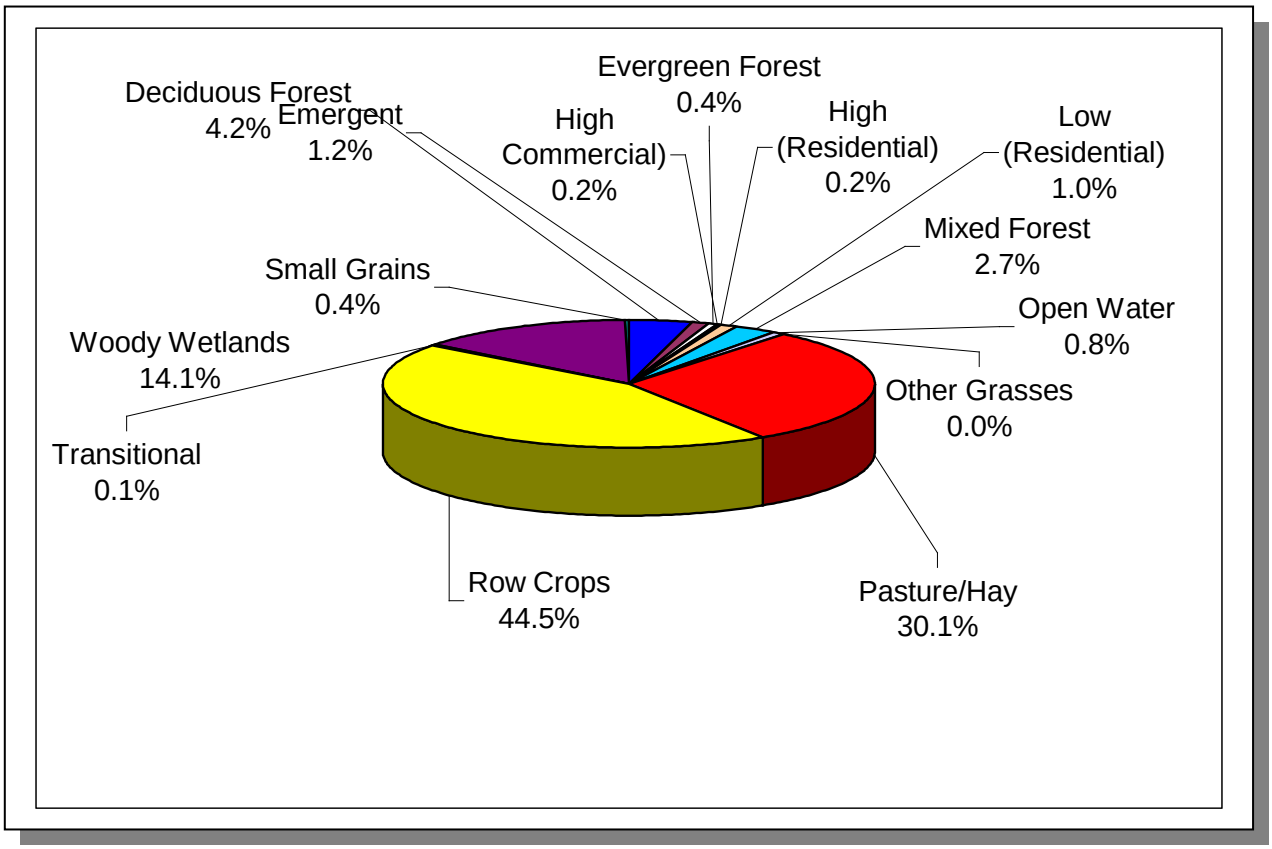

Figure 4-77. Land Use Distribution in Subwatershed 08010205160. *More information is provided in SFFD-Appendix IV.*

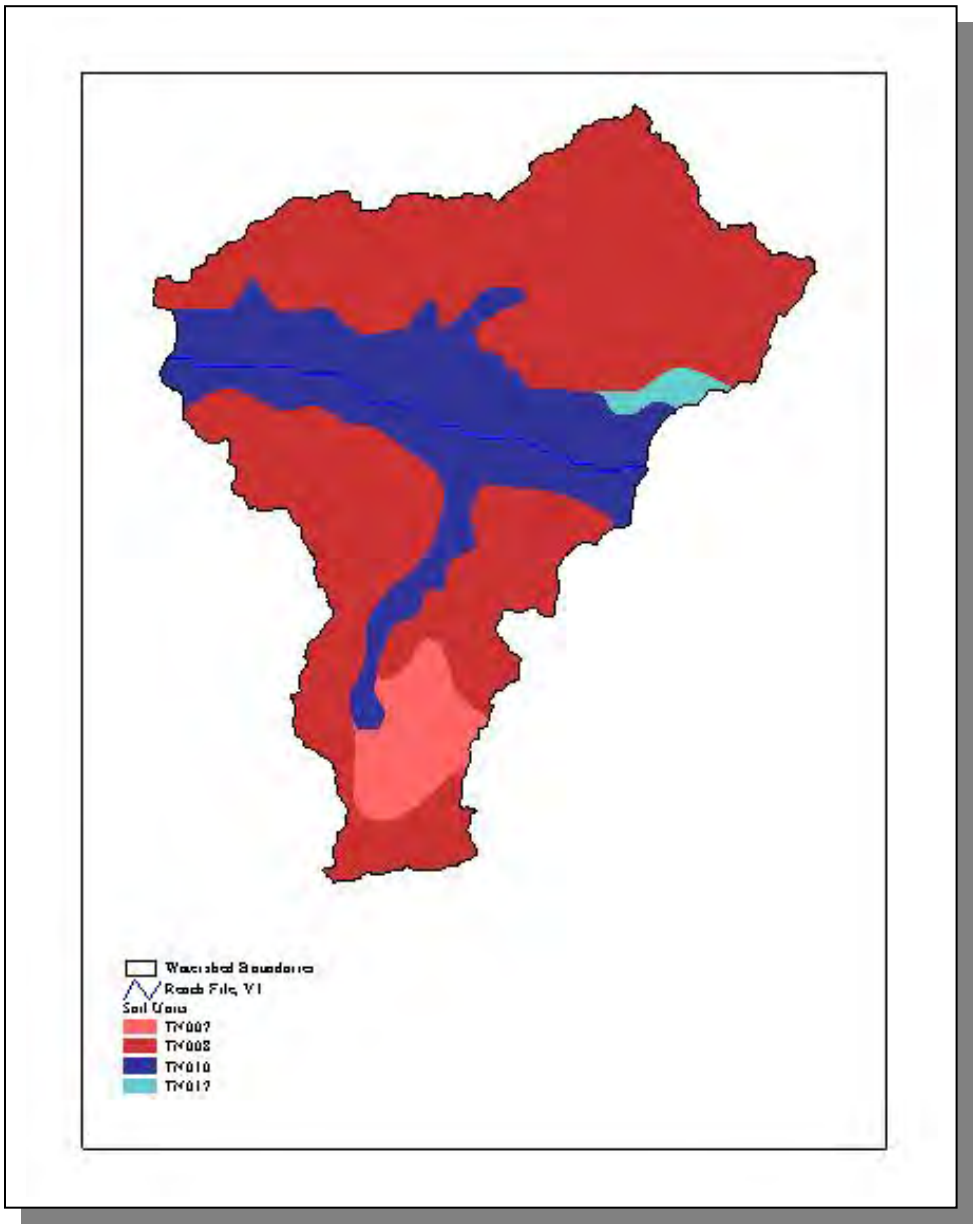

Figure 4-78. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205160.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN007	36.00	C	1.30	5.36	Silty Loam	0.48
TN008	11.00	C	1.38	5.20	Silty Loam	0.48
TN010	92.00	C	1.33	5.11	Silty Loam	0.44
TN017	0.00	B	1.81	5.26	Silty Loam	0.45

Table 4-84. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205160. *More details are provided in SFFD-Appendix IV.*

	TOTAL COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Crockett	13,378	13,841	7.98	1,068	1,105	3.5
Haywood	19,437	19,709	2.33	452	459	1.5
Madison	77,982	84,942	5.07	3,951	4,303	8.9
Totals	**110,797**	**118,492**		**5,471**	**5,867**	**7.2**

Table 4-85. Population Estimates in Subwatershed 08010205160.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Bells	Crockett	1,643	676	651	21	4

Table 4-86. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205160.

Figure 4-79. Location of STORET Stations in Subwatershed 08010205160. *More information is provided in SFFD-Appendix IV.*

4.2.P.ii Point Source Contributions.

Figure 4-80. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205160. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

4.2.P.ii.a. Dischargers to Waterbodies Listed on the 1998 303(d) List.

There are three NPDES facilities discharging to water bodies listed on the 1998 303(d) list in Subwatershed 06010208160:

- TN0022519 discharges to Panther Creek @ RM 6.9 and to a tributary of Panther Creek @ RM 6.9
- TN0023230 discharges to RM 0.6 of a tributary to Panther Creek @ RM 6.9
- TN0055786 discharges to a Wet Weather Conveyance to RM 2.9 of a Tributary to SFFD @ RM 35.8

Figure 4-81. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205160. *The names of facilities are provided in SFFD-Appendix IV.*

PERMIT #	7Q10	1Q20	30Q2	QDESIGN	QLTA
TN0022519	0	0	0		0.0126
TN0023230	0	0	0	0.02	0.007
TN0055786	0	0	0		1.1

Table 4-87. Receiving Stream Flow Information for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205160. *Data are in million gallons per day (MGD). Data were calculated using data in Flow Duration and Low Flows of Tennessee Streams Through 1992.*

PERMIT #	$CBOD_5$	NH_3	FECAL	WET
TN0022519	X	X	X	

Table 4-88. Monitoring Requirements for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205160.

PERMIT #	TSS	pH	$CBOD_5$	FECAL	DO	DURATION
TN0222519	9	3	23	10	92	07/95-08/96

Table 4-89. Number of Permit Violations Based on DMR Data for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205160.

4.2.P.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Milk Cow	Cattle	Chickens	Hogs	Sheep
521	<5	1,784	<5	769	5

Table 4-90. Summary of Livestock Count Estimates in Subwatershed 08010205160. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	9.51
Soybeans (Row Crops)	10.23
Cotton (Row Crops)	12.99
Grass (Hayland)	1.30
Grass (Pastureland)	0.57
Grass, Forbs, Legumes (Mixed Pasture)	1.67
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.42
Other Land in Farms	0.12
Conservation Reserve Program Land	0.61
Forest Land (Grazed)	0.00
Non Agricultural Land Use	0.00
Sorghum (Row Crops)	4.02
Other Vegetable and Truck Crops	6.70
All Other Close Grown Cropland	1.27
Other Cropland not Planted	1.81
Fruit (Horticultural)	0.76
Wheat (Close Grown Cropland)	3.53

Table 4-91. Annual Estimated Total Soil Loss in Subwatershed 08010205160.

4.2.Q. 08010205170

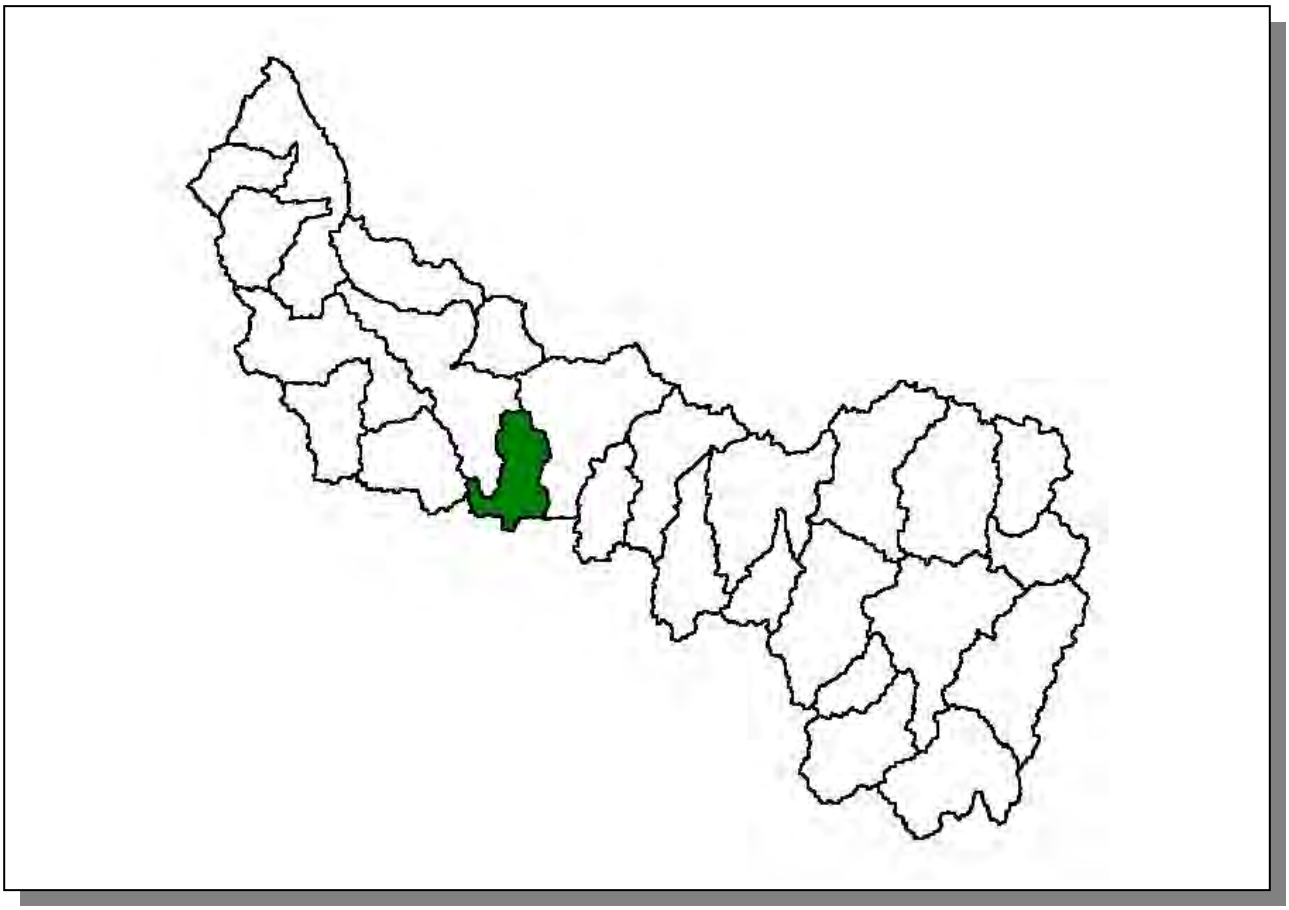

Figure 4-82. Location of Subwatershed 08010205170. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.Q.i. General Description.

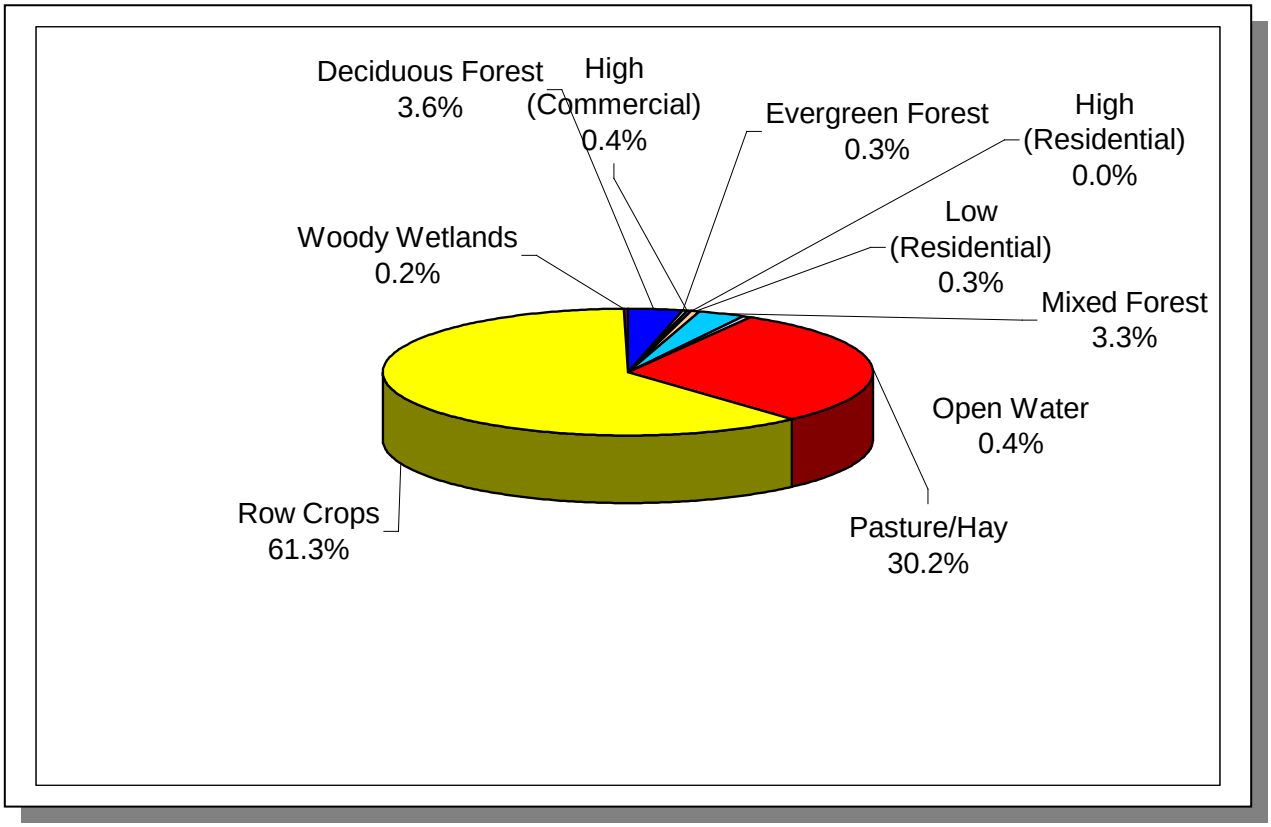

Figure 4-83. Land Use Distribution in Subwatershed 08010205170. *More information is provided in SFFD-Appendix IV.*

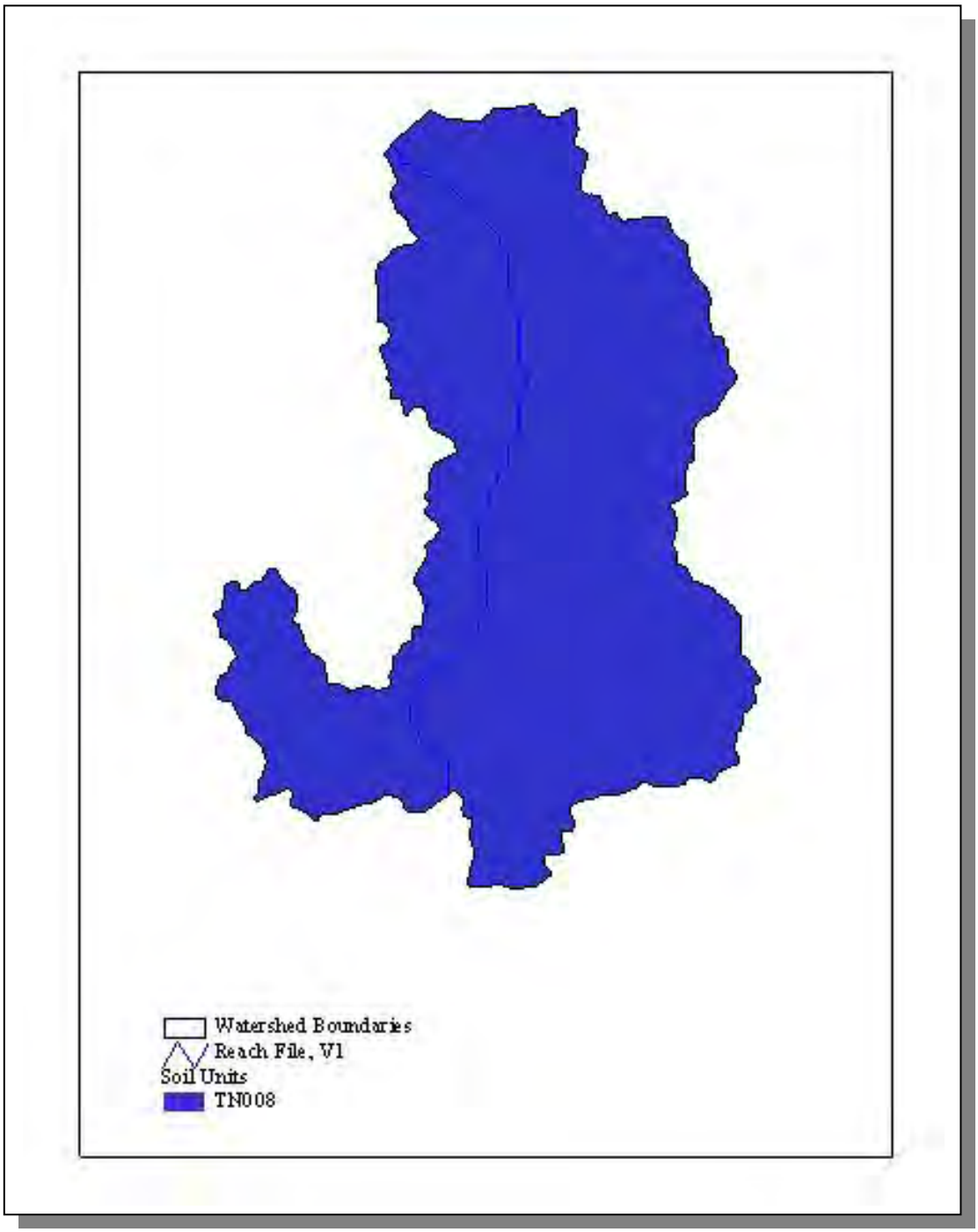

Figure 4-84. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205170.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN008	11.00	C	1.38	5.20	Silty Loam	0.48

Table 4-92. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205170. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Haywood	19,437	19,709	4.57	887	900	1.5

Table 4-93. Population Estimates in Subwatershed 08010205170.

4.2.Q.ii. Point Source Contributions.

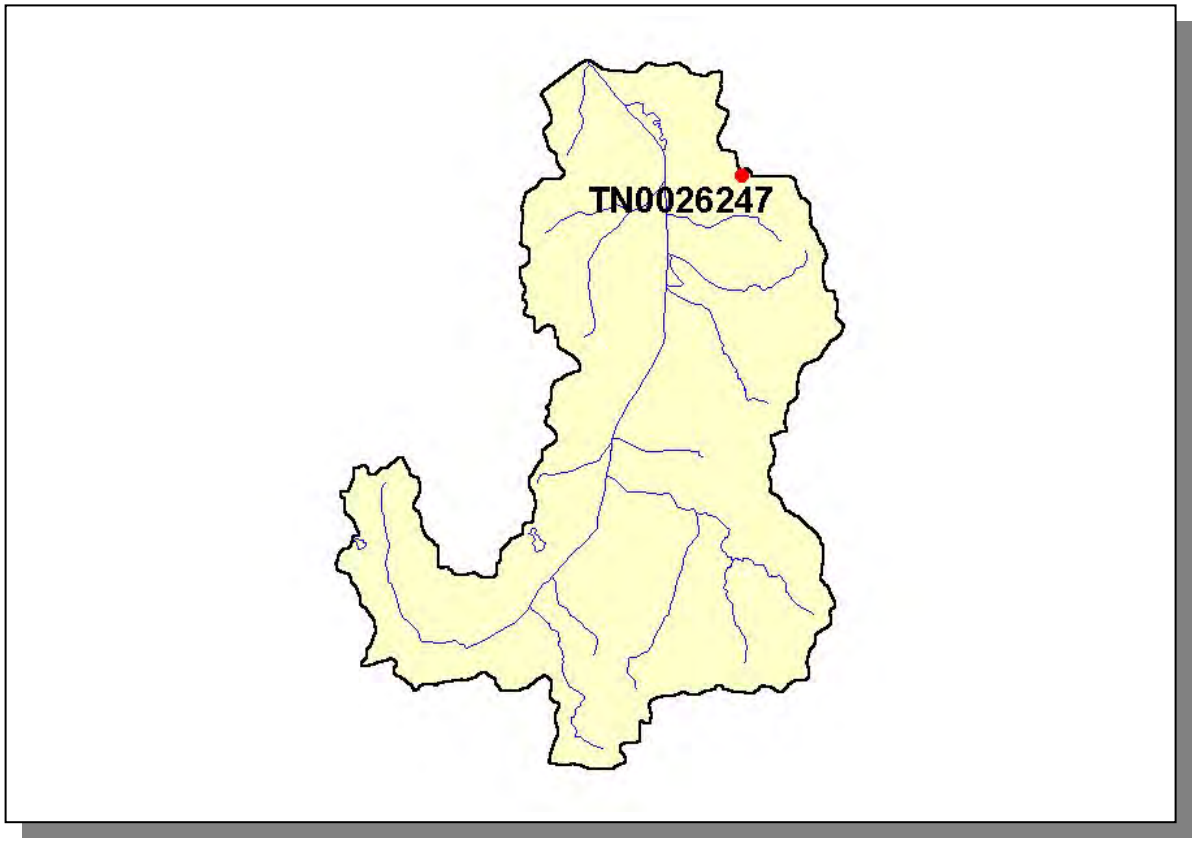

Figure 4-85. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205170. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

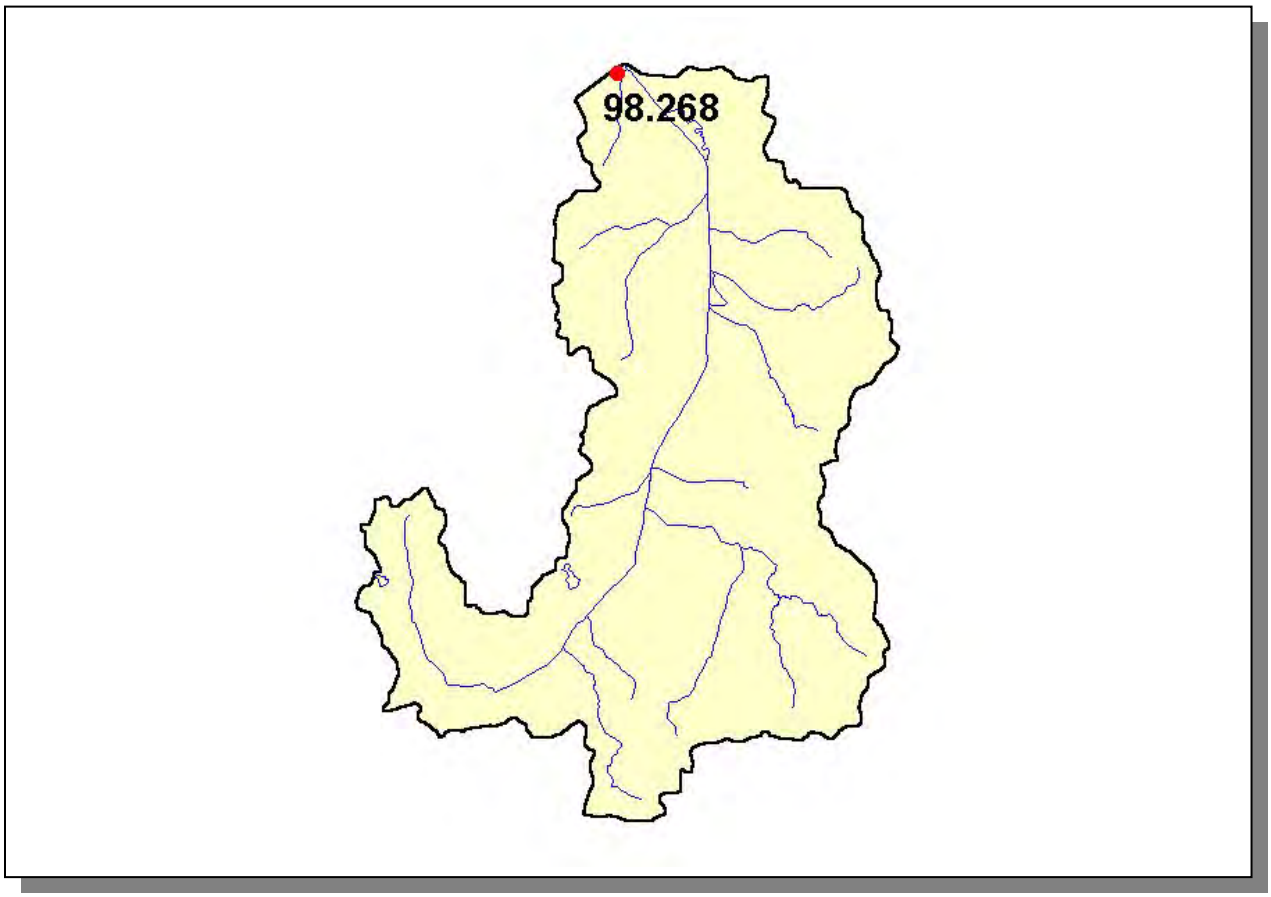

Figure 4-86. Location of ARAP Sites (Individual Permits) in Subwatershed 08010205170. *More information is provided in SFFD-Appendix IV.*

4.2 Q.ii.a. Dischargers to Waterbodies Listed on the 1998 303(d) List.

There is one NPDES facility discharging to water bodies listed on the 1998 303(d) list in Subwatershed 08010205170:

- TN0026247 discharges to Old Channel of the South Fork Forked Deer River

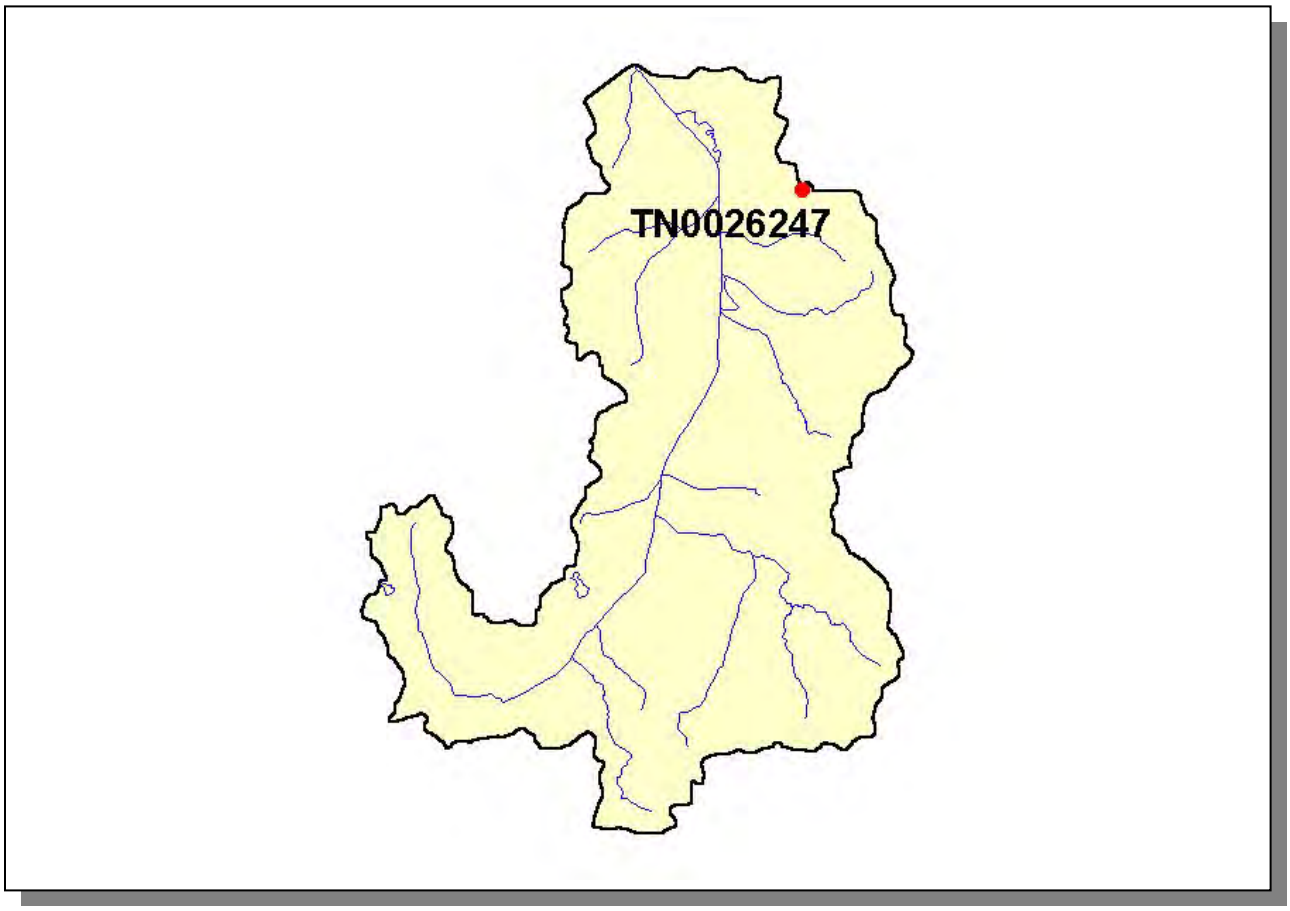

Figure 4-87. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205170. *The names of facilities are provided in SFFD-Appendix IV.*

PERMIT #	7Q10	1Q20	30Q2	QDESIGN
TN0026247	0	0	0	2.75

Table 4-94. Receiving Stream Flow Information for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205090. *Data are in million gallons per day (MGD). Data were calculated using data in Flow Duration and Low Flows of Tennessee Streams Through 1992.*

PERMIT #	WET
TN0026247	X

Table 4-95. Monitoring Requirements for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205090.

4.2.Q.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Milk Cow	Hogs	Chickens	Sheep
268	485	<5	136	<5	<5

Table 4-96. Summary of Livestock Count Estimates in Subwatershed 08010205170. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Haywood	71.2	71.2	1.7	6.4

Table 4-97. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 08010205170.

CROP	TONS/ACRE/YEAR
Non Agricultural Land Use	0.00
Corn (Row Crops)	7.47
Sorghum (Row Crops)	4.02
Soybeans (Row Crops)	7.10
Cotton (Row Crops)	12.50
Other Vegetable and Truck Crops	4.20
All Other Close Grown Cropland	3.08
Other Cropland not Planted	0.85
Grass (Pastureland)	0.70
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.61
Conservation Reserve Program Land	0.91
Fruit (Horticultural)	0.76
Grass (Hayland)	3.69
Grass, Forbs, Legumes (Mixed Pasture)	0.30
Other Land in Farms	0.16

Table 4-98. Annual Estimated Total Soil Loss in Subwatershed 08010205170.

4.2.R. 08010205180.

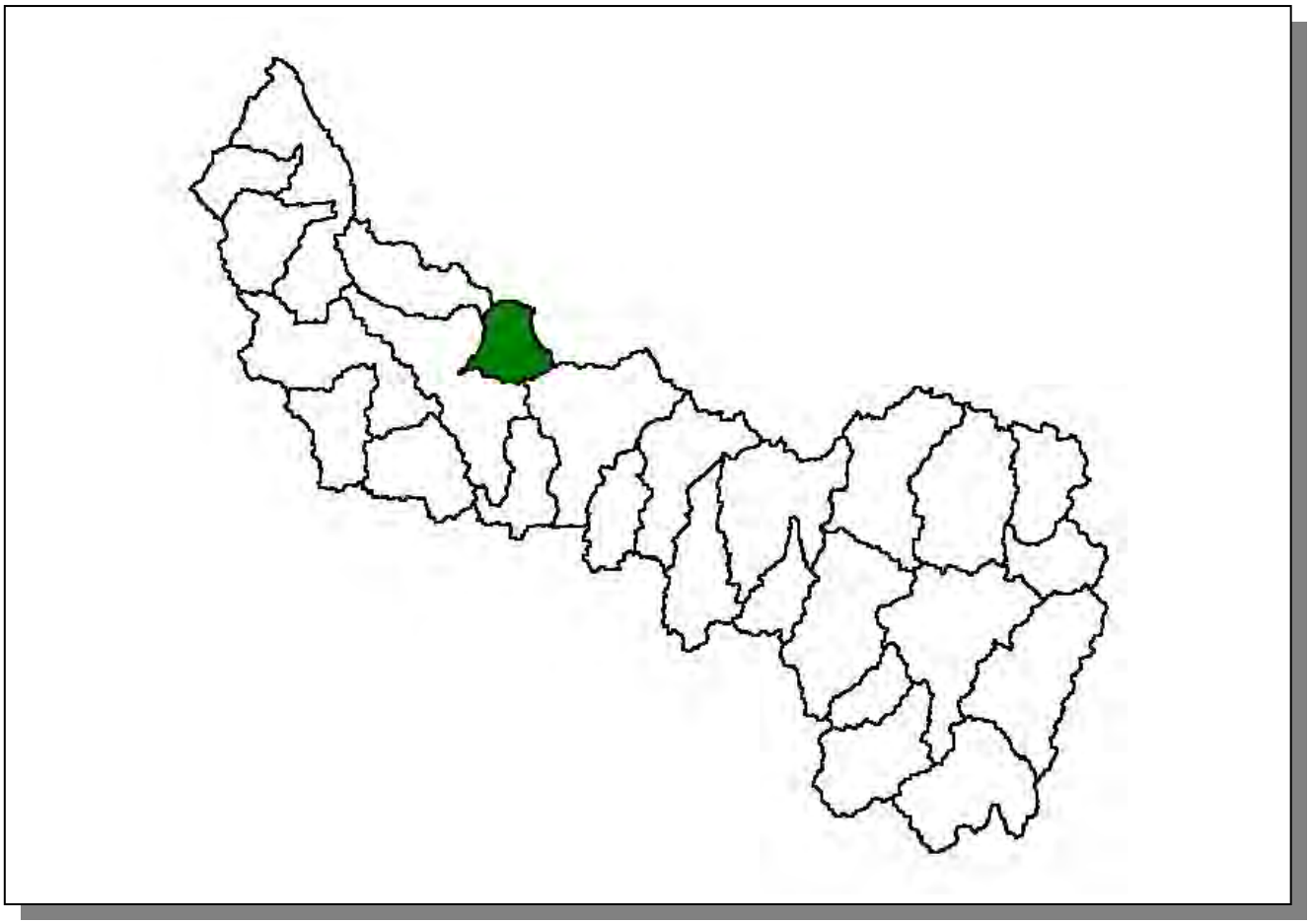

Figure 4-88. Location of Subwatershed 08010205180. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.R.i. General Description.

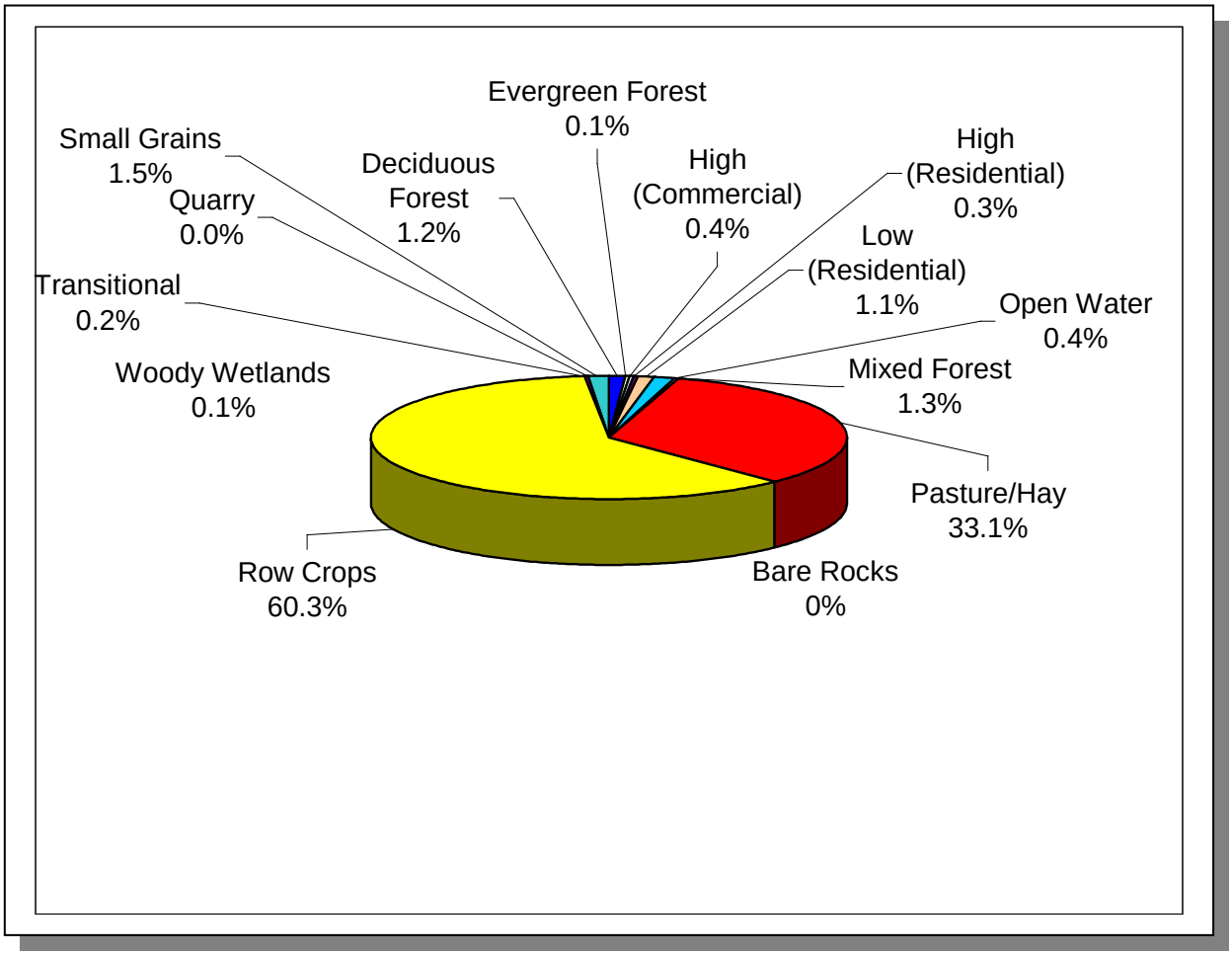

Figure 4-89. Land Use Distribution in Subwatershed 08010205180. *More information is provided in SFFD-Appendix IV.*

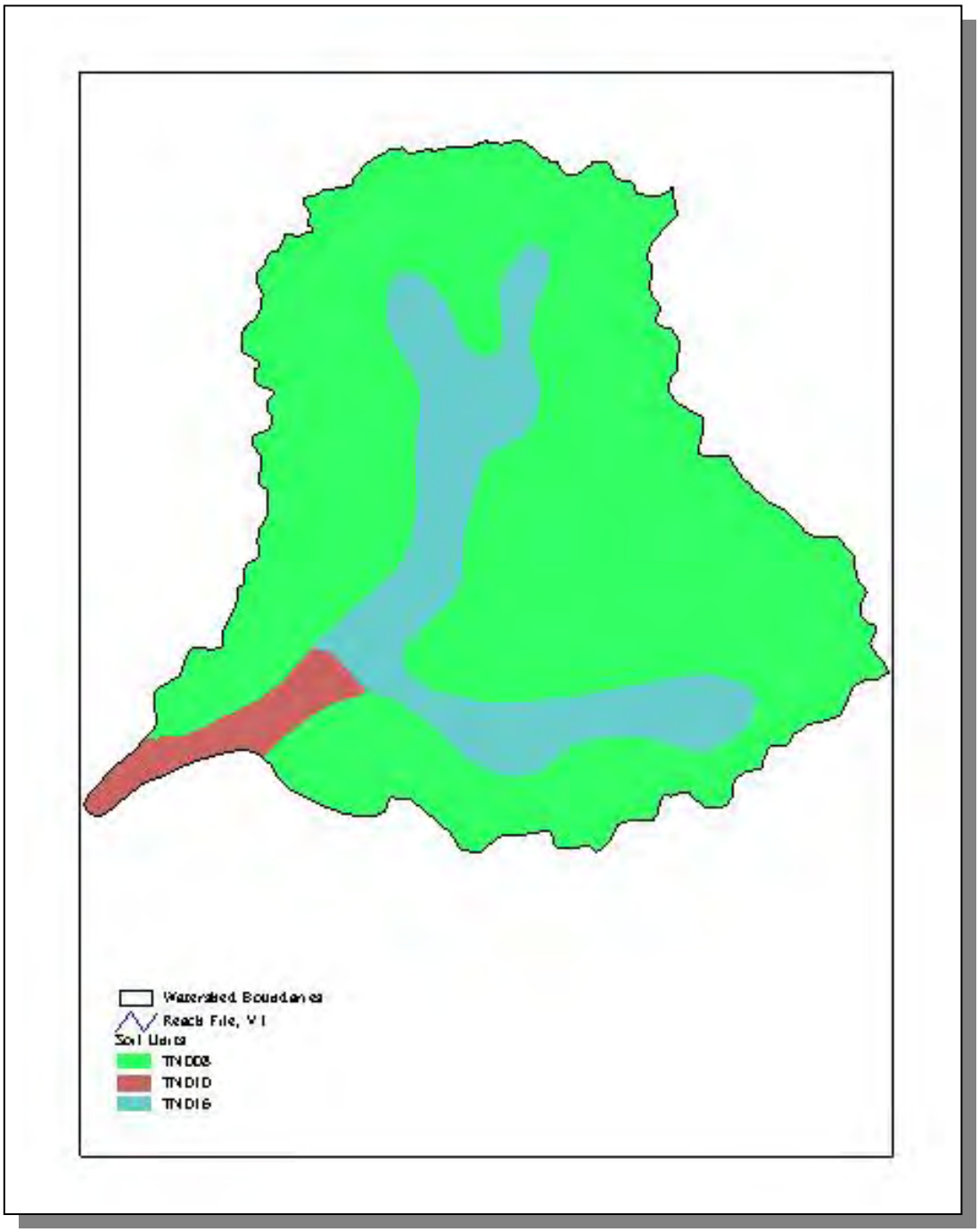

Figure 4-90. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205180.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN016	0.00	C	1.30	6.47	Silty Loam	0.44

Table 4-99. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205180. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Crockett	13,378	13,841	5.97	798	826	3.5
Haywood	19,437	19,709	0.73	142	144	1.4
Totals	**32,815**	**33,550**		**940**	**970**	**3.2**

Table 4-100. Population Estimates in Subwatershed 08010205180.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Alamo	Crockett	2,400	1,044	1,001	43	0
Bells	Crockett	1,643	676	651	21	4
Totals		**4,043**	**1,720**	**1,652**	**64**	**4**

Table 4-101. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205180.

4.2.R.ii. Point Source Contributions.

Figure 4-91. Location of ARAP Sites (Individual Permits) in Subwatershed 06010208030. *More information is provided in SFFD-Appendix IV.*

4.2.R.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Milk Cow	Hogs	Chickens	Sheep
344	602	<5	26	<5	<5

Table 4-102. Summary of Livestock Count Estimates in Subwatershed 08010205180. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Crockett	15.1	15.1	0.3	1.6
Haywood	71.2	71.2	1.7	6.4
Totals	**86.3**	**86.3**	**2.0**	**8.0**

Table 4-103. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 08010205180.

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	4.29
Soybeans (Row Crops)	12.84
Cotton (Row Crops)	13.16
Grass (Hayland)	1.00
Grass (Pastureland)	0.70
Grass, Forbs, Legumes, (Mixed Pasture)	0.22
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.32
Other Land in Farms	0.15
Conservation Reserve Program Land	0.68
Forest Land (Grazed)	0.00
Non Agricultural Land Use	0.00
Sorghum (Row Crops)	4.02
Other Vegetable and Truck Crops	4.20
All Other Close Grown Cropland	3.08
Other Cropland not Planted	0.85
Fruit (Horticultural)	0.76

Table 4-104. Annual Estimated Total Soil Loss in Subwatershed 08010205180.

4.2.S. 08010205190.

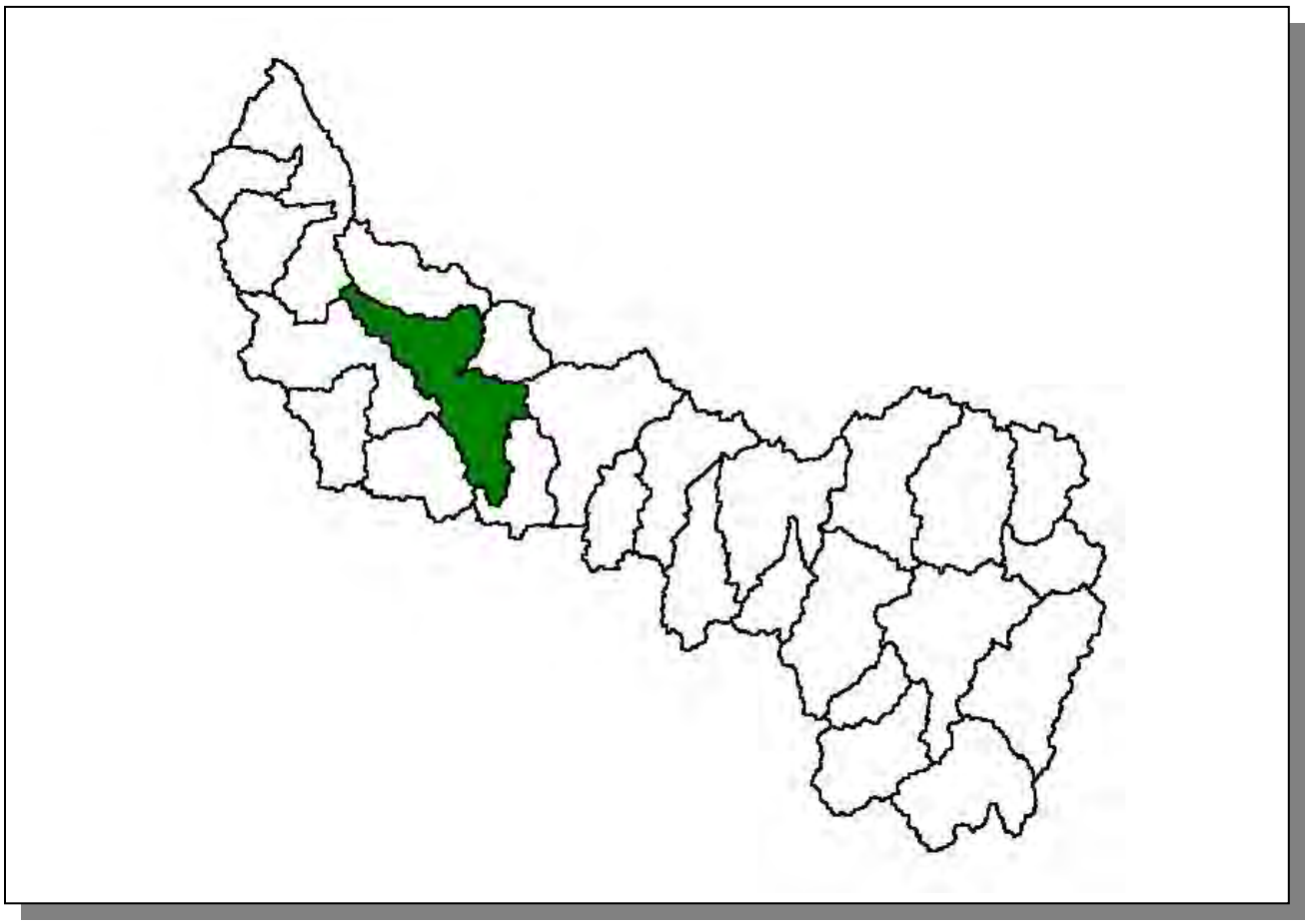

Figure 4-92. Location of Subwatershed 08010205190. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.S.i. General Description.

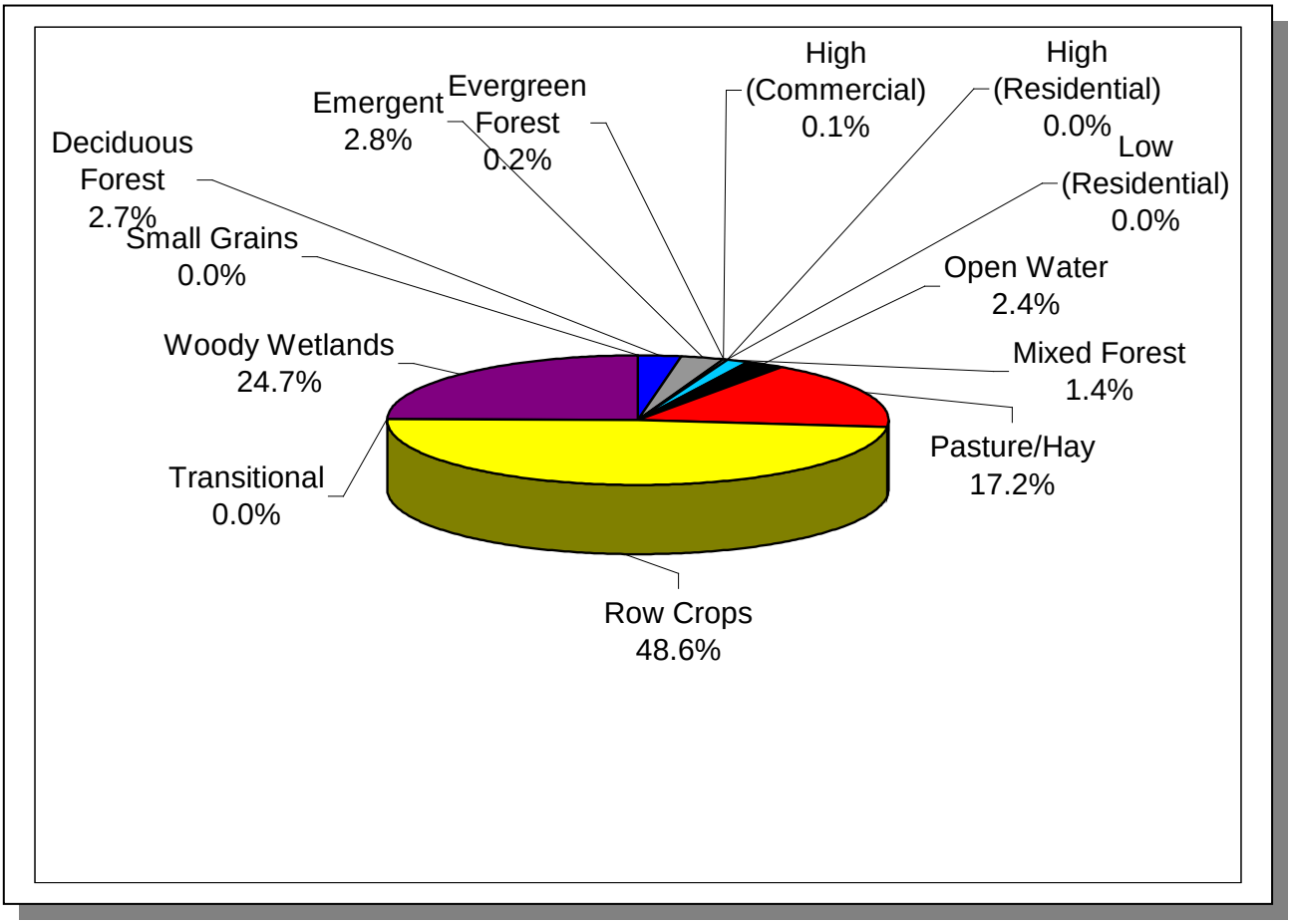

Figure 4-93. Land Use Distribution in Subwatershed 08010205190. *More information is provided in SFFD-Appendix IV.*

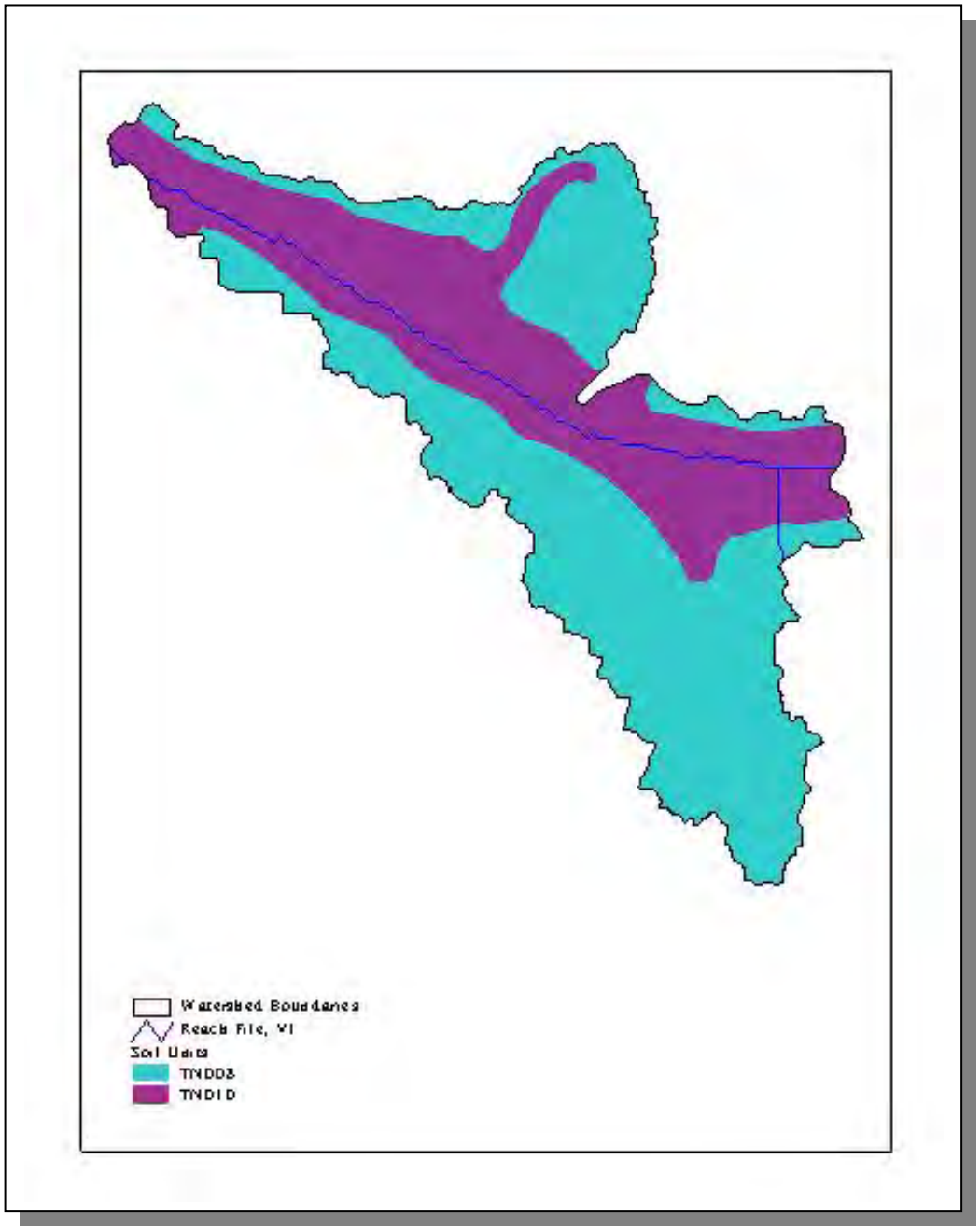

Figure 4-94. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205190.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44

Table 4-105. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205190. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Crockett	13,378	13,841	3.51	469	485	3.4
Haywood	19,437	19,709	9.78	1,902	1,928	1.4
Totals	**32,815**	**33,550**		**2,371**	**2,413**	**1.8**

Table 4-106. Population Estimates in Subwatershed 008010205190.

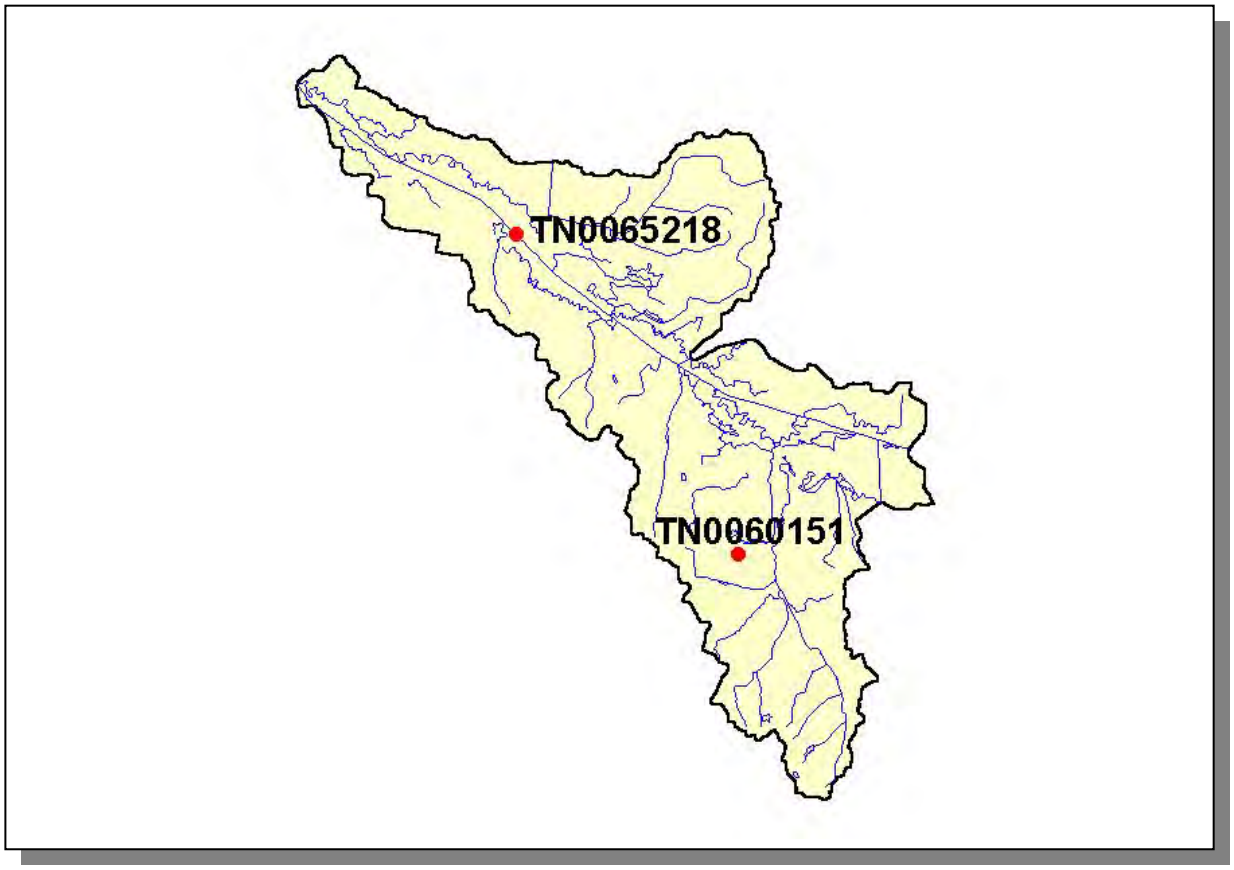

Figure 4-95. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205190. *More information is provided in SFFD-Appendix IV.*

4.2.S.ii. Point Source Contributions.

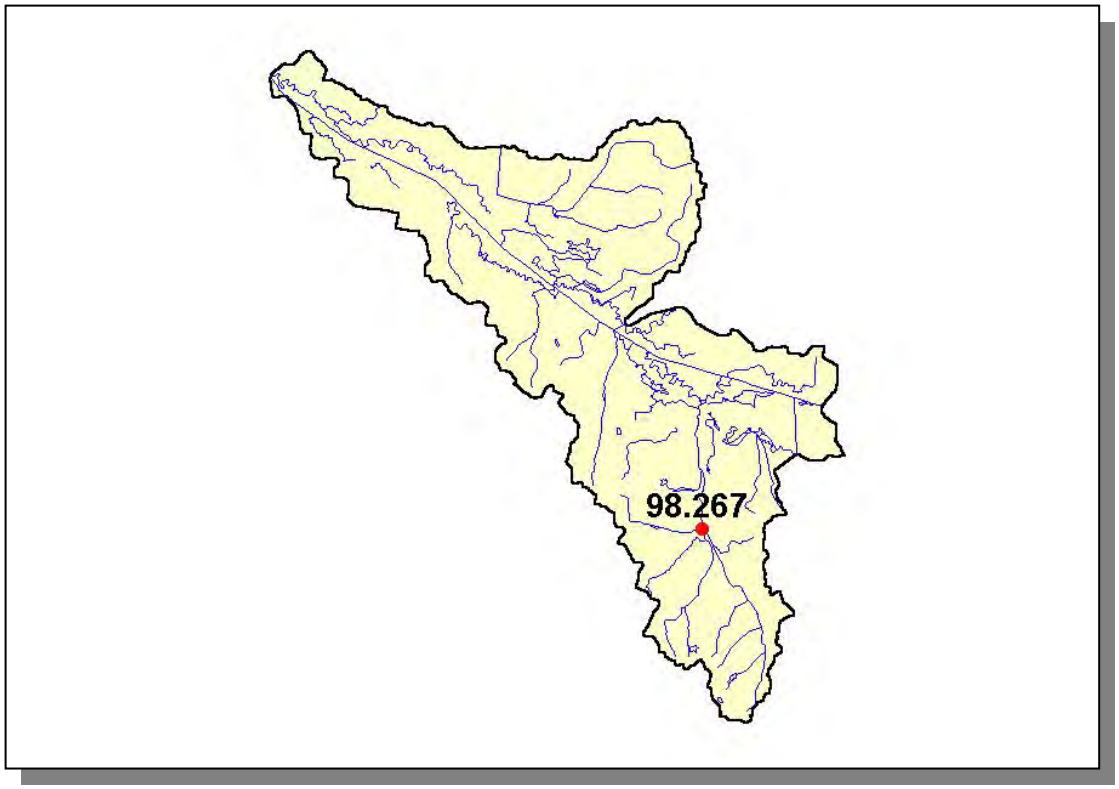

Figure 4-96. Location of ARAP Sites (Individual Permits) in Subwatershed 08010205190. *More information is provided in SFFD-Appendix IV.*

4.2 S.ii.a. Dischargers to Waterbodies Listed on the 1998 303(d) List.

There is one NPDES facility discharging to water bodies listed on the 1998 303(d) list in Subwatershed 08010205190:

- TN0065218 discharges to South Fork Forked Deer River @ RM 27.1

Figure 4-97. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205190. *The names of facilities are provided in SFFD-Appendix IV.*

PERMIT #	7Q10	1Q20	30Q2	QDESIGN	QLTA
TN0065218	95.55	0	0	0.15	0.0385

Table 4-107. Receiving Stream Flow Information for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205190. *Data are in million gallons per day (MGD). Data were calculated using data in Flow Duration and Low Flows of Tennessee Streams Through 1992.*

PERMIT #	$CBOD_5$	FECAL
TN0065218	X	X

Table 4-108. Monitoring Requirements for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205190.

PERMIT #	TSS	pH	$CBOD_5$	FECAL	DO	TRC	DURATION
TN65218	1	13	1	1	1	4	02/93-7/99

Table 4-109. Number of Permit Violations Based on DMR Data for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205190.

4.2.S.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Milk Cow	Chickens	Hogs	Sheep
417	747	<5	<5	168	<5

Table 4-110. Summary of Livestock Count Estimates in Subwatershed 08010205190. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Crockett	15.1	15.1	0.3	1.6
Haywood	71.2	71.2	1.7	6.4
Totals	**86.3**	**86.3**	**2.0**	**8.0**

Table 4-111. Forest Acreage and Average Annual removal rates (1987-1994) in Subwatershed 08010205190.

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	6.89
Soybeans (Row Crops)	8.15
Cotton (Row Crops)	12.62
Grass (Hayland)	3.20
Grass (Pastureland)	0.70
Grass, Forbs, Legumes, (Mixed Pasture)	0.29
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.56
Other Land in Farms	0.16
Conservation Reserve Program Land	0.87
Forest Land (Grazed)	0.00
Non Agricultural Land Use	0.00
Sorghum (Row Crops)	4.02
Other Vegetable and Truck Crops	4.20
All Other Close Grown Cropland	3.08
Other Cropland not Planted	0.85
Fruit (Horticultural)	0.76

Table 4-112. Annual Soil Loss in Subwatershed 08010205190.

4.2.T. 08010205200.

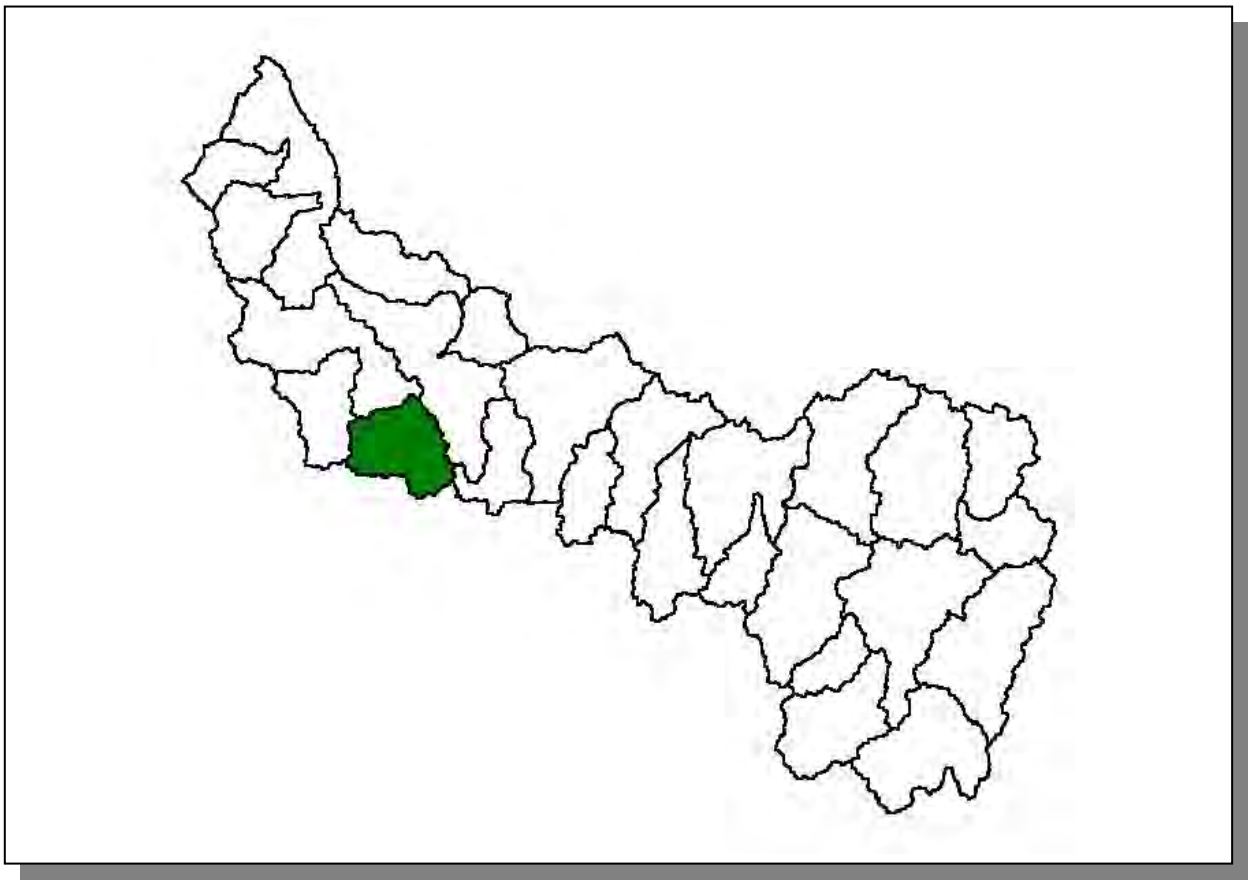

Figure 4-98. Location of Subwatershed 08010205200. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.T.i. General Description.

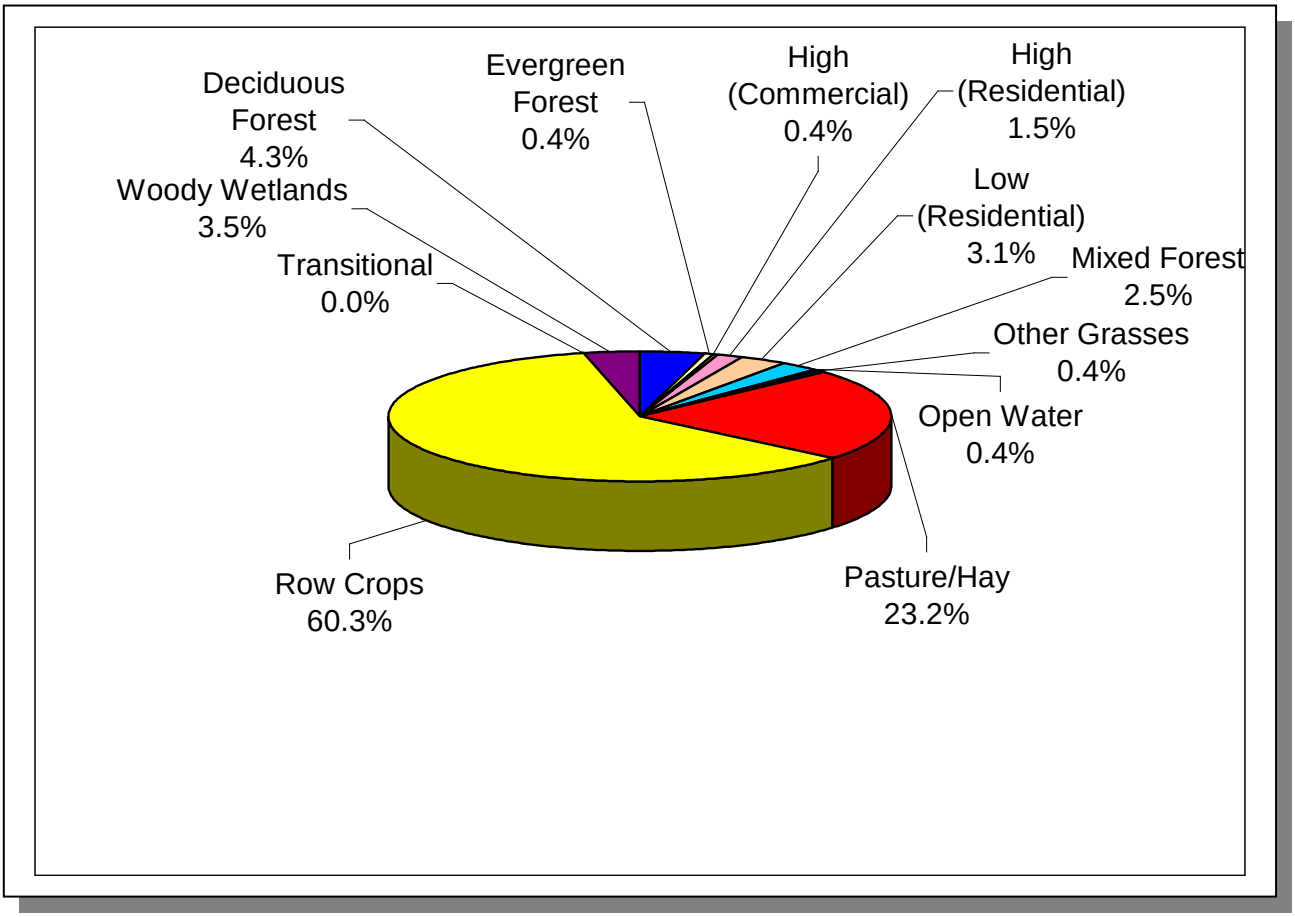

Figure 4-99. Land Use Distribution in Subwatershed 08010205200. *More information is provided in SFFD-Appendix IV.*

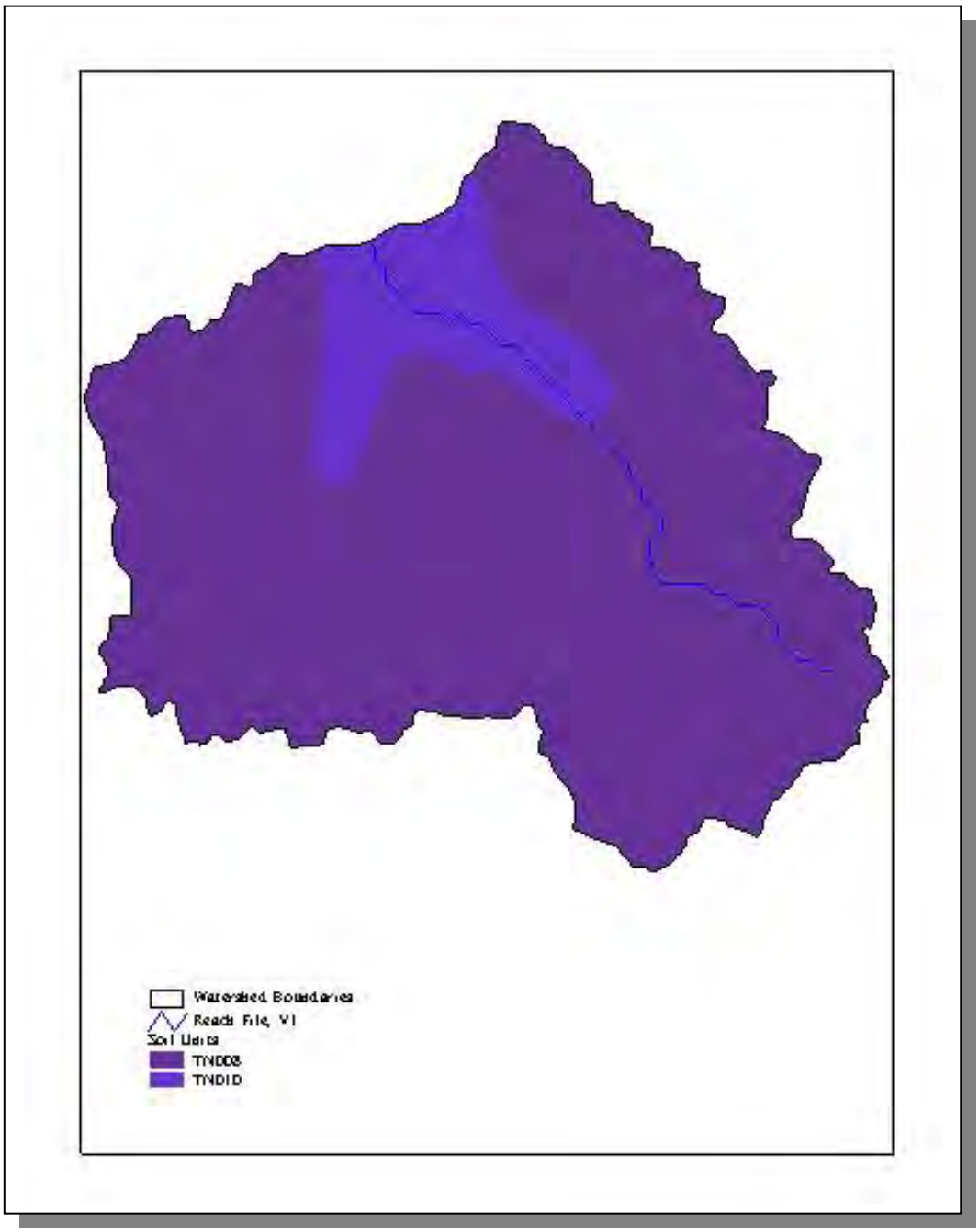

Figure 4-100. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205200.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATE SOIL TEXTURE	SOIL ERODIBILITY
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44

Table 4-113. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205200. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Haywood	19,437	19,709	6.12	1,189	1,206	1.4

Table 4-114. Population estimates in Subwatershed 08010205200.

				Number of Housing Units		
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Brownsville	Haywood	10,019	3,848	3,761	64	23

Table 4-115. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205200.

4.2.T.ii. Point Source Contributions.

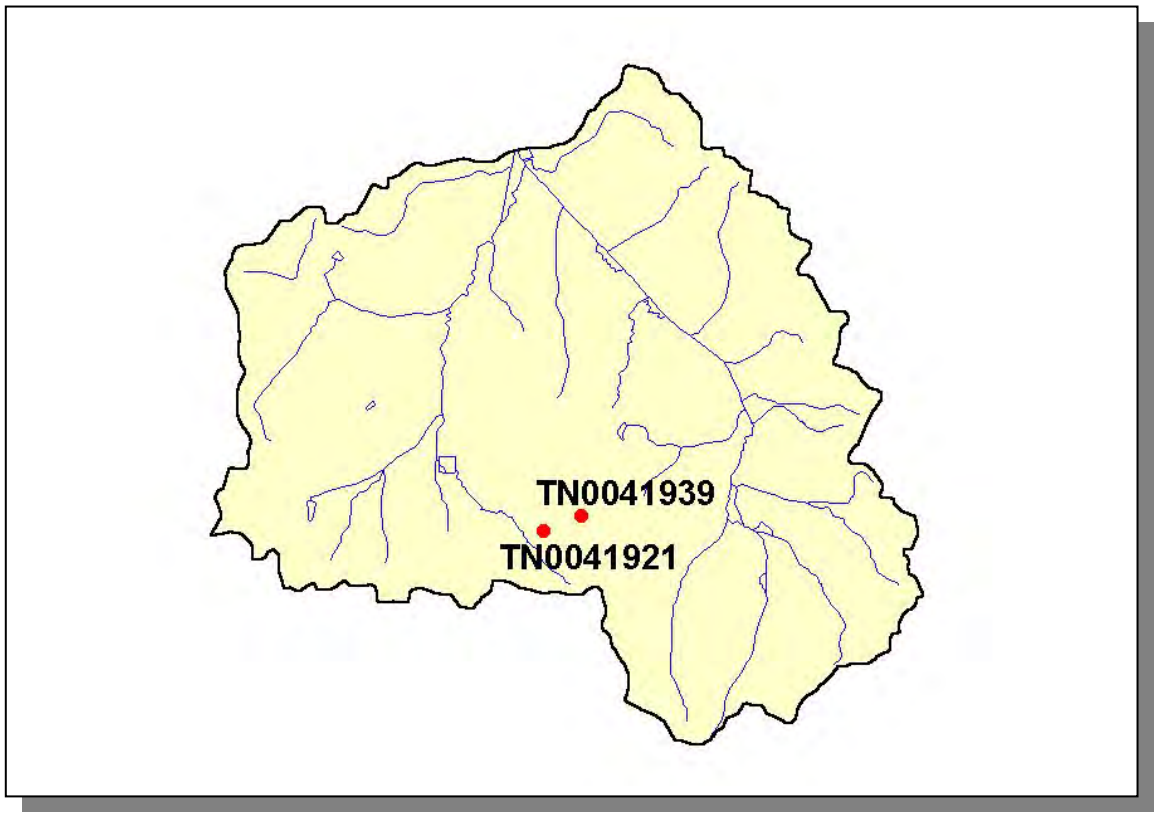

Figure 4-101. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205200. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

4.2 T.ii.a. Dischargers to Waterbodies Listed on the 1998 303(d) List.

There are two NPDES facility discharging to water bodies listed on the 1998 303(d) list in Subwatershed 08010205200:

- TN0041921discharges to an impoundment pond to a tributary @ RM 2.6 to Little Nixon Creek @ RM 4.1
- TN0041939 discharges to a tributary to Little Nixon Creek @ RM 4.1

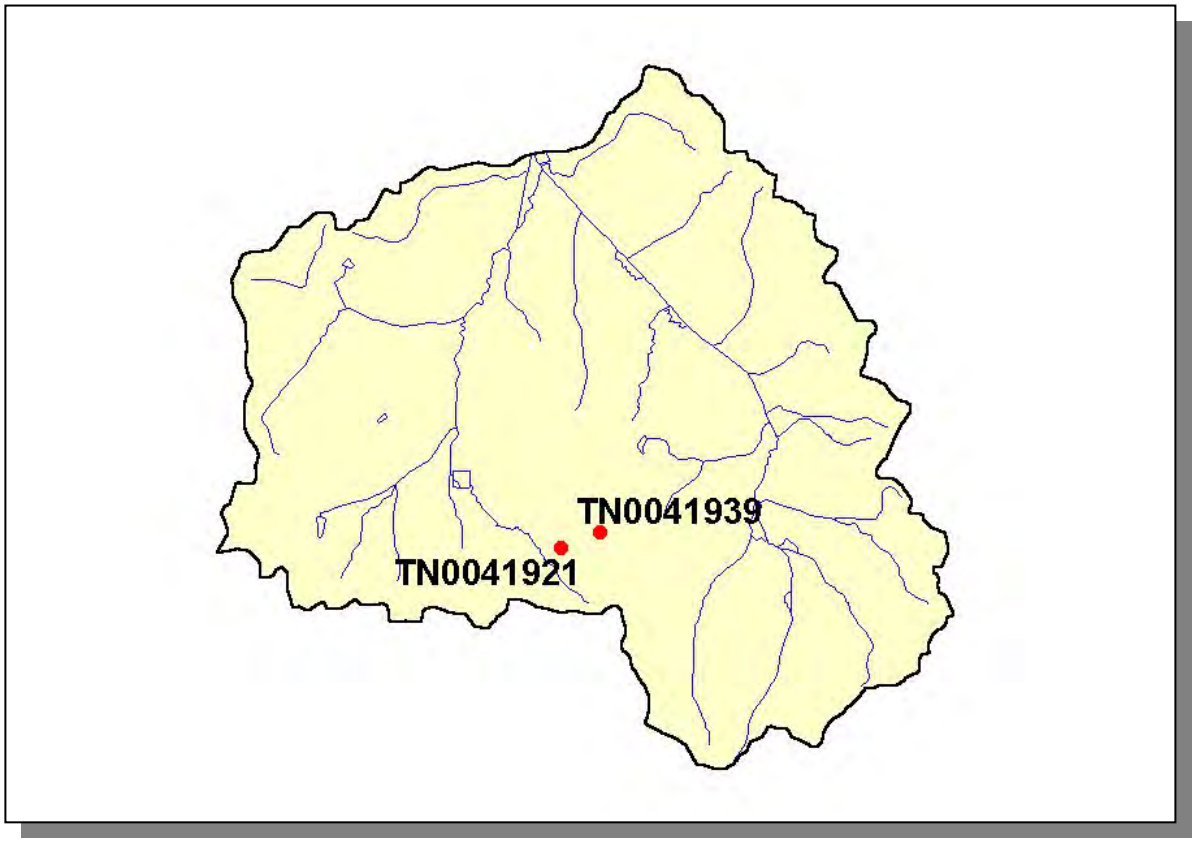

Figure 4-102. Location of NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205200. *The names of facilities are provided in SFFD-Appendix IV.*

PERMIT #	7Q10	1Q20	30Q2	QLTA
TN0041921	0	0	0	0.058
TN0041939	0	0	0	1.373

Table 4-116. Receiving Stream Flow Information for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205200. *Data are in million gallons per day (MGD). Data were calculated using data in Flow Duration and Low Flows of Tennessee Streams Through 1992.*

PERMIT #	$CBOD_5$	METAL	WET
TN0041921			X
TN0041939	X	X	

Table 4-117. Monitoring Requirements for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205200.

PERMIT #	PHTHALATE ESTERS
TN0041939	X

Table 4-118. Parameters Monitored for Daily Maximum (mg/L) Limits for NPDES Dischargers to Waterbodies Listed on the 1998 303(d) List in Subwatershed 08010205200.

PERMIT #	TSS	$CBOD_5$	PHTHALATE ESTERS	BYPASS	DURATION
TN41939	5	3	11	13	01/90-07/99

Table 4-119. Number of Permit Violations Based on DMR Data for NPDES Dischargers to Water Bodies Listed on the 1998 303(d) List in Subwatershed 08010205200.

4.2.T.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Chickens	Hogs	Milk Cow	Sheep
276	499	<5	140	<5	<5

Table 4-120. Summary of Livestock Count Estimates in Subwatershed 08010205200. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Haywood	71.2	71.2	1.7	6.4

Table 4-121. Forest Acreage and Annual Removal Rates (1987-1994) in Subwatershed 08010205200.

CROP	TONS/ACRE/YEAR
Non Agricultural Land Use	0.00
Corn (Row Crops)	7.47
Sorghum (Row Crops)	4.02
Soybeans (Row Crops)	7.10
Cotton (Row Crops)	12.50
Other Vegetable and Truck Crops	4.20
All Other Close Grown Cropland	3.08
Other Cropland not Planted	0.85
Grass (Pastureland)	0.70
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.61
Conservation Reserve Program Land	0.91
Fruit (Horticultural)	0.76
Grass (Hayland)	3.69
Grass, Forbs, Legumes (Mixed Pasture)	0.30
Other Land in Farms (Other Far	0.16

Table 4-122. Annual Estimated Soil Loss in Subwatershed 08010205200.

4.2.U. 08010205210

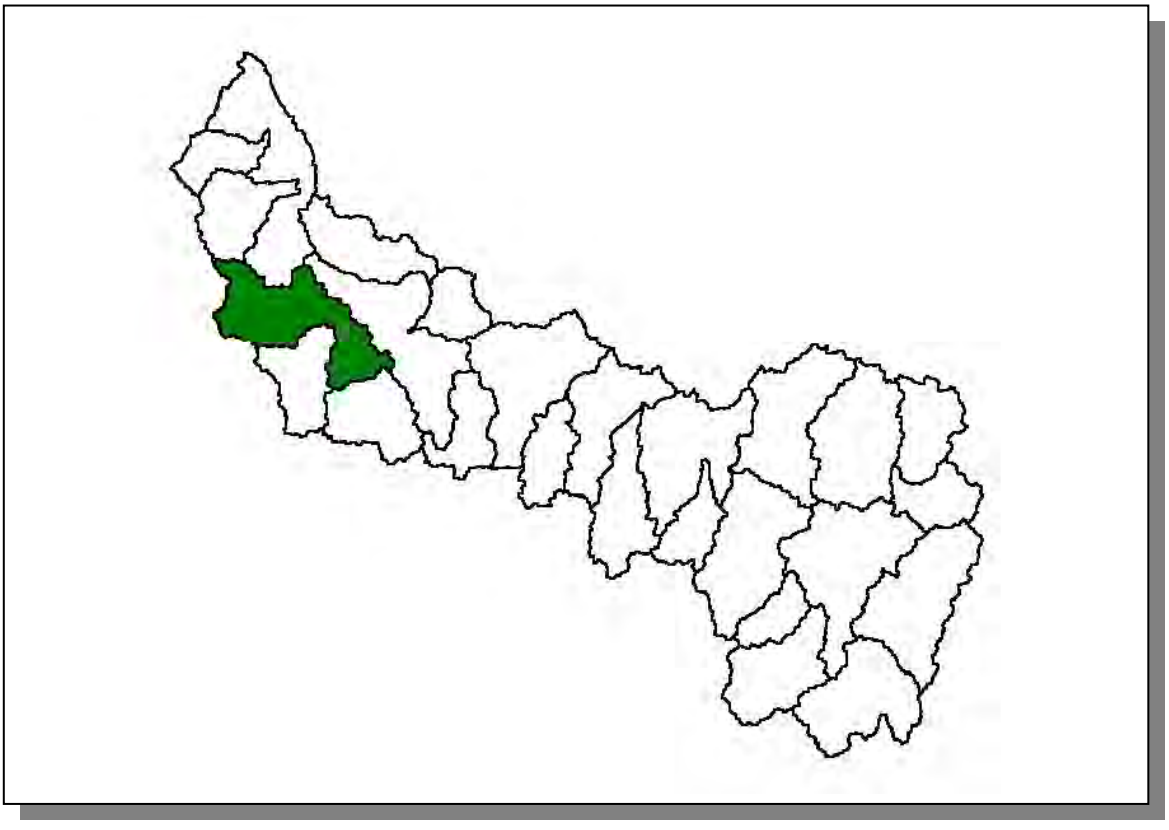

Figure 4-103. Location of Subwatershed 08010205210. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.U.i. General Description.

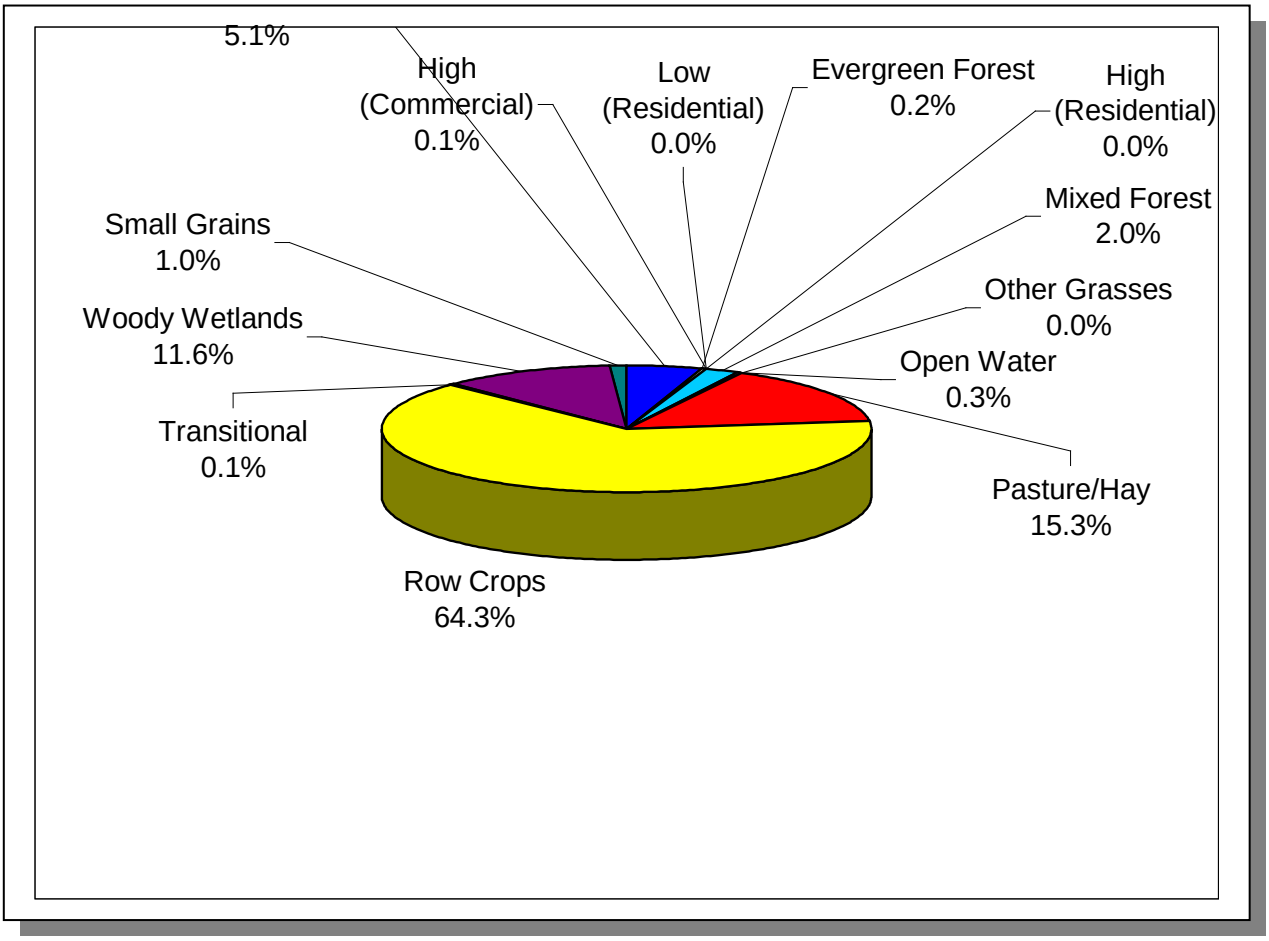

Figure 4-104. Land Use Distribution in Subwatershed 08010205210. *More information is provided in SFFD-Appendix IV.*

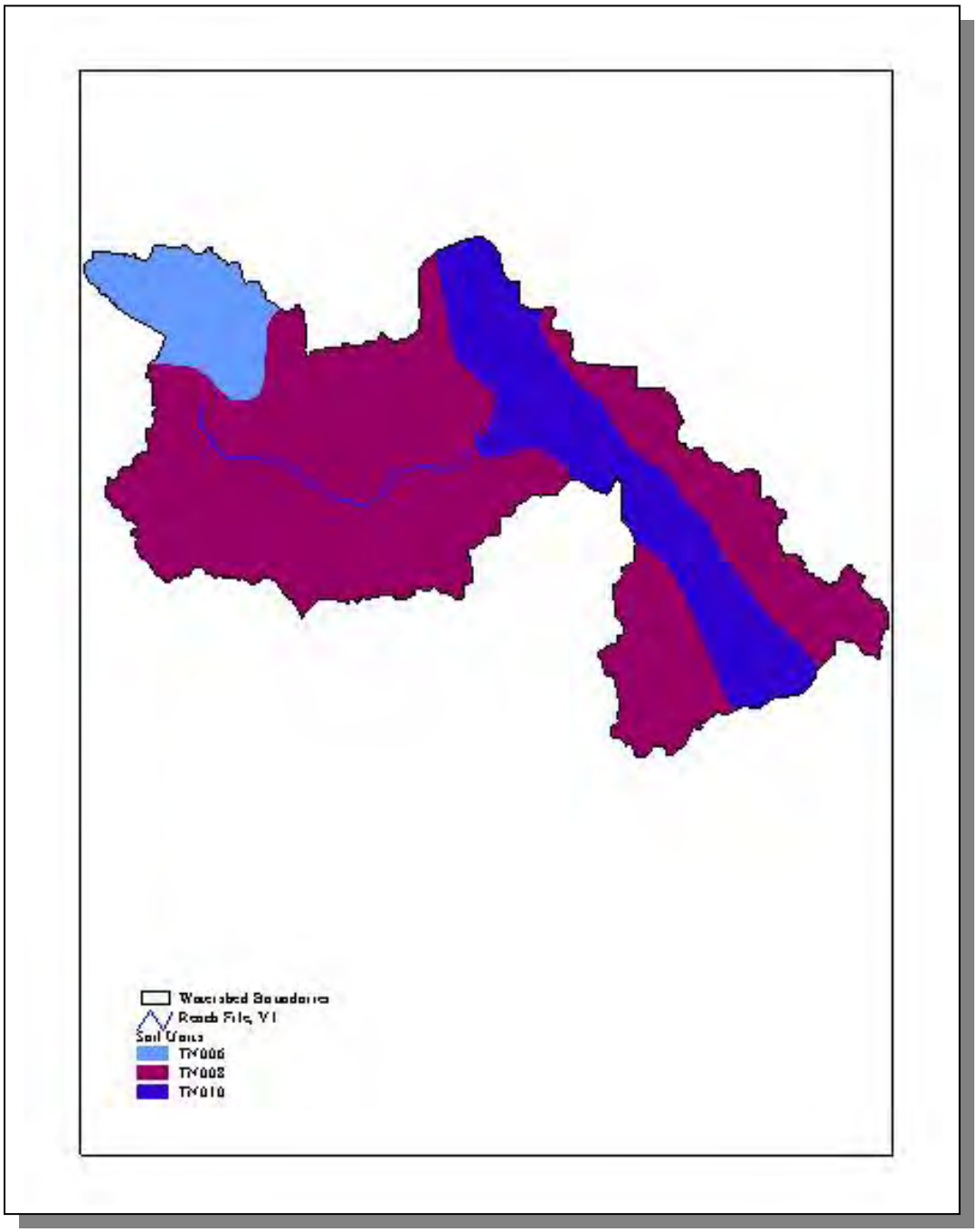

Figure 4-105. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205210.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATE SOIL TEXTURE	SOIL ERODIBILITY
TN006	0.00	C	1.30	5.42	Silty Loam	0.48
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44

Table 4-123. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205210. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Haywood	19,437	19,709	9.9	1,923	1,950	1.4
Lauderdale	23,491	24,128	0.49	115	118	2.6
Totals	**42,928**	**43,837**		**2,038**	**2,068**	**1.5**

Table 4-124. Population Estimates in Subwatershed 08010205210.

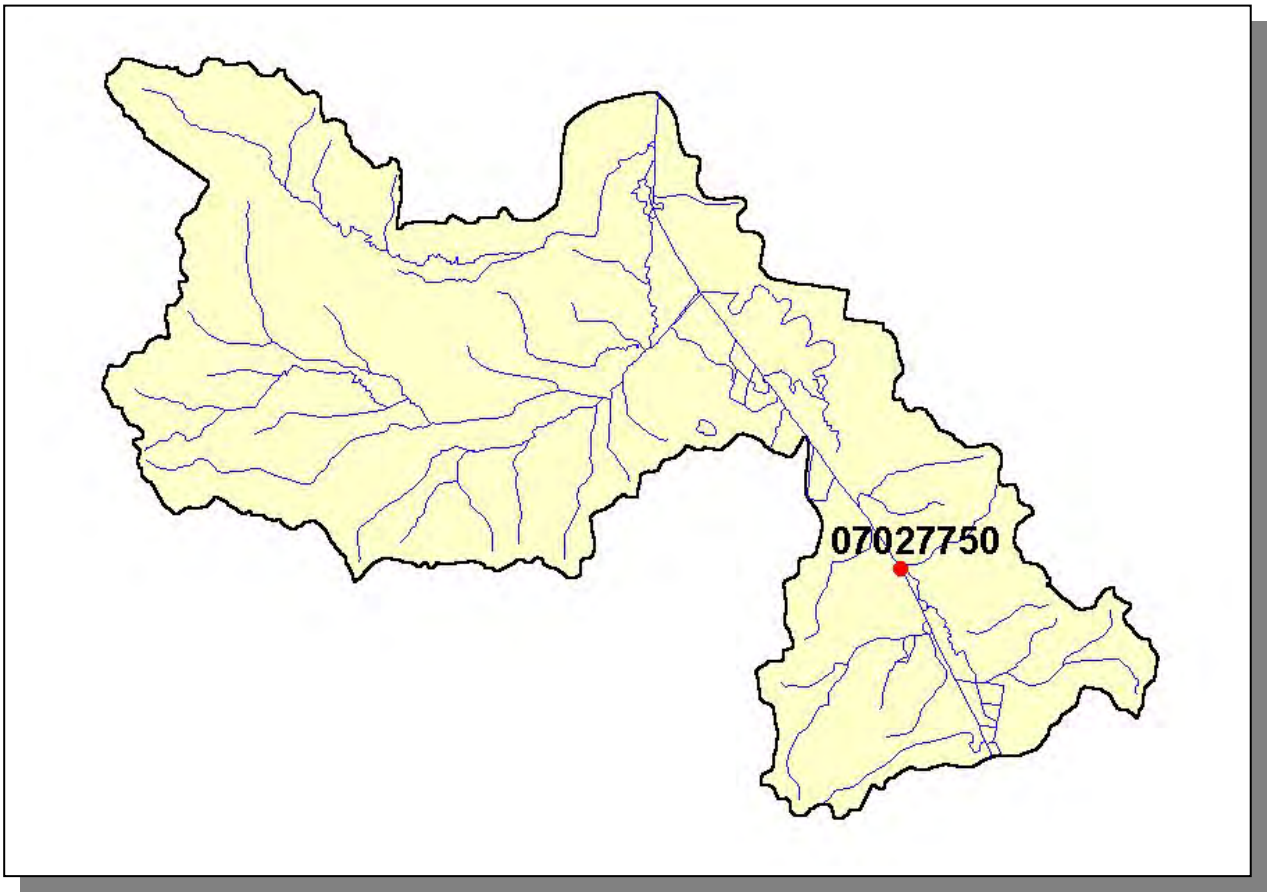

Figure 4-106. Location of Historical Streamflow Data Collection Sites in Subwatershed 08010205210. *More information is provided in SFFD-Appendix IV.*

4.2.U.ii. Point Source Contributions.

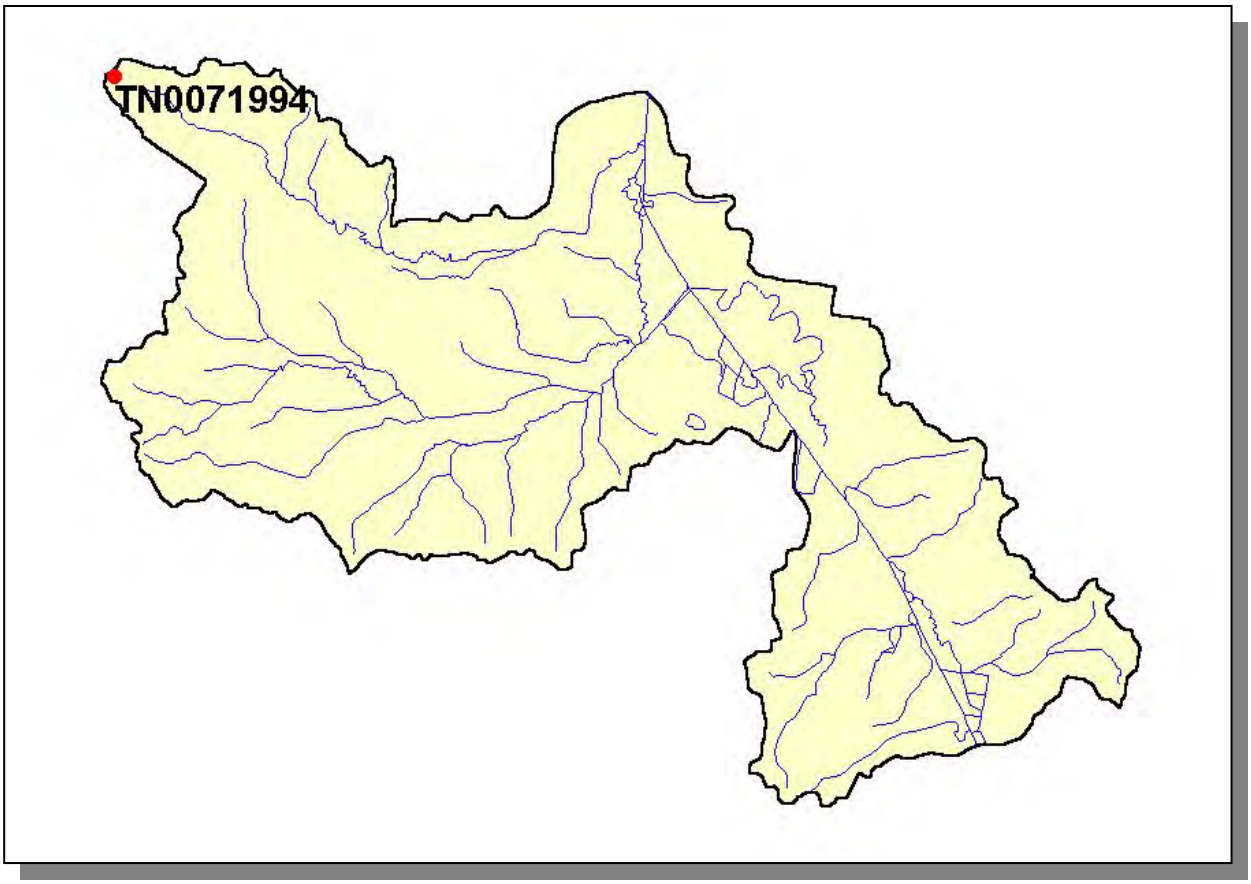

Figure 4-107. Location of Active Mining Sites in Subwatershed 08010205210. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

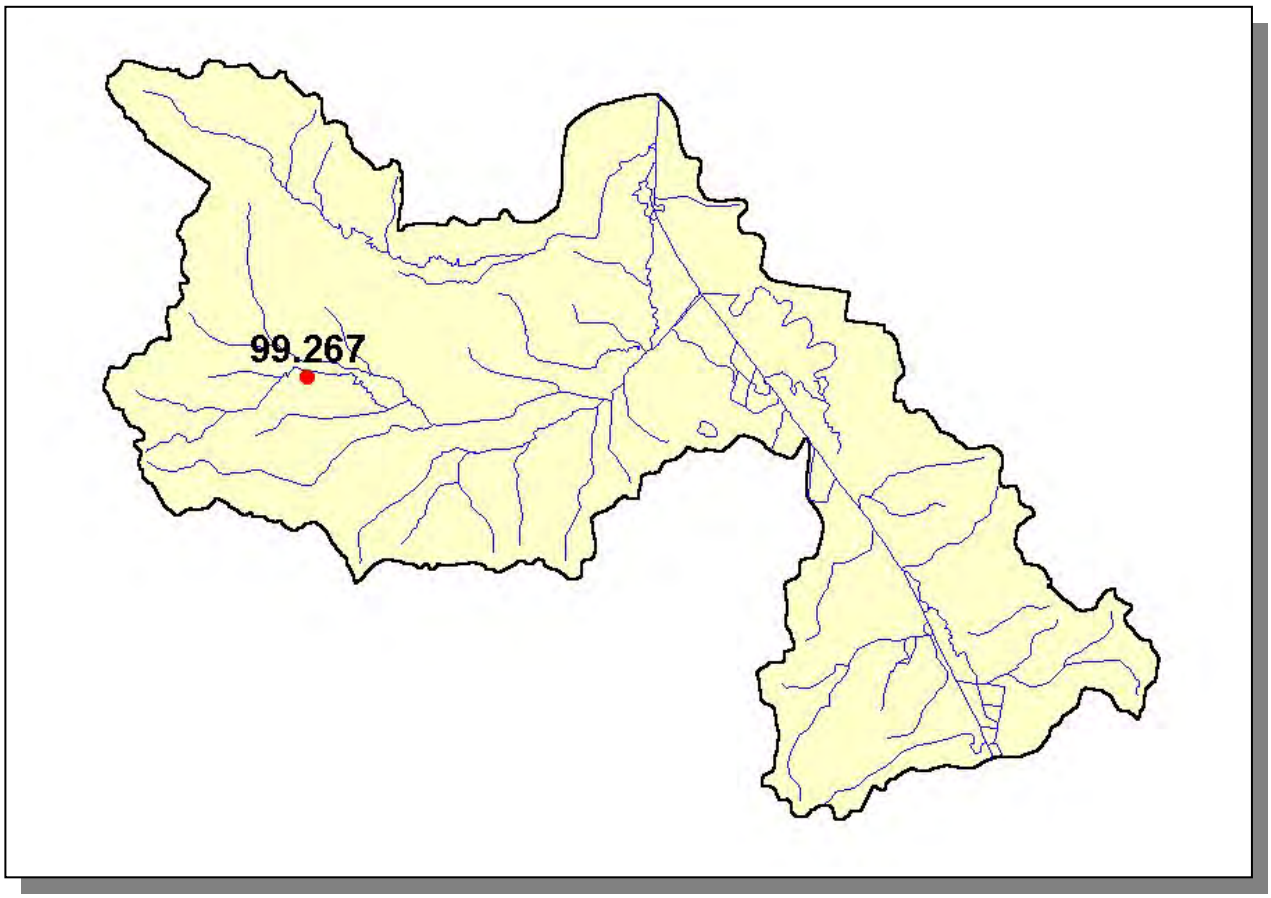

Figure 4-108. Location of ARAP Sites (Individual Permits) in Subwatershed 08010205210.
More information is provided in SFFD-Appendix IV.

4.2.U.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Chickens	Hogs	Milk Cow	Sheep
291	613	<5	171	<5	<5

Table 40-125. Summary of Livestock Count Estimates in Subwatershed 08010205210. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Haywood	71.2	71.2	1.7	6.4
Lauderdale	90	88.8	0.4	1.2
Total	**161.2**	**160.0**	**2.1**	**7.6**

Table 4-126. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 08010205210.

CROPS	TONS/ACRE/YEAR
Non Agricultural Land Use	0.00
Corn (Row Crops)	7.79
Soybeans (Row Crops)	7.38
Cotton (Row Crops)	12.54
Grass (Pastureland)	0.77
Grass, Forbs, Legumes (Mixed Pasture)	0.39
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.59
Other Land in Farms	0.16
Conservation Reserve Program Land	0.95
Other Vegetable and Truck Crops	4.19
Wheat (Close Grown Cropland)	9.27
Grass (Hayland)	3.55
Legume (Hayland)	0.65
Legume Grass (Hayland)	0.58
Summer Fallow (Other Cropland)	8.70
Sorghum (Row Crops)	4.02
All Other Close Grown Cropland	3.08
Other Cropland not Planted	0.85
Fruit (Horticultural)	0.76

Table 4-127. Annual Estimated Total Soil Loss in Subwatershed 08010205210.

4.2.V. 08010205220.

Figure 4-109. Location of Subwatershed 08010205220. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.V.i. General Description.

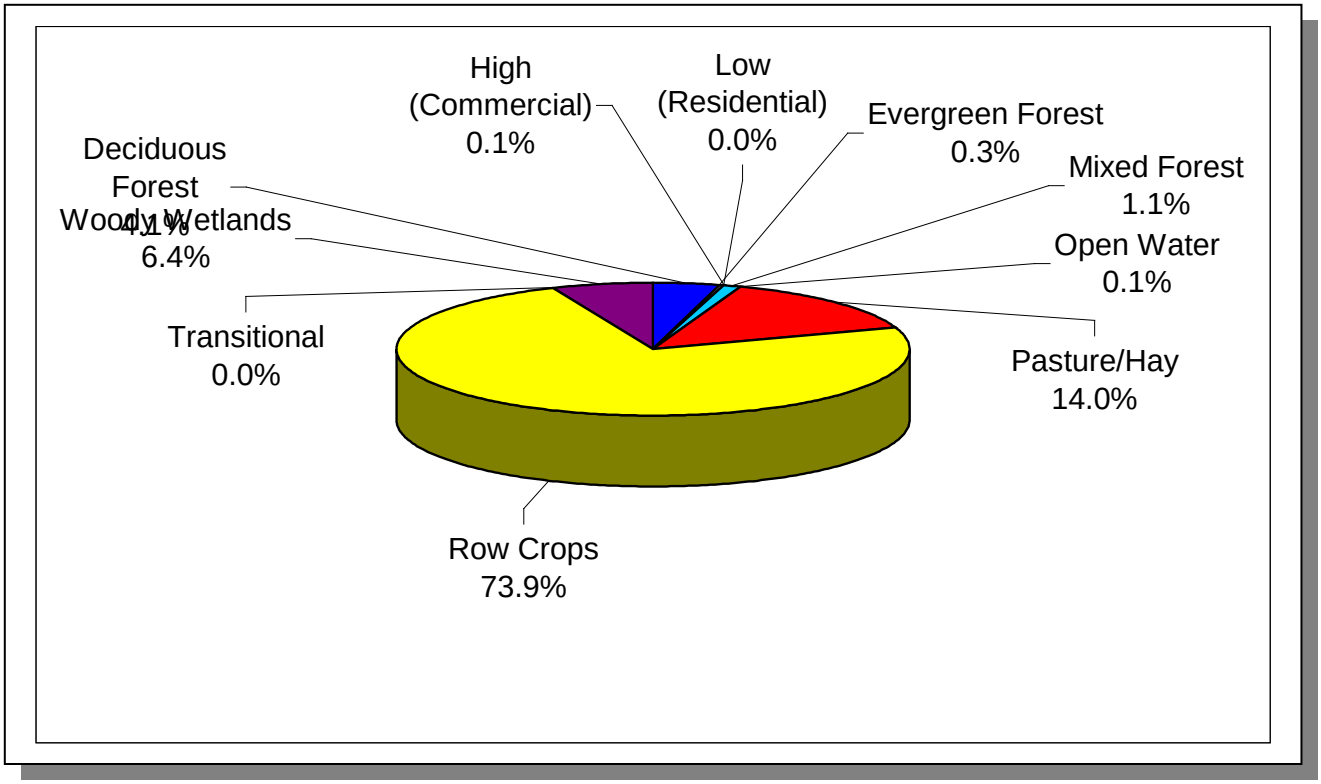

Figure 4-110. Land Use Distribution in Subwatershed 08010205220. *More information is provided in SFFD-Appendix IV.*

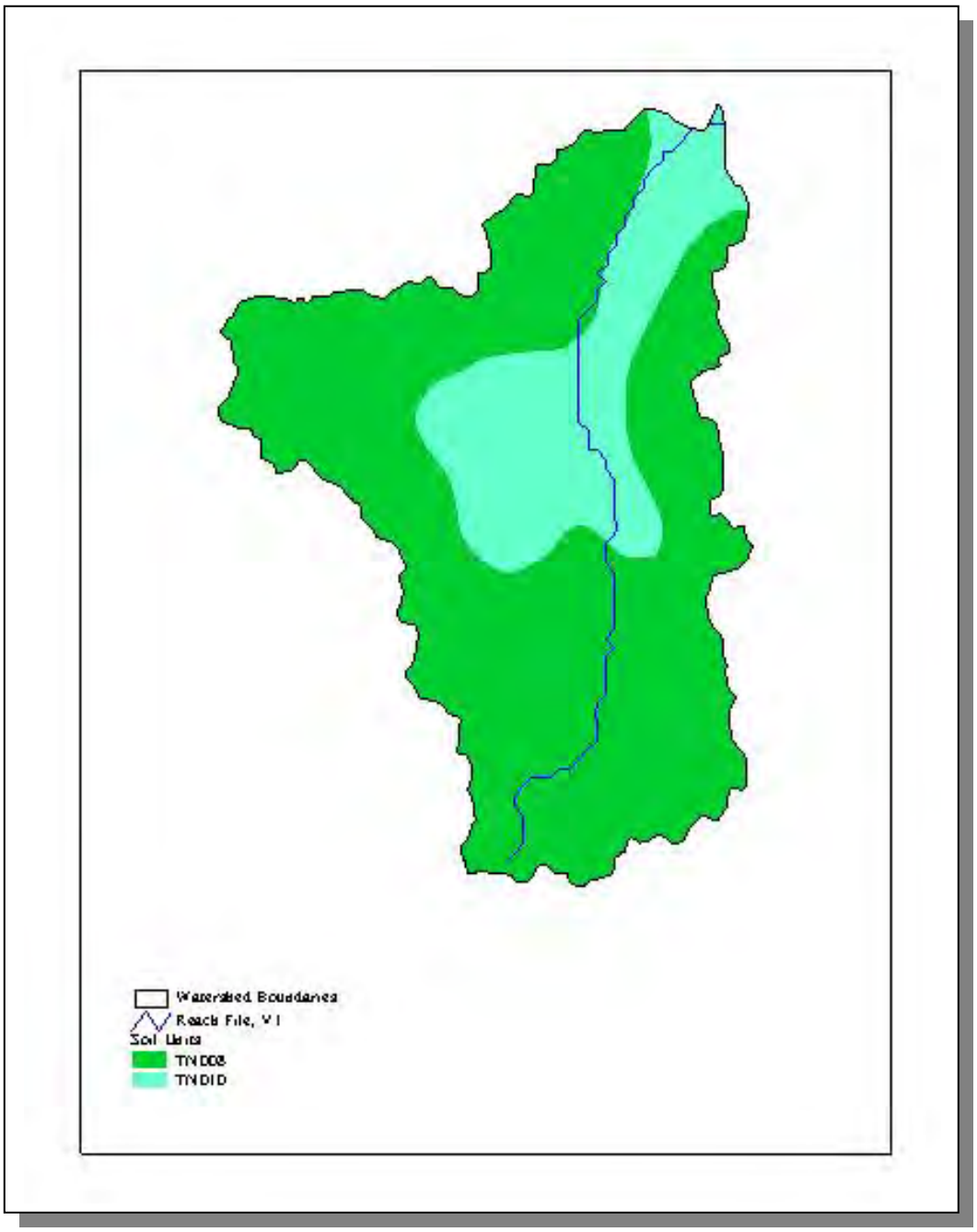

Figure 4-111. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205220.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44

Table 4-128. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205220. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Haywood	19,437	19,709	5.37	1,043	1,058	1.4

Table 4-129. Population Estimates in Subwatershed 08010205220.

4.2.V.ii. Point Source Contributions.

No Contributions.

4.2.V.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)				
Beef Cow	Cattle	Milk Cow	Hogs	Sheep
146	263	1	74	1

Table 4-130. Summary of Livestock Count Estimates in Subwatershed 08010205220. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Haywood	71.2	71.2	1.7	6.4

Table 4-131. Forest Acreage and Average Removal Rates (1987-1994) in Subwatershed 08010205220.

CROP	TONS/ACRE/YEAR
Non Agricultural Land Use	0.00
Corn (Row Crops)	7.47
Sorghum (Row Crops)	4.02
Soybeans (Row Crops)	7.10
Cotton (Row Crops)	12.50
Other Vegetable and Truck Crops	4.20
All Other Close Grown Cropland	3.08
Other Cropland not Planted	0.85
Grass (Pastureland)	0.70
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.61
Conservation Reserve Program Land	0.91
Fruit (Horticultural)	0.76
Grass (Hayland)	3.69
Grass, Forbs, Legumes (Mixed Pasture)	0.30
Other Land in Farms	0.16

Table 4-132. Annual Estimated Total Soil Loss in Subwatershed 08010205220.

4.2.W. 08010208230.

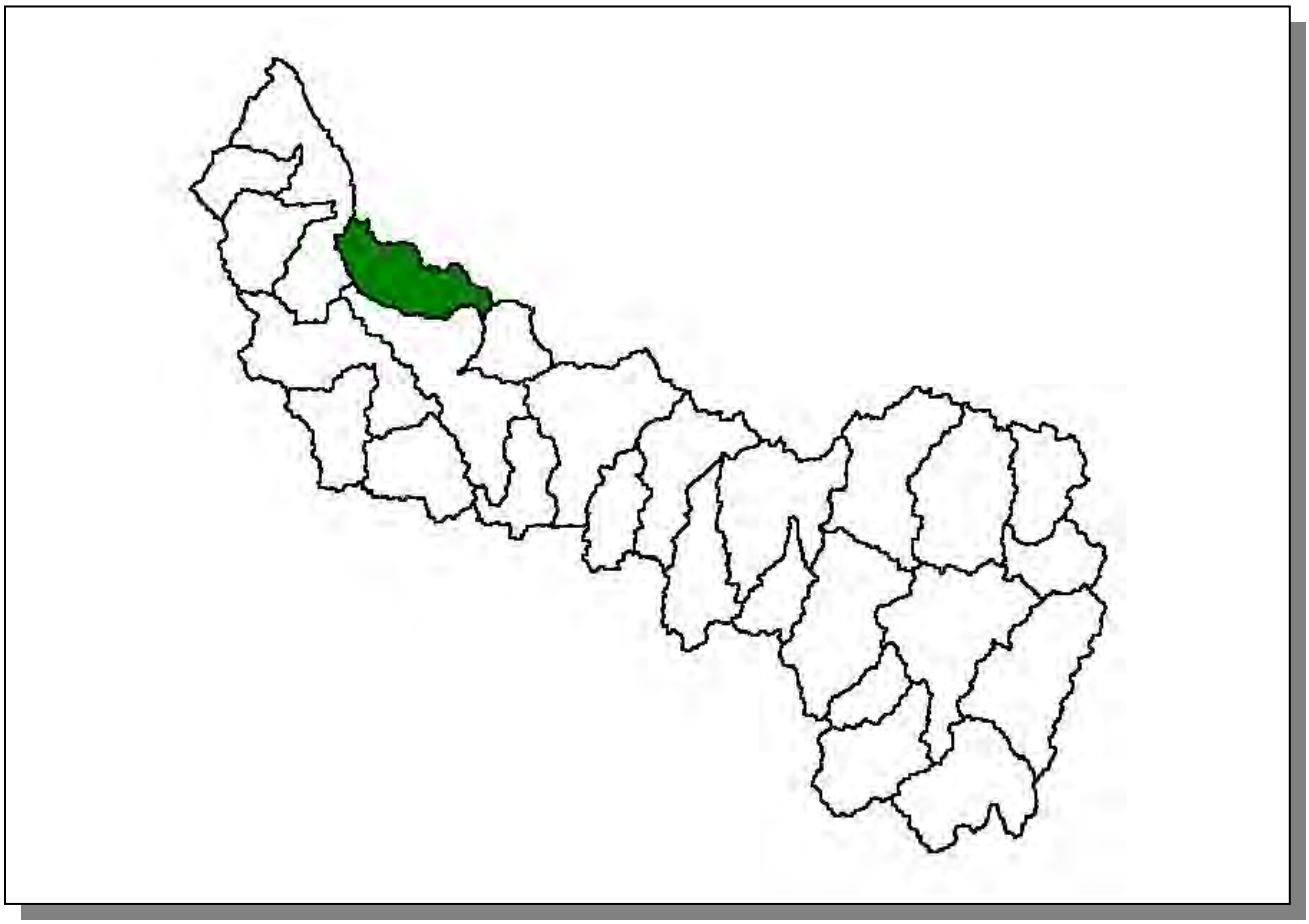

Figure 4-112. Location of Subwatershed 08010205230. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.W.i. General Description.

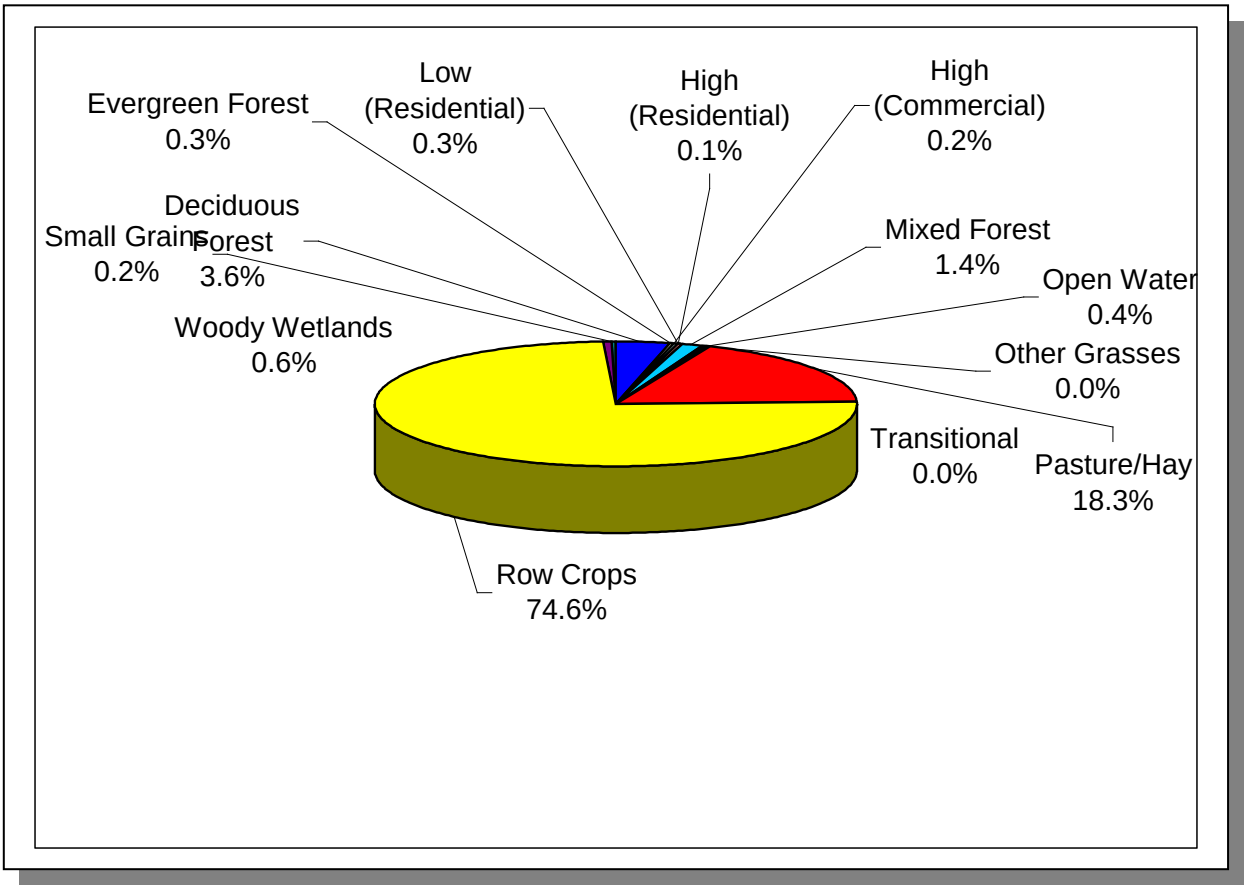

Figure 4-113. Land Use Distribution in Subwatershed 08010205230. *More information is provided in SFFD-Appendix IV.*

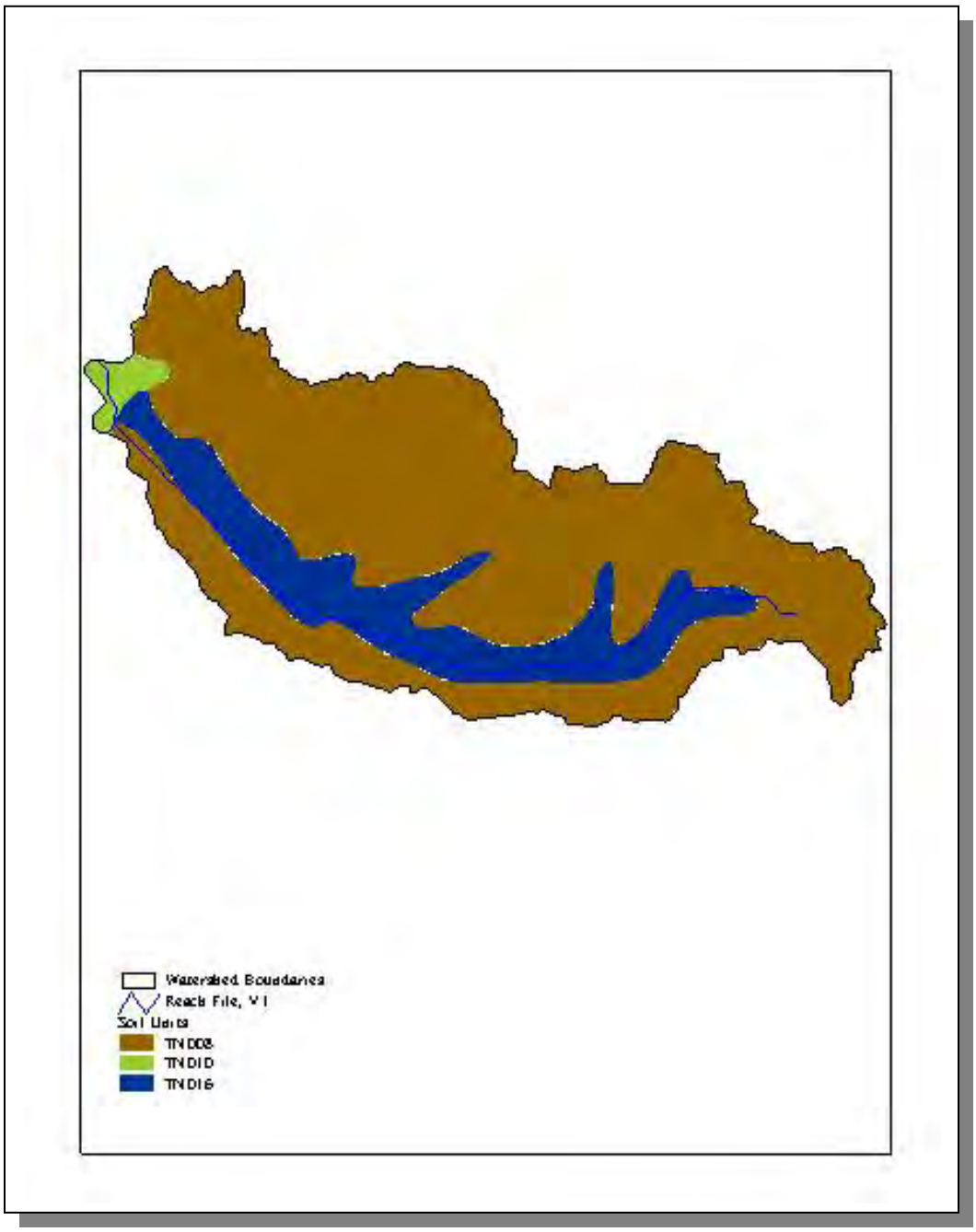

Figure 4-114. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205230.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN016	0.00	C	1.30	6.47	Silty Loam	0.44

Table 4-133. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205230. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Crockett	13,378	13,841	13.01	1,740	1,801	3.5

Table 4-134. Population Estimates in Subwatershed 08010205230.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Maury City	Crockett	781	318	22	288	8

Table 4-135. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205230.

4.2.W.ii. Point Source Contributions.

No Contribution.

4.2.W.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)				
Beef Cow	Cattle	Milk Cow	Chickens	Sheep
362	630	<5	<5	<5

Table 4-136. Summary of Livestock Count Estimates in Subwatershed 08010205230. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Crockett	15.1	15.1	0.3	1.6

Table 4-137. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 08010205230.

CROP	TONS/ACRE/YEAR
Corn (Row Crops)	3.47
Soybeans (Row Crops)	14.32
Cotton (Row Crops)	13.33
Grass (Hayland)	0.31
Grass (Pastureland)	0.70
Grass, Forbs, Legumes (Mixed Pasture)	0.20
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.24
Other Land in Farms	0.15
Conservation Reserve Program Land	0.62
Forest Land (Grazed)	0.00

Table 4-138. Annual Estimated Total Soil Loss in Subwatershed 08010205230.

4.2.X. 08010205240.

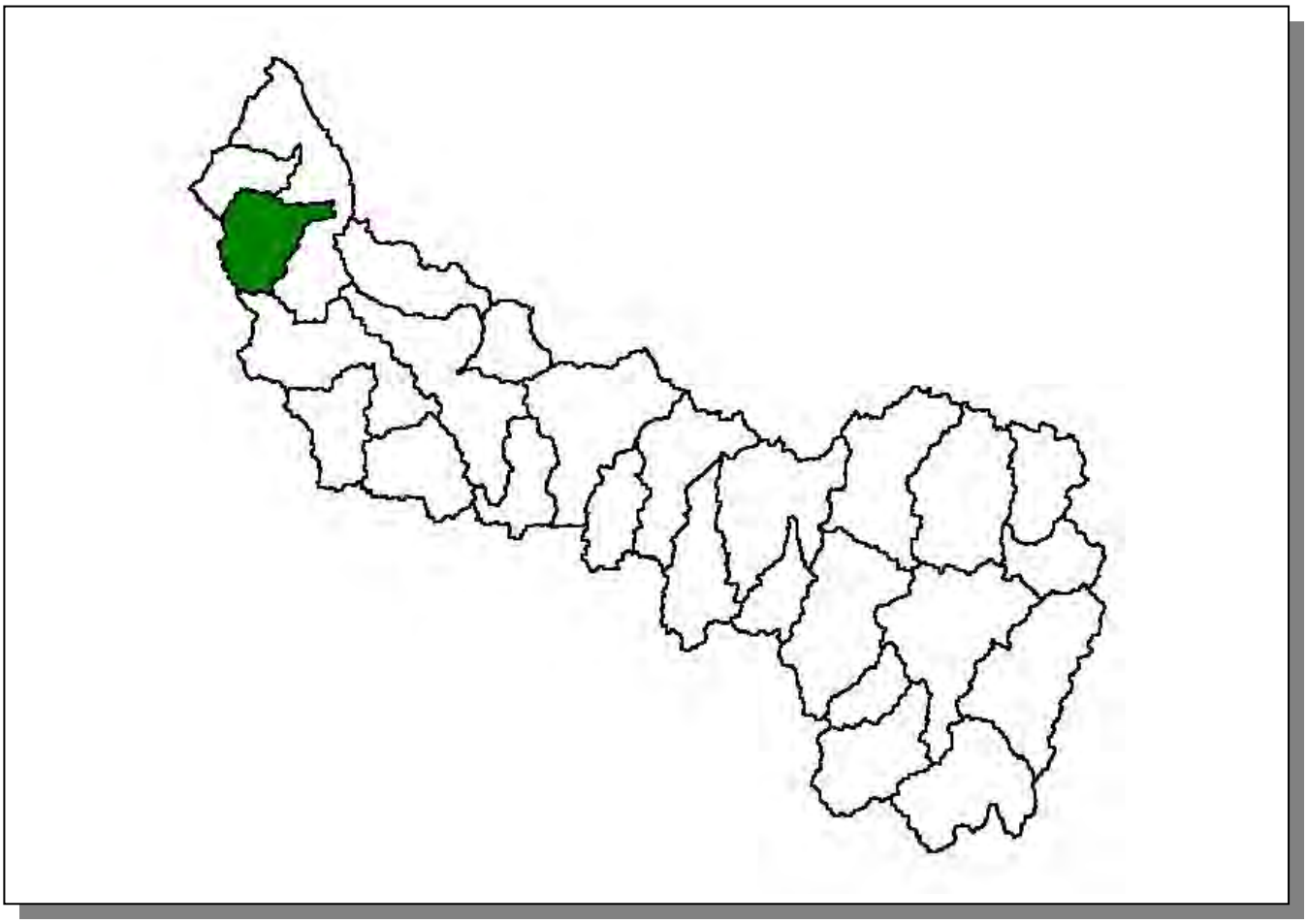

Figure 4-115. Location of Subwatershed 08010205240. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.X.i. General Description.

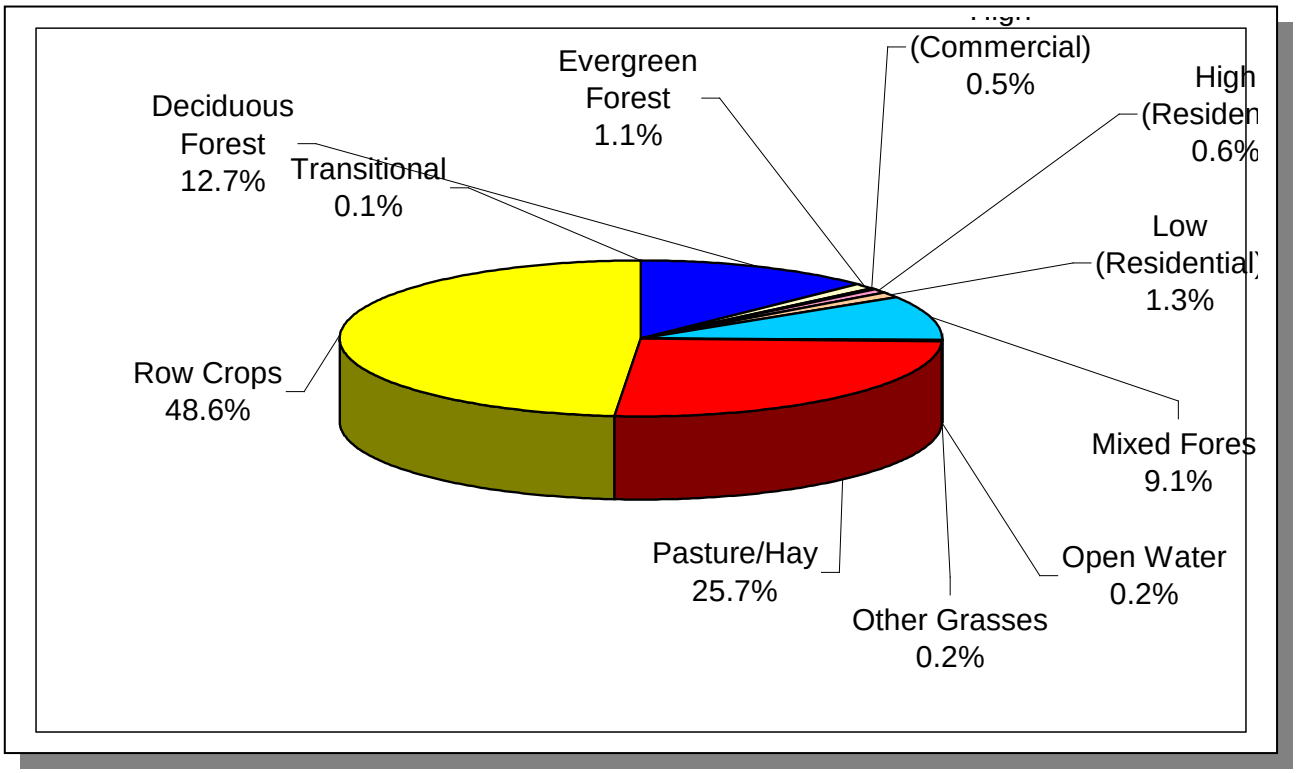

Figure 4-116. Land Use Distribution in Subwatershed 08010205240. *More information is provided in SFFD-Appendix IV.*

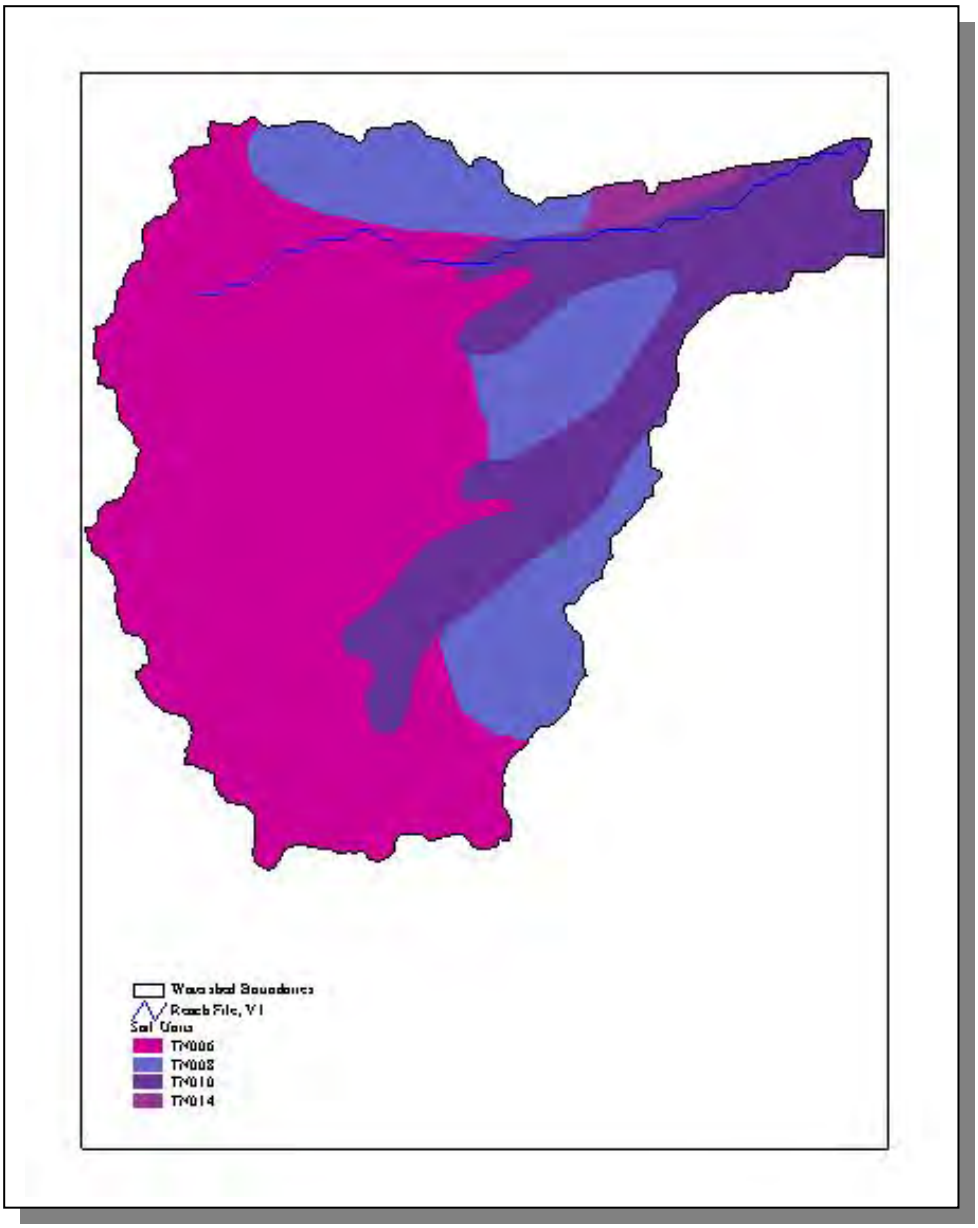

Figure 4-117. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205240.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN006	0.00	C	1.30	5.42	Silty Loam	0.48
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN014	30.00	C	1.30	5.12	Silty Loam	0.47

Table 4-139. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205240. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Haywood	19,437	19,709	0.1	20	20	0.0
Lauderdale	23,491	24,128	5.92	1,392	1,429	2.7
Totals	**42,928**	**43,837**		**1,412**	**1,449**	**2.6**

Table 4-140. Population Estimates in Subwatershed 08010205240.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Gates	Lauderdale	597	234	219	13	2
Halls	Lauderdale	2,429	1,052	973	71	8
Totals		**3,026**	**1,286**	**1,192**	**84**	**10**

Table 4-141. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205240.

4.2.X.ii. Point Source Contributions.

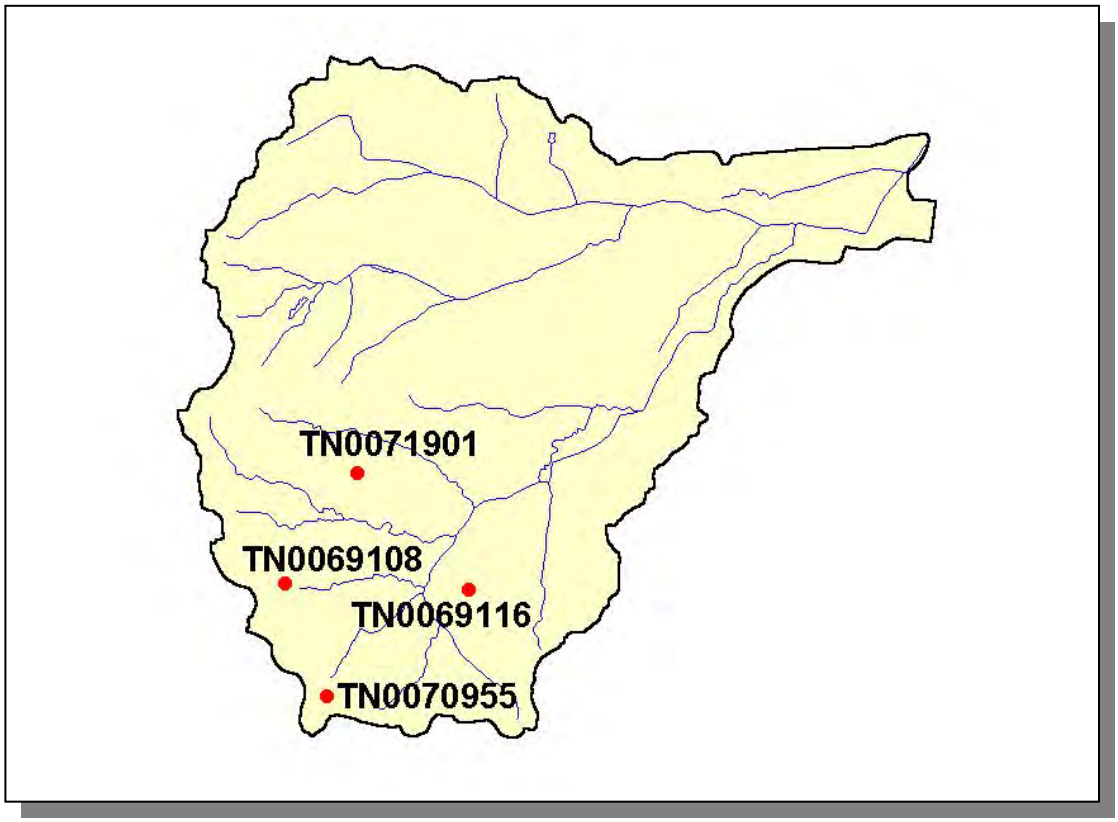

Figure 4-118. Location of Active Mining Sites in Subwatershed 08010205240. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

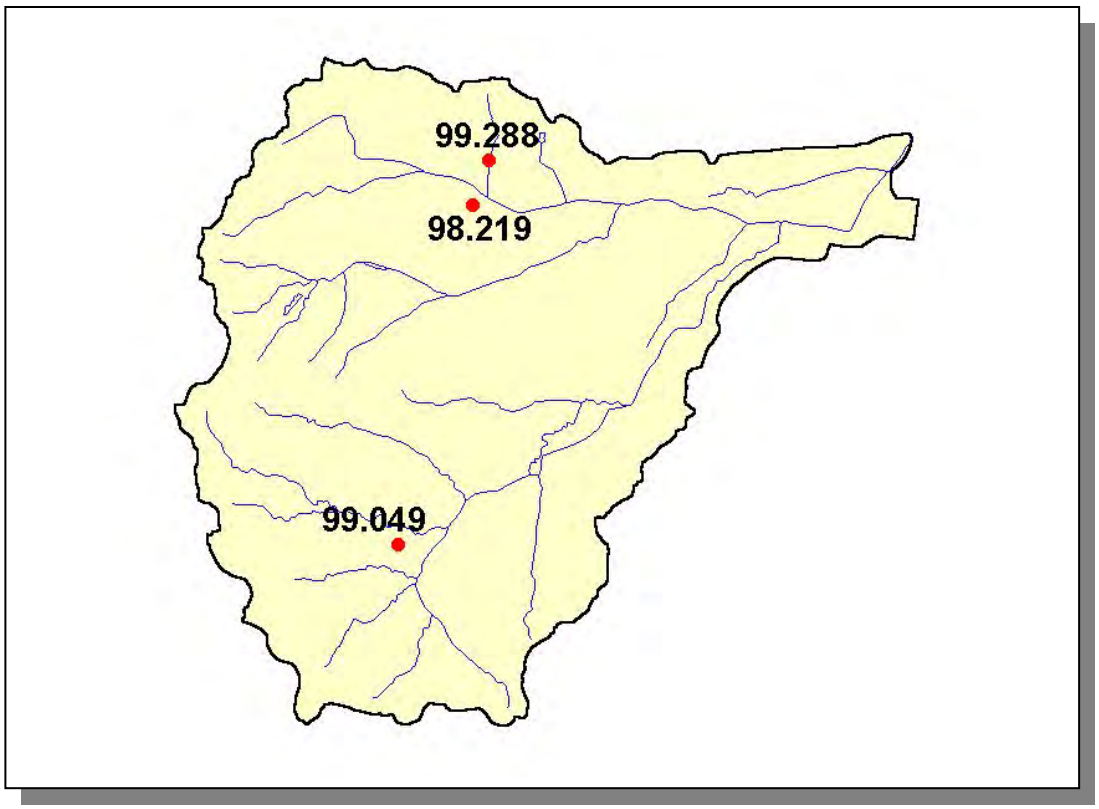

Figure 4-119. Location of ARAP Sites (Individual Permits) in Subwatershed 08010205240.
More information is provided in SFFD-Appendix IV.

4.2.X.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)				
Beef Cow	Cattle	Chickens	Hogs	Sheep
5	1,333	<5	359	<5

Table 4-142. Summary of Livestock Count Estimates in Subwatershed 08010205240. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Haywood	71.2	71.2	1.7	6.4
Lauderdale	90	88.8	0.4	1.2
Totals	**161.2**	**160.0**	**2.1**	**7.6**

Table 4-143. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 08010205240.

CROP	TONS/ACRE/YEAR
Non Agricultural Land Use	0.00
Corn (Row Crops)	14.64
Soybeans (Row Crops)	13.39
Cotton (Row Crops)	13.51
Grass (Pastureland)	2.24
Grass, Forbs, Legumes (Mixed Pasture)	2.37
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.10
Other Land in Farms	0.05
Conservation Reserve Program Land	1.77
Other Vegetable and Truck Crop	4.00
Wheat (Close Grown Cropland)	9.27
Grass (Hayland)	0.43
Legume (Hayland)	0.65
Legume Grass (Hayland)	0.58
Summer Fallow (Other Cropland)	8.70
Sorghum (Row Crops)	4.02
All Other Close Grown Cropland	3.08
Other Cropland not Planted	0.85
Fruit (Horticultural)	0.76

Table 4-144. Annual Estimated Total Soil Loss in Subwatershed 08010205240.

4.2.Y. 08010205250.

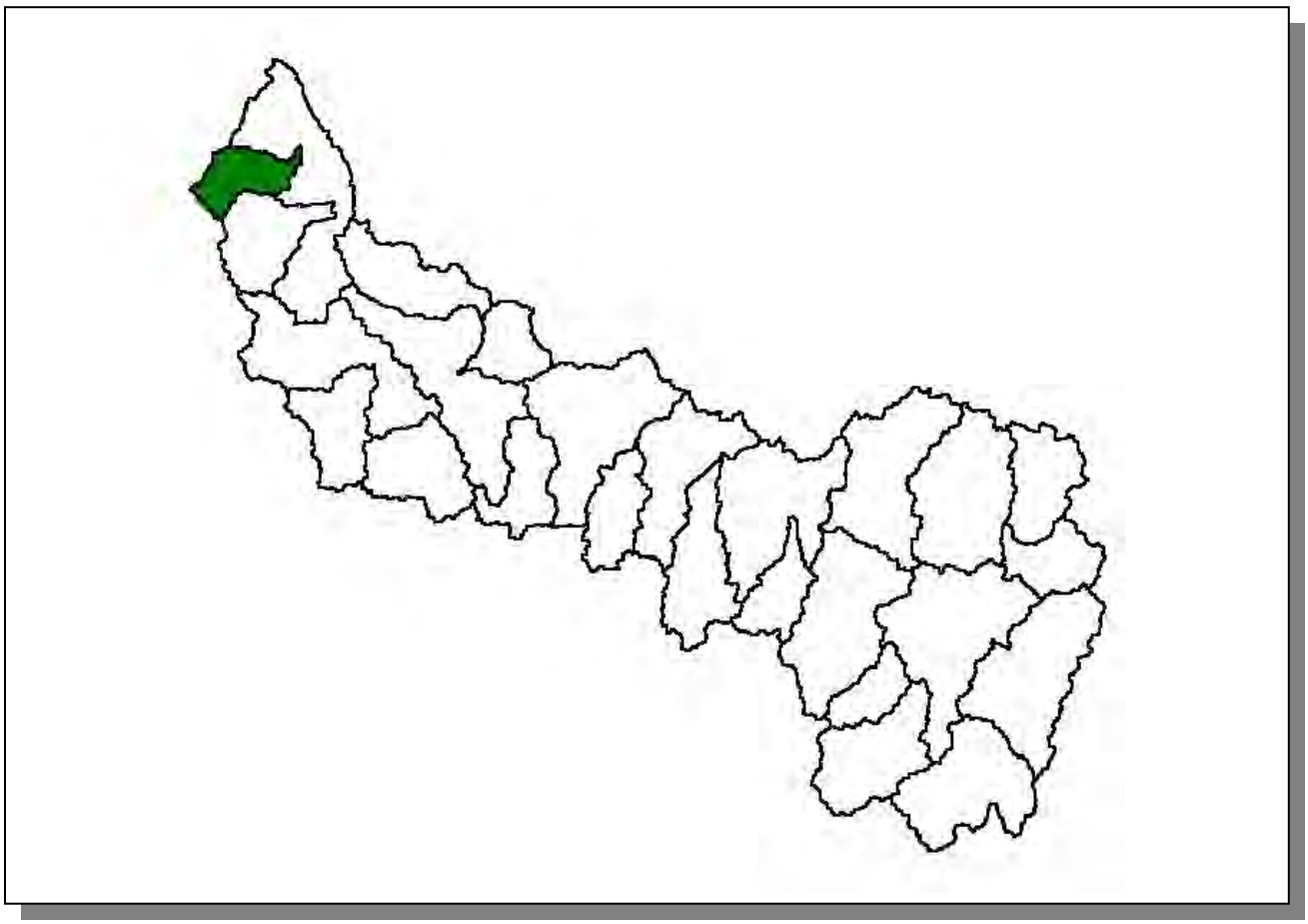

Figure 4-120. Location of Subwatershed 08010205250. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.Y.i. General Description.

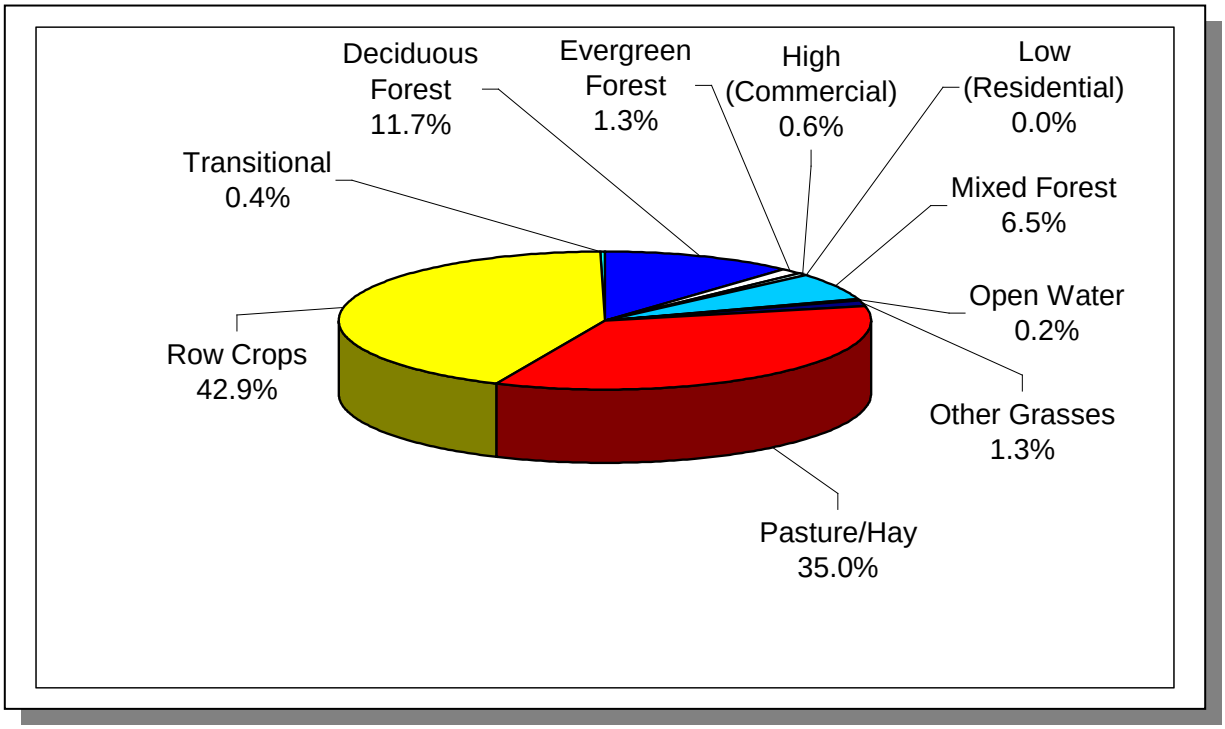

Figure 4-121. Land Use Distribution in Subwatershed 08010205250. *More information is provided in SFFD-Appendix IV.*

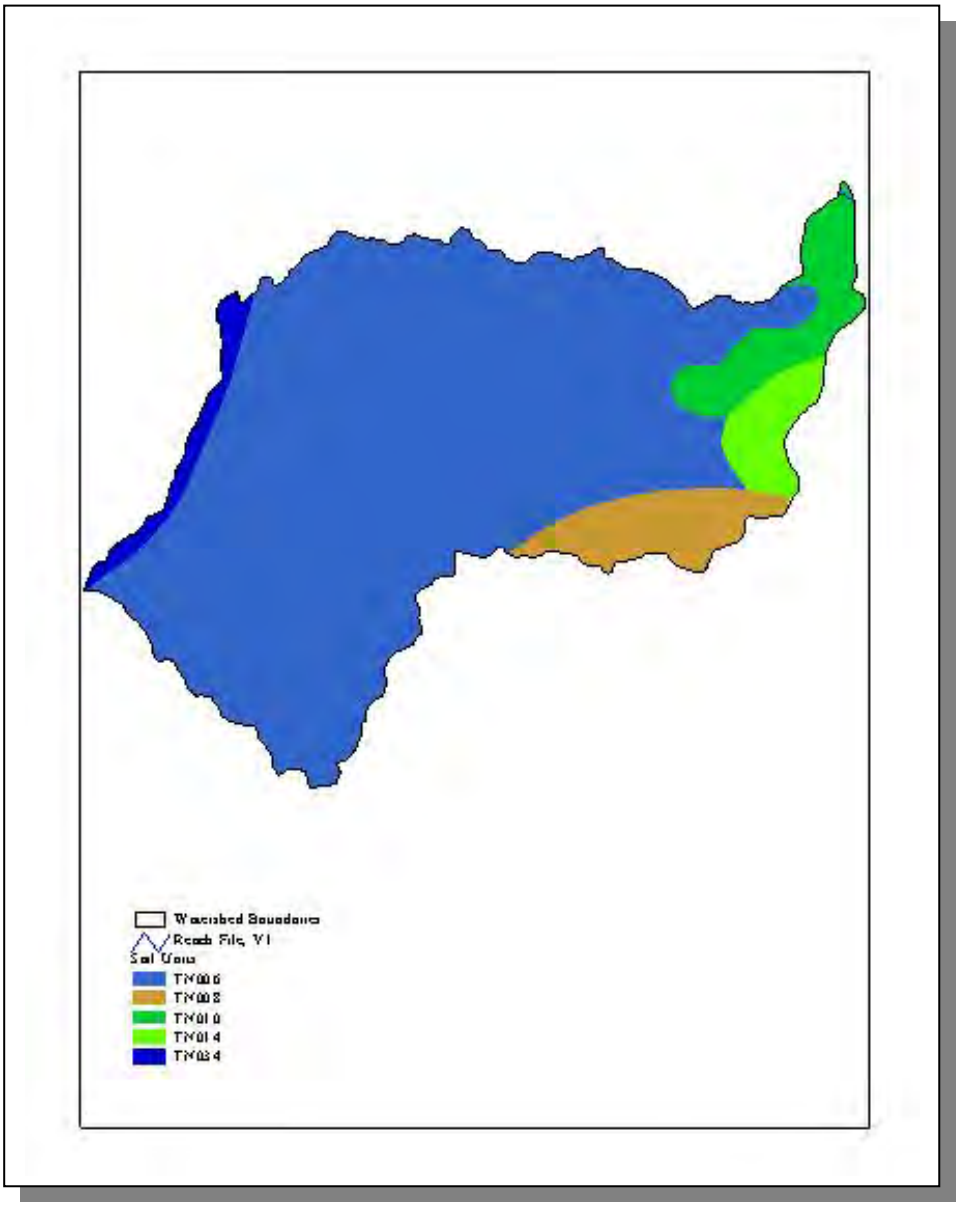

Figure 4-122. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205250.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN006	0.00	C	1.30	5.42	Silty Loam	0.48
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN014	30.00	C	1.30	5.12	Silty Loam	0.47
TN034	36.00	D	0.48	6.07	Silty Clayey Loam	0.35

Table 4-145. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205250. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Lauderdale	23,491	24,128	3.75	882	906	2.7

Table 4-146. Population Estimates in Subwatershed 08010205250.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Halls	Lauderdale	2429	1,052	973	71	8

Table 4-147. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205250.

4.2.Y.ii. Point Source Contributions.

No contributions.

4.2.Y.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)			
Cattle	Chickens	Hogs	Sheep
1,143	<5	308	<5

Table 4-148. Summary of Livestock Count Estimates in Subwatershed 06010208250. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

CROP	TONS/ACRE/YEAR
Grass (Pastureland)	0.43
Forest Land (Not Grazed)	0.00
Non Agricultural Land Use	0.00
Grass, Forbs, Legumes (Mixed Pasture)	0.11
Forest Land (Grazed)	0.00
Farmsteads and Ranch Headquarters	0.04
Corn (Row Crops)	7.18
Grass (Hayland)	0.77
Legume Grass (Hayland)	0.22
Tobacco (Row Crops)	1.62
Other Vegetable and Truck Crops	12.06
Legume (Hayland)	1.07
Other Land in Farms	0.23

Table 4-149. Annual Estimated Total Soil Loss in Subwatershed 06010208250.

4.2.Z. 08010205260.

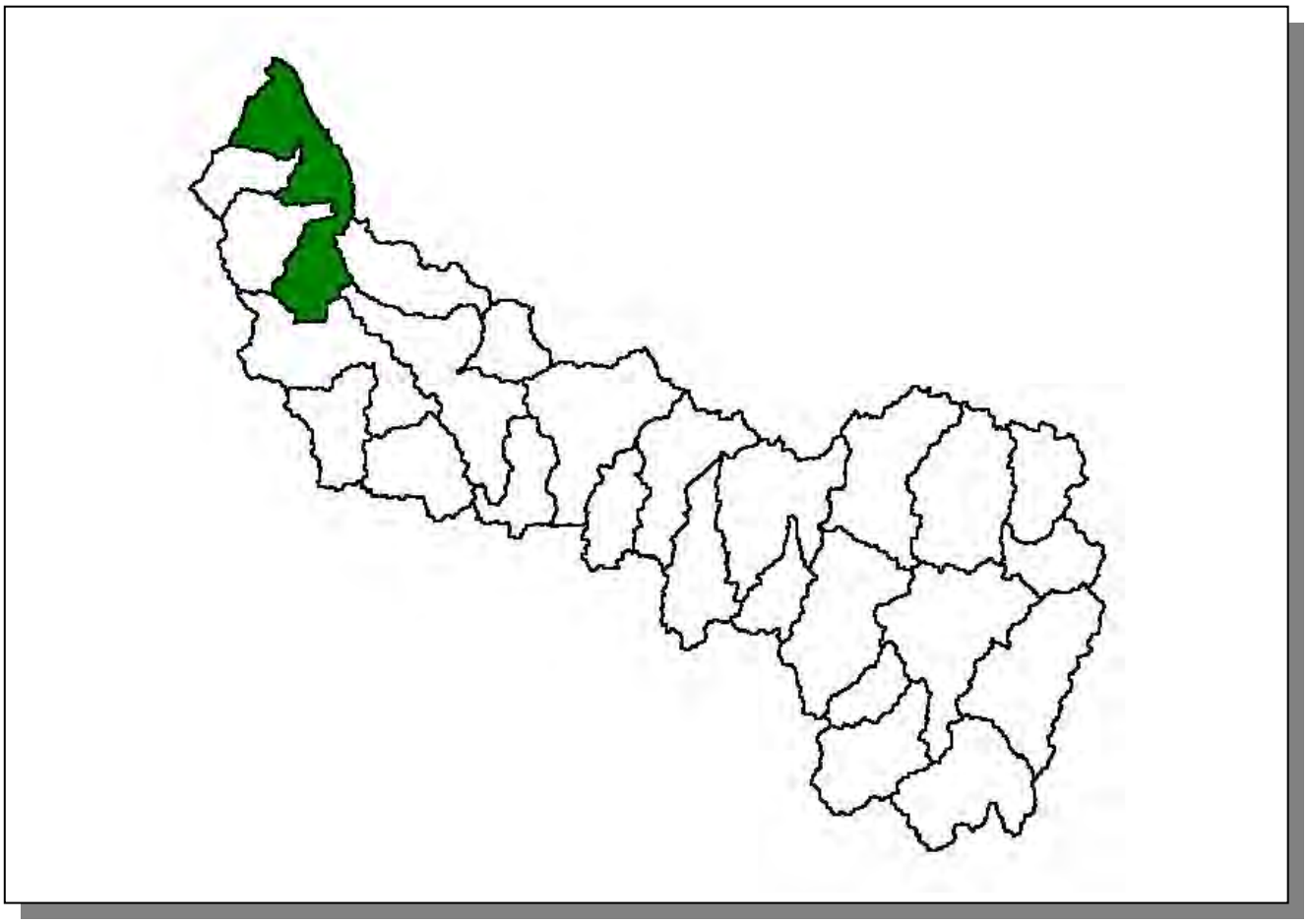

Figure 4-123. Location of Subwatershed 08010205260. *All South Fork Forked Deer HUC-14 subwatershed boundaries are shown for reference.*

4.2.Z.i. General Description.

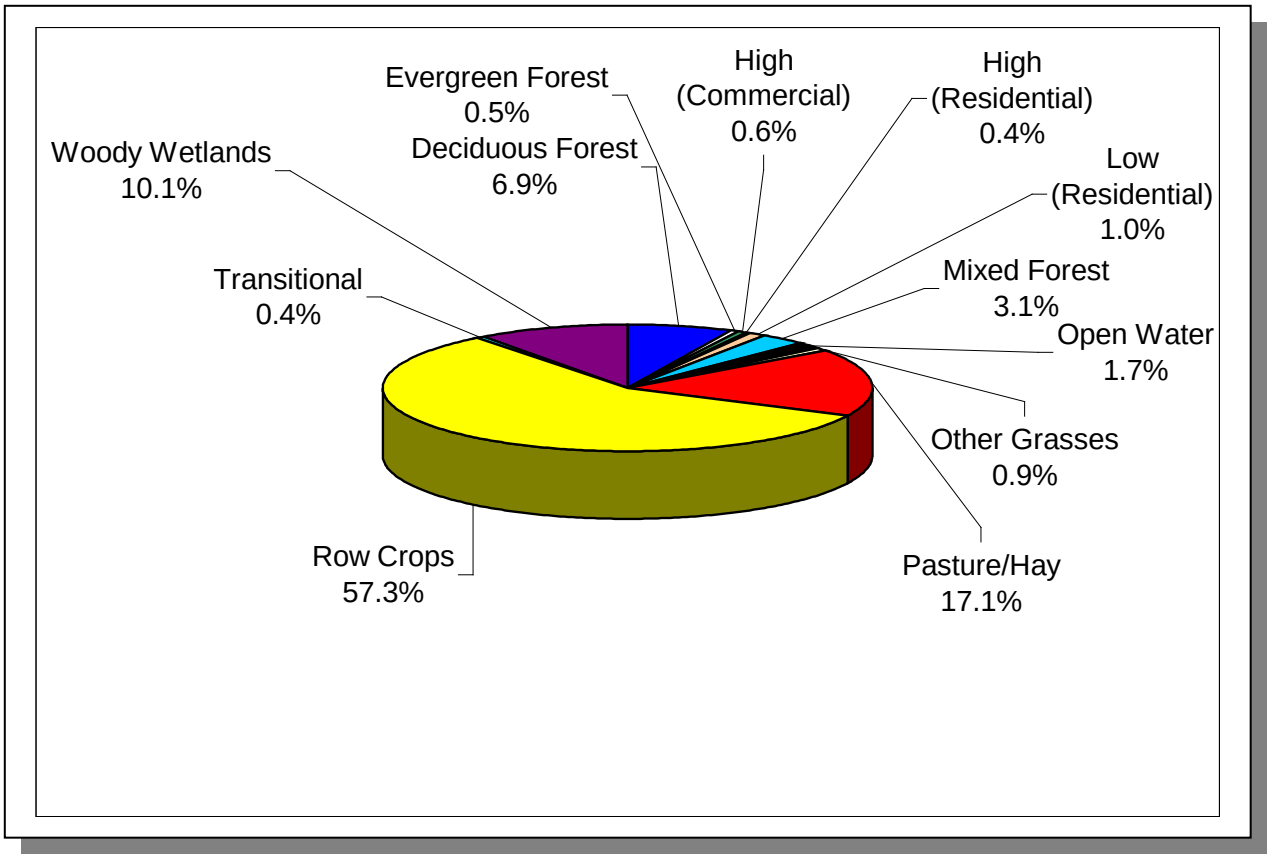

Figure 4-124. Land Use Distribution in Subwatershed 08010205260. *More information is provided in SFFD-Appendix IV.*

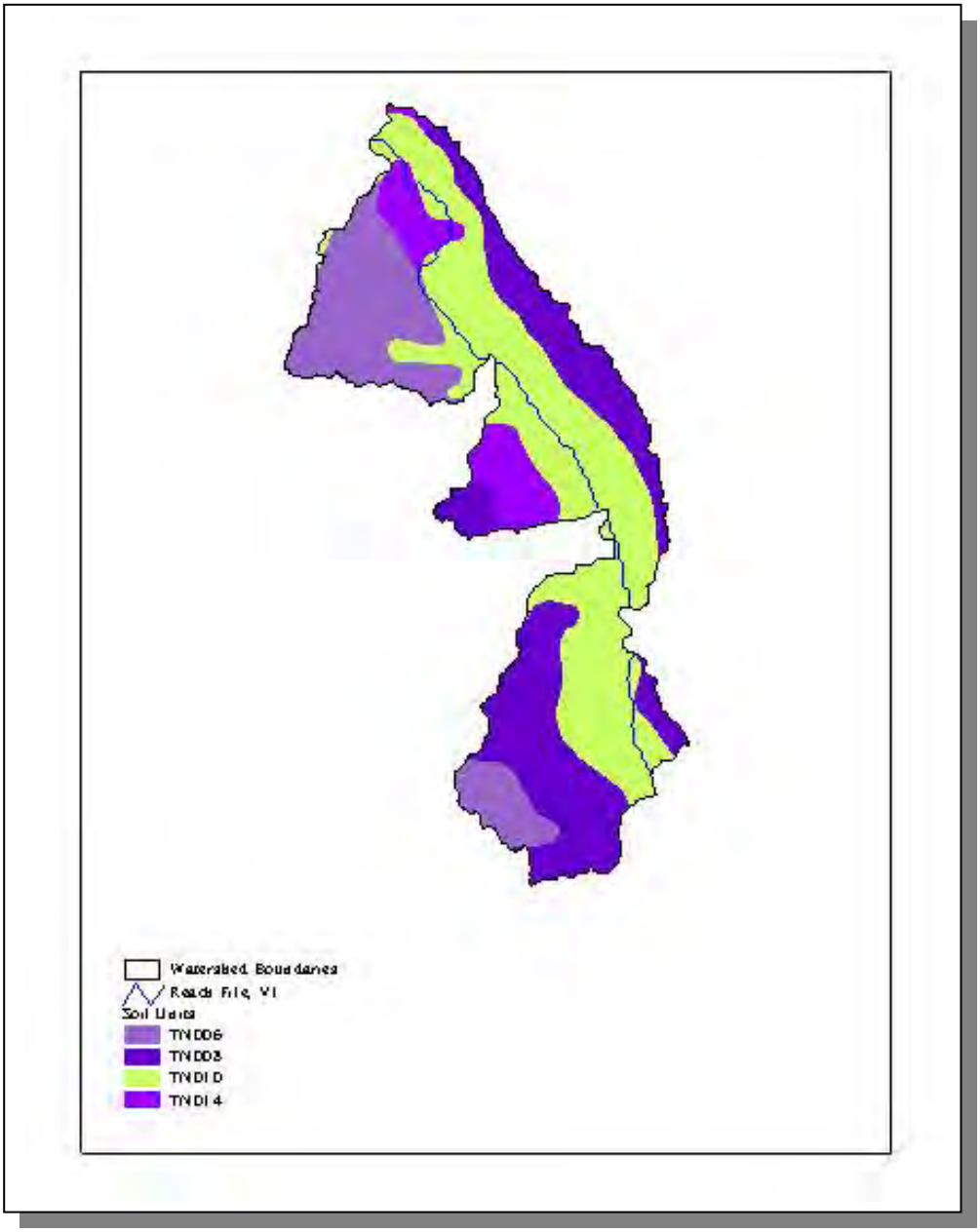

Figure 4-125. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205260.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN006	0.00	C	1.30	5.42	Silty Loam	0.48
TN008	2.00	C	1.38	5.20	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN014	30.00	C	1.30	5.12	Silty Loam	0.47

Table 4-150. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 08010205260. *More information is provided in SFFD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		% CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Crockett	13,378	13,841	1.64	220	227	3.2
Dyer	34,854	36,465	3.94	1,372	1,435	4.6
Haywood	19,437	19,709	2.35	458	464	1.3
Lauderdale	23,491	24,128	4.7	1,104	1,134	2.7
Totals	**91,160**	**94,143**		**3,154**	**3,260**	**3.4**

Table 4-151. Population Estimates in Subwatershed 08010205260.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Halls	Lauderdale	2,429	1,052	973	71	8

Table 5-152. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 08010205260.

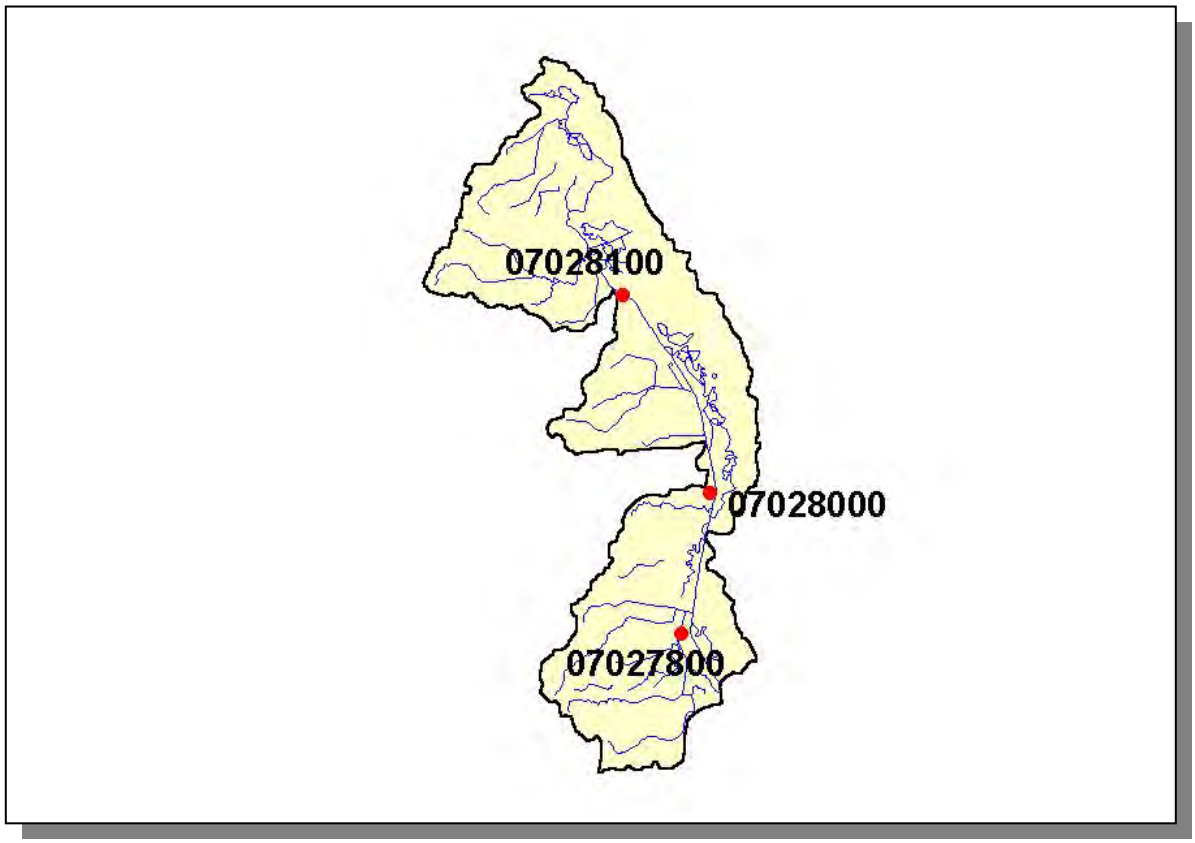

Figure 4-126. Historical Streamflow Data Collection Sites in Subwatershed 08010205260. *More information is provided in SFFD-Appendix IV.*

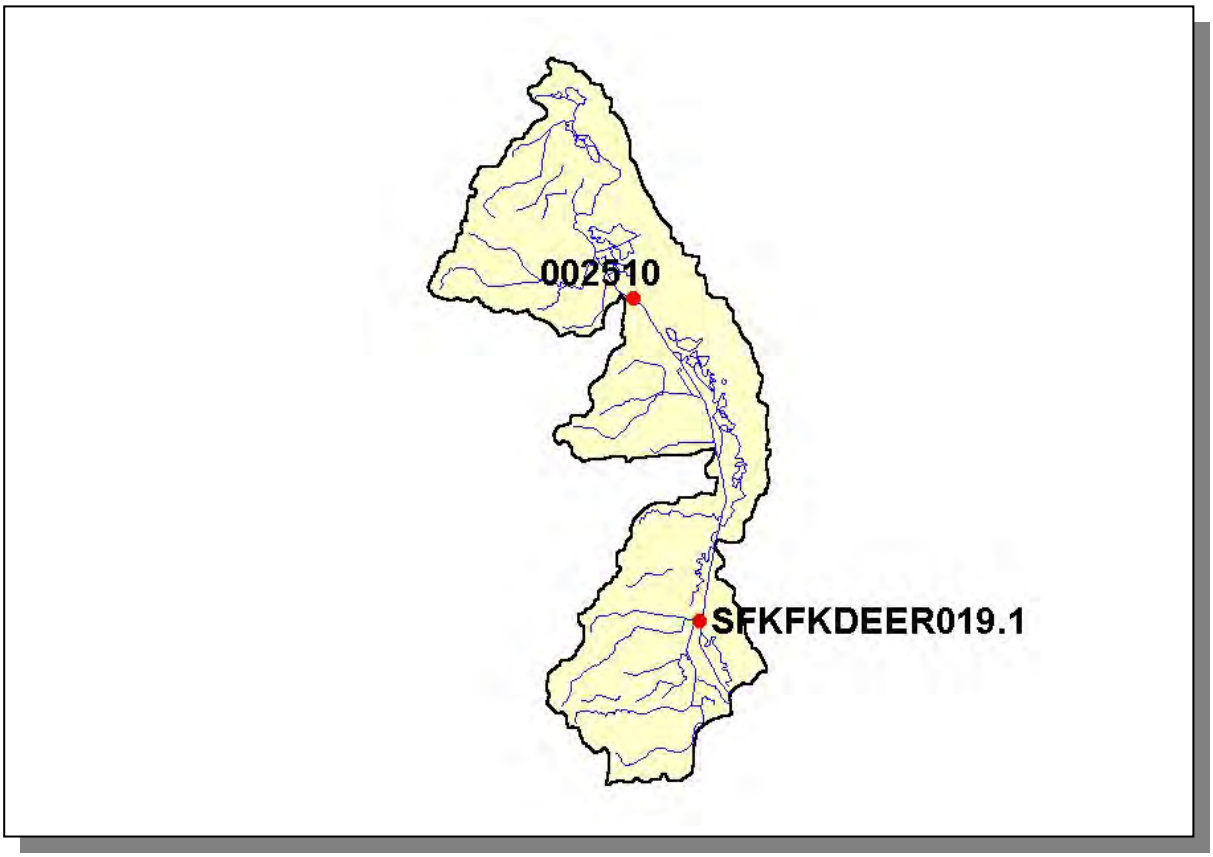

Figure 4-127. Location of STORET Stations in Subwatershed 08010205260. *More information is provided in SFFD-Appendix IV.*

4.2.Z.ii. Point Source Contributions.

Figure 4-128. Location of Active Point Source Facilities (Individual Permits) in Subwatershed 08010205260. *More information, including the names of facilities, is provided in SFFD-Appendix IV.*

4.2.Z.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)					
Beef Cow	Cattle	Milk Cow	Chickens	Hogs	Sheep
113	1,754	<5	<5	332	<5

Table 4-153. Summary of Livestock Count Estimates in Subwatershed 08010205260. *According to the 1997 Census of Agriculture, "Cattle" includes heifers, heifer calves, steers, bulls and bull calves.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Crockett	15.1	15.1	0.3	1.6
Dyer	40.4	40.4	0.8	2.8
Haywood	71.2	71.2	1.7	6.4
Lauderdale	90.0	88.8	0.4	1.2
Totals	**216.7**	**216.5**	**3.2**	**12.0**

Table 4-154. Forest Acreage and Average Annual Removal Rates (1987-1994) in Subwatershed 08010205260.

CROP	TONS/ACRE/YEAR
Soybeans (Row Crops)	9.54
Cotton (Row Crops)	10.50
Wheat (Close Grown Cropland)	6.73
Grass (Hayland)	0.98
Forest Land (Not Grazed)	0.00
Farmsteads and Ranch Headquarters	0.60
Corn (Row Crops)	9.97
Sorghum (Row Crops)	5.19
Grass (Pastureland)	1.63
Grass, Forbs, Legumes (Mixed Pasture)	1.12
Forest Land (Grazed)	0.00
Conservation Reserve Program Land	1.05
Oats (Close Grown Cropland)	3.34
Other Cropland not Planted	1.17
Other Land in Farms	0.10
Non Agricultural Land Use	0.00
Other Vegetable and Truck Crops	4.07
Legume (Hayland)	0.65
Legume Grass (Hayland)	0.58
Summer Fallow (Other Cropland)	8.70
All Other Close Grown Cropland	3.08
Fruit (Horticultural)	0.76

Table 4-155. Annual Estimated Total Soil Loss in Subwatershed 08010205260.

CHAPTER 5

WATER QUALITY PARTNERSHIPS IN THE SOUTH FORK FORKED DEER RIVER WATERSHED

5.1 Background. The Watershed Approach relies on participation at the federal, state, local and nongovernmental levels to be successful. Two types of partnerships are critical to ensure success:

- Partnerships between agencies
- Partnerships between agencies and landowners

This chapter describes both types of partnerships in the South Fork Forked Deer River Watershed. The information presented is provided by the agencies and organizations described.

5.2 Federal Partnerships.

5.2.A. Natural Resources Conservation Service. The Natural Resources Conservation Service (NRCS), an agency of the U.S. Department of Agriculture, provides technical assistance, information, and advice to citizens in their efforts to conserve soil, water, plant, animal, and air resources on private lands.

Performance & Results Measurement System (PRMS) is a Web-based database application providing USDA Natural Resources Conservation Service, conservation partners, and the public fast and easy access to accomplishments and progress toward strategies and performance. The PRMS may be viewed at http://sugarberry.itc.nrcs.usda.gov/netdynamics/deeds/index.html. From the PRMS Products Menu, select "Products," then select "Conservation Treatments." Select the desired program and parameters and choose "Generate Report."

The data can be used to determine broad distribution trends in service provided to customers by NRCS conservation partnerships. These data do not show sufficient detail to enable evaluation of site-specific conditions (e.g., privately-owned farms and ranches) and are intended to reflect general trends.

CONSERVATION PRACTICE	ACRES
Conservation Buffer	59
Erosion Control	7,910
Irrigation Management	0
Nutrient Management Applied	3,564
Pest Management	2,558
Prescribed Grazing	453
Salinity and Alkalinity Control	0
Tree and Shrub Practices	520
Tillage and Residue Management	5,823
Wildlife Habitat Management	1,203
Wetlands Created, Restored, and Enhanced	0
Total	**22,089**

Table 5-1. Landowner Conservation Practices in Partnership with NRCS in South Fork Forked Deer River Watershed. *Data are from PRMS for October 1, 1999 through September 30, 2000 reporting period. More information is provided in SFFD-Appendix V.*

5.3 State Partnerships.

5.3.A. TDEC Division of Water Supply. Congress, the Environmental Protection Agency, and the states are increasing their emphasis on the prevention of pollution, particularly in the protection of the raw water sources for public water systems. The initial step toward prevention of contamination of public water supplies came with the Federal Safe Drinking Water Act Amendments of 1986. At that time, each state was required to develop a wellhead protection program to protect the water source of public water systems relying on groundwater (wells or springs). The new Source Water Assessment provisions of the Federal Safe Drinking Water Act of 1996 Amendments expanded the scope of protection beyond groundwater systems to include protection of the waters supplying surface water systems.

More information may be found at: www.state.tn.us/environment/dws .

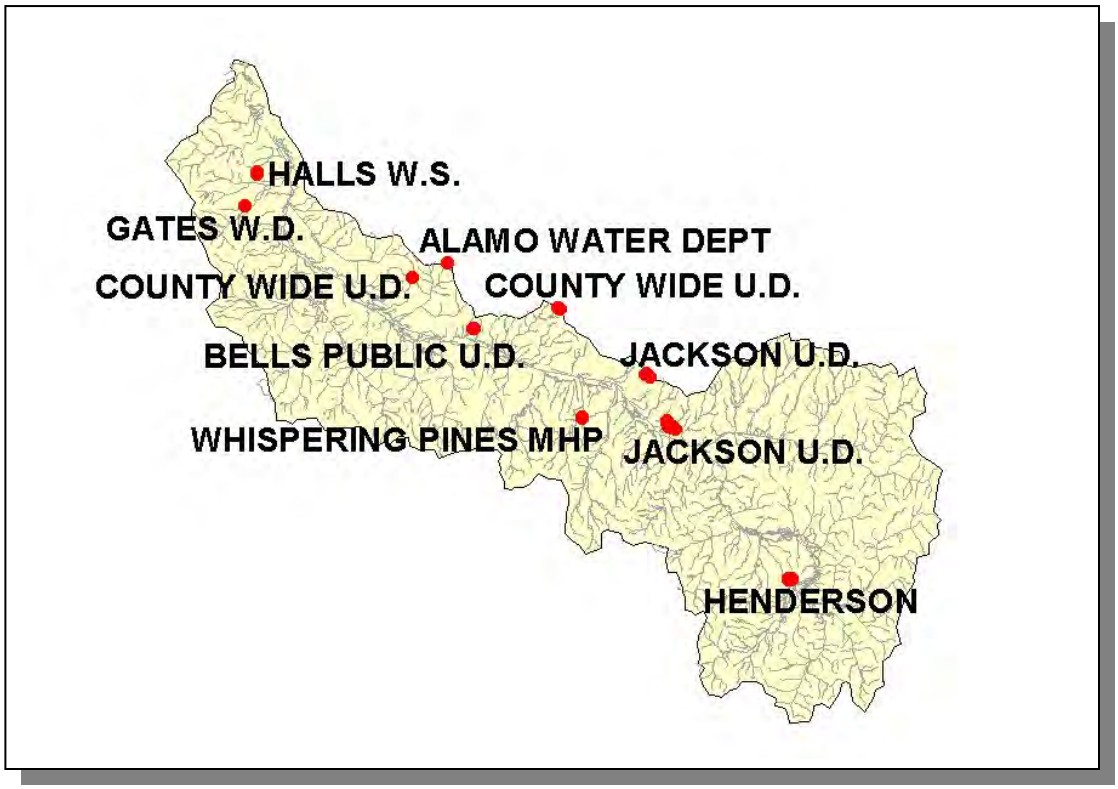

Figure 5-1. Location of Communities Using Groundwater for Water Supply in South Fork Forked Deer River Watershed.

A "wellhead" is the source area for the water, which is withdrawn through a well or spring, similar to the concept of the head of a river. To protect the water supply, it is important to know from where the water flowing to that well or spring is coming. Source water/wellhead protection areas for public water systems using groundwater are generally based on hydrologic considerations and/or modeling. Source water protection areas for public water systems using surface water are based on the portion of the watershed area upstream of the water intake.

There are three basic steps involved in a wellhead protection program: 1) defining the wellhead protection area, 2) inventorying the potential contaminant sources within that area, and 3) developing a wellhead protection plan. The official designation of wellhead protection areas provides valuable input and emphasis to government agencies in the siting of facilities and the prioritization and cleanup of contaminated sites.

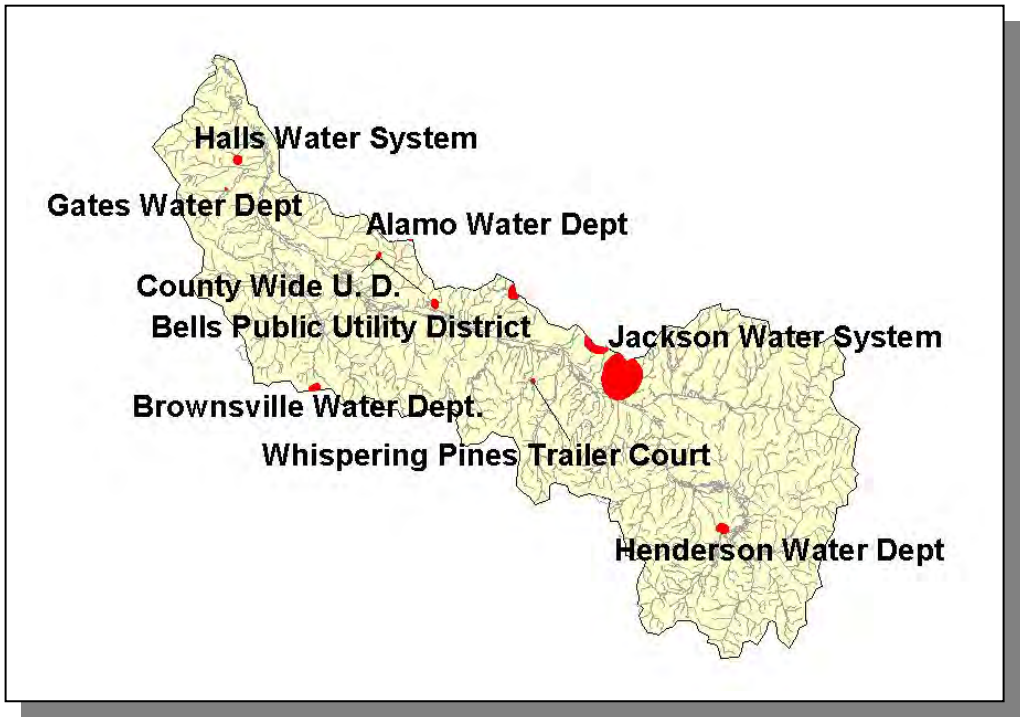

Figure 5-2. Location of Communities in the Wellhead Protection Program in South Fork Forked Deer River Watershed.

5.3.B. State Revolving Fund. TDEC administers the state's Clean Water State Revolving Fund Program. Amendment of the Federal Clean Water Act in 1987 created the Clean Water State Revolving Fund (SRF) Program to provide low-interest loans to cities, counties, and utility districts for the planning, design, and construction of wastewater facilities. The U.S. Environmental Protection Agency awards annual capitalization grants to fund the program and the State of Tennessee provides a twenty-percent funding match. TDEC has awarded loans totaling approximately $500 million since the creation of the SRF Program. SRF loan repayments are returned to the program and used to fund future SRF loans.

SRF loans are available for planning, design, and construction of wastewater facilities, or any combination thereof. Eligible projects include new construction or upgrading/expansion of existing facilities, including wastewater treatment plants, pump stations, force mains, collector sewers, interceptors, elimination of combined sewer overflows, and nonpoint source pollution remedies.

SRF loan applicants must pledge security for loan repayment, agree to adjust user rates as needed to cover debt service and fund depreciation, and maintain financial records that follow governmental accounting standards. SRF loan interest rates range from zero percent to market rate, depending on the community's per-capita income, taxable sales, and taxable property values. Most SRF loan recipients qualify for interest rates between 2 and 4 percent. Interest rates are fixed for the life of the term of the loan. The maximum loan term is 20 years or the design life of the proposed wastewater facility, whichever is shorter.

TDEC maintains a Priority Ranking System and Priority List for funding the planning, design, and construction of wastewater facilities. The Priority Ranking List forms the basis for funding eligibility determinations and allocation of Clean Water SRF loans. Each project's priority rank is generated from specific priority ranking criteria and the proposed project is then placed on the Project Priority List. Only projects identified on the Project Priority List may be eligible for SRF loans. The process of being placed on the Project Priority List must be initiated by a written request from the potential SRF loan recipient or their engineering consultant. SRF loans are awarded to the highest priority projects that have met SRF technical, financial, and administrative requirements and are ready to proceed.

Since SRF loans include federal funds, each project requires development of a Facilities Plan, an environmental review, opportunities for minority and women business participation, a State-approved sewer use ordinance and Plan of Operation, and interim construction inspections.

For further information about Tennessee's Clean Water SRF Loan Program, call (615) 532-0445 or visit their Web site at http://www.tdec.net/srf.

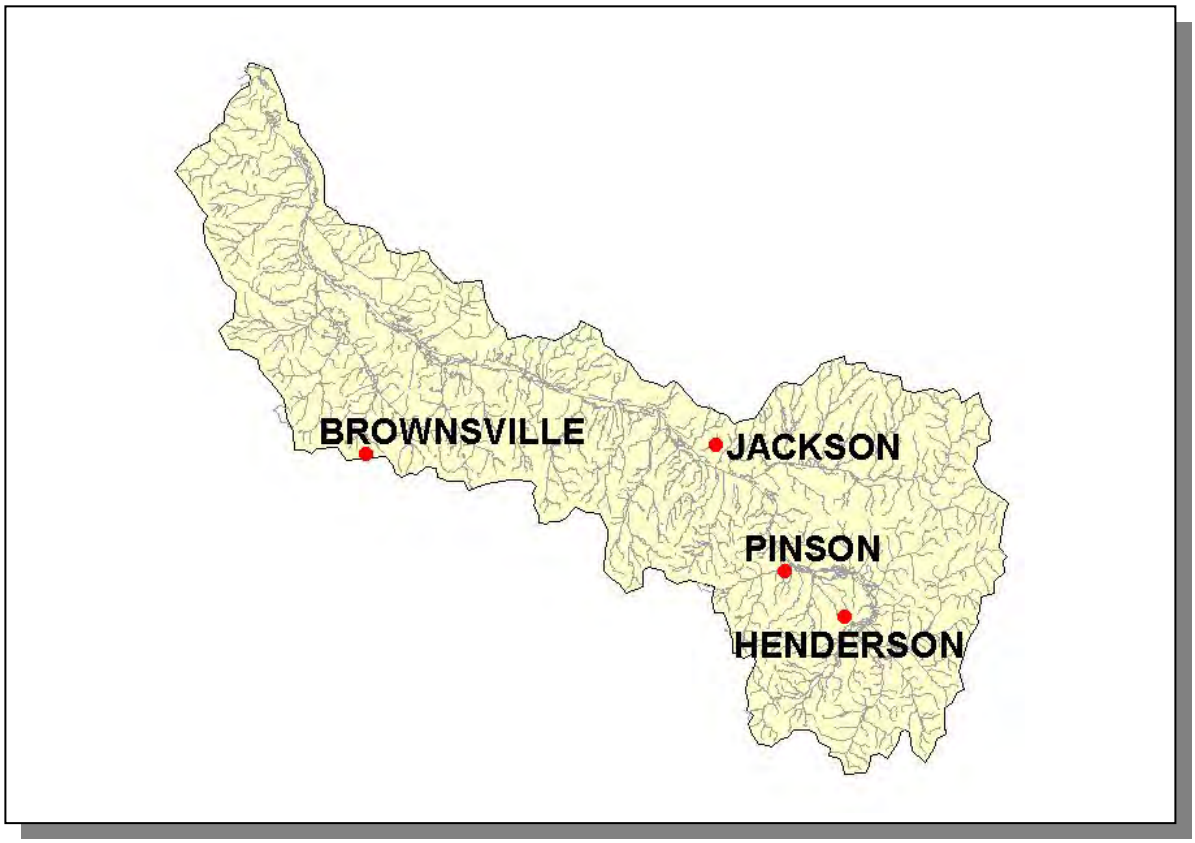

Figure 5-3. Location of Communities Receiving SRF Loans or Grants in the South Fork Forked Deer River Watershed. *More information is provided in SFFD-Appendix V.*

5.3.C. Tennessee Department of Agriculture. The Tennessee Department of Agriculture's Water Resources Section consists of the federal Section 319 Nonpoint Source Program and the Agricultural Resources Conservation Fund Program. Both of these are grant programs which award funds to various agencies, non-profit organizations, and universities that undertake projects to improve the quality of Tennessee's waters and/or educate citizens about the many problems and solutions to water pollution. Both programs fund projects associated with what is commonly known as "nonpoint source pollution."

The Tennessee Department of Agriculture's Nonpoint Source Program (TDA-NPS) has the responsibility for management of the federal Nonpoint Source Program, funded by the US Environmental Protection Agency through the authority of Section 319 of the Clean Water Act. This program was created in 1987 as part of the reauthorization of the Clean Water Act, and it established funding for states, territories and Indian tribes to address NPS pollution. Nonpoint source funding is used for installing Best Management Practices (BMPs) to stop known sources of NPS pollution, training, education, demonstrations and water quality monitoring. The TDA-NPS Program is a non-regulatory program, promoting voluntary, incentive-based solutions to NPS problems. The TDA-NPS Program basically funds three types of programs:

- BMP Implementation Projects. These projects aid in the improvement of an impaired waterbody, or prevent a non-impaired water from becoming listed on the 303(d) List.

- Monitoring Projects. Up to 20% of the available grant funds are used to assist the water quality monitoring efforts in Tennessee streams, both in the state's 5-year watershed monitoring program, and also in performing before-and-after BMP installation, so that water quality improvements can be verified.

- Educational Projects. The intent of educational projects funded through TDA-NPS is to raise the awareness of landowners and other citizens about practical actions that can be taken to eliminate nonpoint sources of pollution to the waters of Tennessee.

The Tennessee Department of Agriculture Agricultural Resources Conservation Fund Program (TDA-ARCF) provides cost-share assistance to landowners across Tennessee to install BMPs that eliminate agricultural nonpoint source pollution. This assistance is provided through Soil Conservation Districts, Resource Conservation and Development Districts, Watershed Districts, universities, and other groups. Additionally, a portion of the TDA-ARCF is used to implement information and education projects statewide, with the focus on landowners, producers, and managers of Tennessee farms and forests.

Participating contractors in the program are encouraged to develop a watershed emphasis for their individual areas of responsibility, focusing on waters listed on the Tennessee 303(d) List as being impaired by agriculture. Current guidelines for the TDA-ARCF are available. Landowners can receive up to 75% of the cost of the BMP as a reimbursement.

The Tennessee Department of Agriculture has spent $158,419 for Agriculture BMPs in the South Fork of the Forked Deer River Watershed since 1998. Additional information is provided in South Fork Forked Deer River SFFD-Appendix V.

Since January of 1999, the Department of Agriculture and the Department of Environment and Conservation have had a Memorandum of Agreement whereby complaints received by TDEC concerning agriculture or silviculture projects would be forwarded to TDA for investigation and possible correction. Should TDA be unable to obtain correction, they would assist TDEC in the enforcement against the violator.

5.3.D. Tennessee Wildlife Resources Agency. The Tennessee Wildlife Resources Agency conducts a variety of activities related to watershed conservation and management. Fish management activities include documentation of fish and aquatic life through stream sampling and stocking of both warm water and cold water sportfish. Fish data are managed in the Geographic Information System (GIS) project called Tennessee Aquatic Data System (TADS). TWRA nongame and endangered species projects include restoration of special status fish ,aquatic life, and riparian wildlife including otters, and nongame fish such as the blue masked darter. The Agency conducts a variety of

freshwater mussel management, conservation, and restoration projects including the propagation and reintroduction of species once common in Tennessee streams. TWRA has been involved in riparian conservation projects since 1991 in partnership with state and federal agencies and conservation groups.

For information on these and other water resources related activities, please contact your Regional TWRA office at the following phone numbers:

West Tennessee (Region I)	1-800-372-3928
Middle Tennessee (Region II)	1-800-624-7406
Cumberland Plateau (Region III)	1-800-262-6704
East Tennessee (Region IV)	1-800-332-0900.

TDD services are available @ 615-781-6691.
TWRA's website is http://www.state.tn.us/twra.

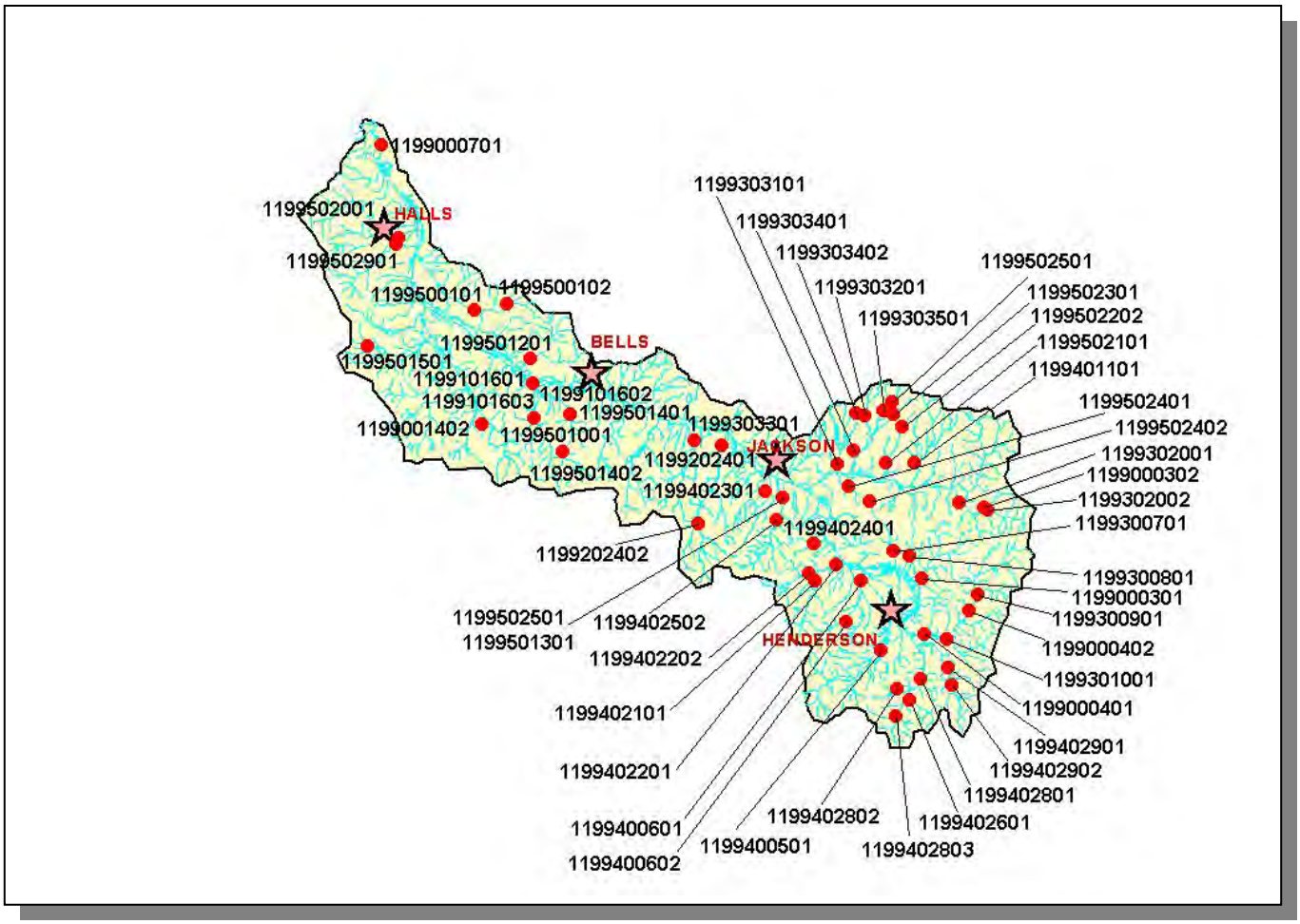

Figure 5-4. Location of TWRA TADS Sampling Sites in South Fork Forked Deer River Watershed. *Locations of Halls, Bells, Jackson, and Henderson are shown for reference. Additional Information is presented in SFFD-Appendix V.*

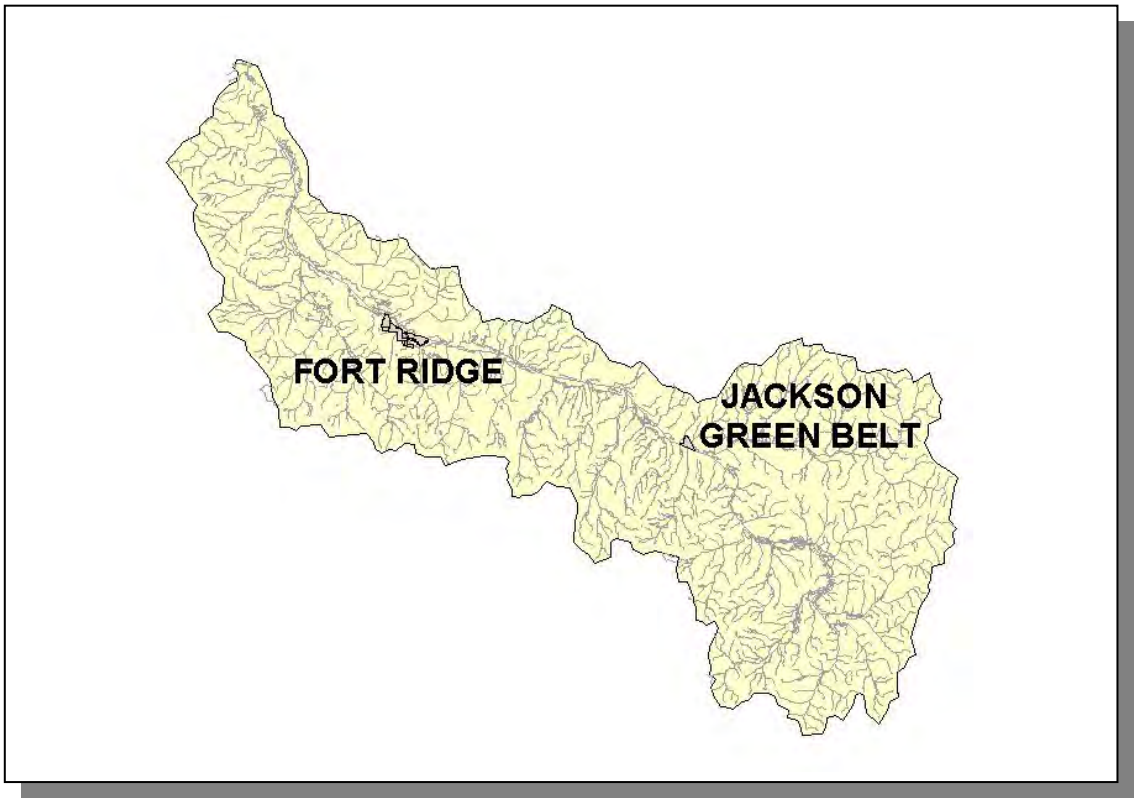

Figure 5-5. Location of TWRA Wetland Sites in South Fork Forked Deer River Watershed Purchased with Wetland Mitigation Funds.

CHAPTER 6

FUTURE DIRECTIONS IN THE SOUTH FORK FORKED DEER RIVER WATERSHED

6.1 BACKGROUND.

The Watershed Management Plan serves as a comprehensive inventory of resources and stressors in the watershed, a recommendation for control measures, and a guide for planning activities in the next five-year watershed cycle and beyond. Water quality improvement will be a result of implementing both regulatory and nonregulatory programs.

In addition to the NPDES program, some state and federal regulations, such as the TMDL and ARAP programs, address point and nonpoint issues. Construction and MS4 stormwater rules (implemented under the NPDES program) are transitioning from Phase 1 to Phase 2. More information on stormwatrer rules may be found at: http://www.state.tn.us/environment/wpc/stormh2o/MS4.htm.

This Chapter addresses point and nonpoint source approaches to water quality problems in the South Fork Forked Deer River Watershed.

6.2. COMMENTS FROM PUBLIC MEETINGS. Watershed meetings are open to the public, and most meetings were represented by citizens who live in the watershed, NPDES permitees, business people, farmers, and local river conservation interests. Locations for meetings were frequently chosen after consulting with people who live and work in the watershed. Everyone with an interest in clean water is encouraged to be a part of the public meeting process. The times and locations of watershed meetings are posted at: http://www.state.tn.us/environment/wpc/public.htm.

6.2.A. Year 1 Public Meeting. The first South Fork Forked Deer River Watershed public meeting was held September 30, 1996. The goals of the meeting were to 1)present, and review the objectives of, the Watershed Approach, 2)introduce local, state, and federal agency and nongovernment organization partners, 3)review water quality monitoring strategies, and 4)solicit input from the public.

Major Concerns/Comments

- Erosion and siltation
- Failed septic tanks
- Uncontrolled development and growth
- Stream channelization
- Litter
- Impact of watershed approach on permitees' discharge limits

6.2.B. Year 3 Public Meeting. The second South Fork Forked Deer River public meeting was held May 26, 1998 at the Environmental Assistance Center in Jackson. The goals of the meeting were to 1)provide an overview of the watershed approach, 2)review the monitoring strategy, 3)summarize the most recent water quality assessment, 4)discuss the TMDL schedule and citizens' role in commenting on draft TMDLs, and 5)discuss BMPs and other nonpoint source tools available through the Tennessee Department of Agriculture 319 Program and NRCS conservation assistance programs.

Major Concerns/Comments

- TMDLs and permit renewals
- TMDLs and facility expansions
- NPDES permit holders make all the sacrifices
- Litter

6.2.D. Year 5 Public Meeting. The third South Fork Forked Deer River Watershed public meeting was held August 19, 2002 at the Jackson Energy Authority Training Center (Jackson). The meeting featured seven educational stations:

- Draft Watershed Water Quality Management Plan
- Benthic macroinvertebrate samples and interpretation
- Smart Board with interactive GIS maps
- "Watershed Approach" (self-guided slide show)
- "How We Monitor Streams" (self-guided slide show)
- "Why We Do Biological Sampling" (self-guided slide show)
- Landowner Assistance Programs (NRCS and TDA)

In addition, citizens had the opportunity to make formal comments on the Draft Year 2002 303(d) List.

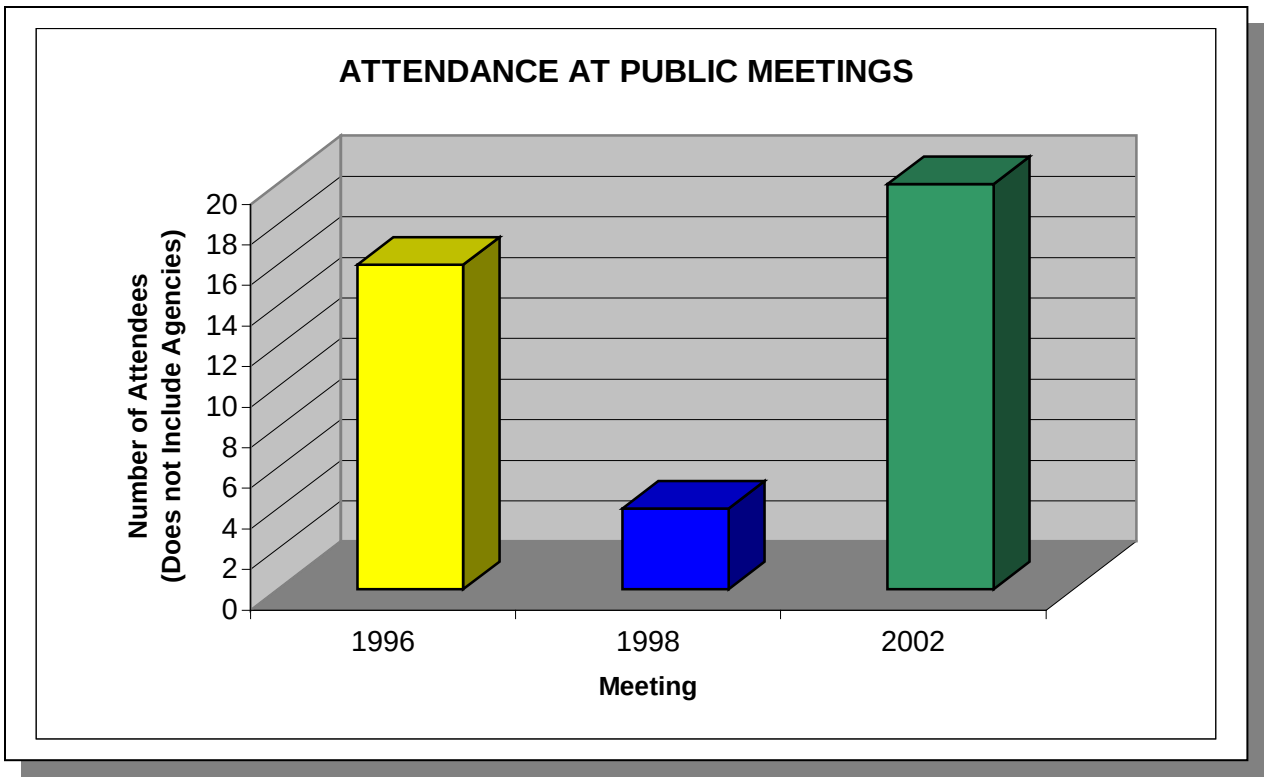

Figure 6-1. Attendance at Public Meetings in the South Fork Forked Deer River Watershed. *Attendance numbers do not include agency personnel.*

Figure 6-2. Participants at the South Fork Forked Deer Watershed Meeting Interacted with Staff at Seven Educational Stations.

6.3. ASSESSMENT OF NEEDS.

6.3.A. Point Sources. Point source contributions to stream impairment are primarily addressed by NPDES and ARAP permit requirements and compliance with the terms of the permits. Notices of NPDES and ARAP draft permits available for public comment can be viewed at http://www.state.tn.us/environment/wpc/wpcppo/index.html. Discharge monitoring data submitted by NPDES-permitted facilities may be viewed at http://www.epa.gov/enviro/html/pcs/pcs_query_java.html.

The purpose of the TMDL program is to identify remaining sources of pollution and allocate pollution control needs in places where water quality goals are still not being achieved. TMDL studies are tools that allow for a better understanding of load reductions necessary for impaired streams to return to compliance with water quality standards. More information about Tennessee's TMDL program may be found at:
http://www.state.tn.us/environment/wpc/tmdl.htm

South Fork Forked Deer River TMDL- Approved June 28, 2001. A total maximum daily load (TMDL) for fecal coliform in North Fork of the South Fork Forked Deer River, Johnson Creek, three segments of South Fork Forked Deer River located in the South Fork Forked Deer River Watershed (HUC 08010205) Lauderdale, Madison, and Haywood Counties.
http://www.state.tn.us/environment/wpc/sffdfec6.pdf

TMDLs are prioritized for development based on many factors.

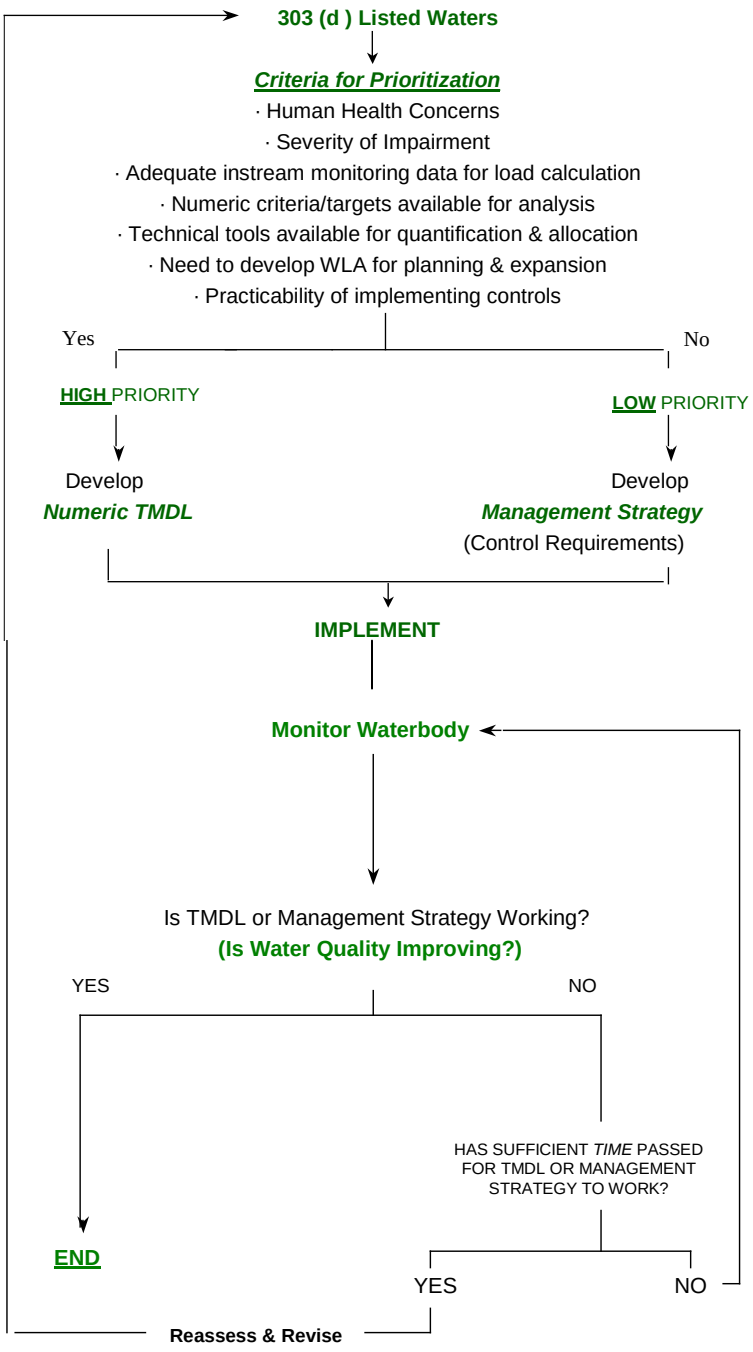

Figure 6.3. Prioritization scheme for TMDL Development.

6.3.B. Nonpoint Sources

Common nonpoint sources of pollution include urban runoff, riparian vegetation removal, and inappropriate land development, agricultural, and road construction practices. Since nonpoint pollution exists essentially everywhere rain falls and drains to a stream, existing point source regulations can have only a limited effect, so other measures are necessary.

There are several state and federal regulations that can address some of the contaminants impacting the South Fork of the Forked Deer River. Most of these are limited to only point sources: a pipe or ditch. Often, controls of point sources are not sufficient to protect waters, so other measures are necessary, like voluntary efforts by landowners and volunteer groups. Many agencies, including the Tennessee Department of Agriculture and NRCS, offer financial assistance to landowners for corrective actions (like Best Management Practices) that may be sufficient for recovery of impacted streams. Many nonpoint problems will require an active civic involvement at the local level geared towards establishment of improved zoning guidelines, building codes, streamside buffer zones and greenways, and general landowner education.

The following text describes certain types of impairments, causes, suggested improvement measures, and control strategies. The suggested measures and streams are only examples and efforts should not be limited to only those streams and measures mentioned.

6.3.B.i. Sedimentation.

6.3.B.i.a. From Construction Sites. Construction activities have historically been considered "nonpoint sources". In the late 1980's, EPA designated them as being subject to NPDES regulation if more than 5 acres are disturbed. The general permit issued for such construction sites sets out conditions for maintenance of the sites to minimize pollution from stormwater including requirements for inspection of the controls. Also the general permit imposes more stringent inspection and self-monitoring requirements on sites in the watershed of streams that are impaired due to sedimentation.

Construction sites within a sediment-impaired watershed may also have higher priority for inspections by WPC personnel, and are likely to have enforcement actions for failure to control erosion. Examples of these streams are Nixon Creek, Sandy Creek, Johnson Creek and the main stem of the South Fork of the Forked Deer.

The same requirements apply to sites in the drainage of high quality waters. Harris Creek is an example of a high quality stream in the South Fork of the Forked Deer watershed.

The same measures, which are currently required of all sites of 5 acres or more, can also be required on a site-by-site basis for smaller sites. New federal requirements will reduce the size of the sites subject to construction stormwater permitting to one acre. Local regulations may already address smaller sites. Regardless of the size, no construction site is allowed to cause a condition of pollution.

6.3.B.i.b. From Channel and/or Bank Erosion. Due to the past channelization of the South Fork Forked Deer River and many of its tributaries, the channels are unstable. Several agencies are working to stabilize portions of stream banks. These include NRCS, TDOT and West Tennessee River Basin Authority. Other methods or controls that might be necessary to address common problems are:

Voluntary activities

- Re-establishment of bank vegetation (examples: Little Nixon and Johnson Creeks).
- Establish off-channel watering areas for cattle by moving watering troughs and feeders back from stream banks (example: Cub Creek).
- Limit cattle access to streams and bank vegetation (examples: Cub Creek and the North Fork of the South Fork Forked Deer River).

Additional strategies

- Increase efforts in the Master Logger program to recognize impaired streams and require more effective management practices.
- Better community planning of development impacts on small streams (examples: Sandy, Sumrow, Nixon, and Little Nixon Creeks).
- Restrictions requiring post construction run-off rates to be no greater than pre-construction rates in order to avoid in-channel erosion (example: the main stem SFFD).
- Additional restrictions on logging in streamside management zones.
- Prohibition on clearing of stream and ditch banks (example: Little Nixon Creek). *Note: Permits are now required for any work along streams.*
- Additional restriction to road and utilities crossings of streams.
- Restrictions on the use of off-highway vehicles on stream banks and in stream channels.

6.3.B.ii. Pathogen Contamination.

Possible sources of pathogens are inadequate or failing septic tank systems, overflows or breaks in public sewer collection systems, poorly disinfected discharges from sewage treatment plants, and fecal matter in streams and storm drains due to pets, livestock and wildlife. Permits issued by the Division of Water Pollution Control regulate discharges from point sources, and require adequate control for these sources. Individual homes are required to have subsurface, on-site treatment (i.e., septic tank and field lines) if public sewers are not available. Septic tank and field lines are regulated by the Division of Ground Water Protection within TDEC and delegated county health departments. In Madison County, subsurface systems are regulated by Jackson-Madison County Health Department. In addition to discharges to surface waters, businesses may employ either subsurface or surface disposal of wastewater. The Division of Water Pollution Control regulates surface disposal.

Other measures that may be necessary to control pathogens are:

Voluntary activities

- Off-channel watering of livestock (example: Cub Creek).

- Limiting livestock access to streams (example: Cub Creek).
- Proper management of animal waste from feeding operations.

Enforcement strategies

- Greater enforcement of regulations governing on-site wastewater treatment.
- Timely and appropriate enforcement for non-complying sewage treatment plants, large and small, and their collection systems.
- Identification of Concentrated Animal Feeding Operations not currently permitted, and enforcement of current regulations.

Additional strategies

- Restrict development in areas where sewer is not available to those sites with appropriate soils.
- Discourage the creation of "duck holes" that attract waterfowl.
- Develop and enforce leash laws and controls on pet fecal material (example: Anderson Branch).
- Greater efforts by sewer utilities to identify leaking lines or overflowing manholes (examples: Sumrow, Sandy and Little Nixon Creeks and Anderson Branch).

6.3.B.iii. Excessive Nutrients and/or Dissolved Oxygen Depletion.

These two impacts are usually listed together because high nutrients often contribute to low dissolved oxygen within a stream. Since nutrients often have the same source as pathogens, the measures previously listed can also address many of these problems. Elevated nutrient loadings are also often associated with urban runoff from impervious surfaces and from fertilized lawns and croplands.

Other sources of nutrients can be addressed by:

Voluntary activities

- Encourage no-till farming (examples: Black and Sumrow Creeks).
- Encourage farmers to use the proper rate of fertilizer for the soil and crop (examples: Black and Sumrow Creeks).
- Educate homeowners and lawn care companies in the proper application of fertilizers.
- Encourage landowners, developers, and builders to leave stream buffer zones (examples: Little Nixon Creek and Sandy Creek). Streamside vegetation can filter out many nutrients and other pollutants before they reach the stream. These riparian buffers are also vital along livestock pastures.
- Use grassed drainageways that can remove fertilizer before it enters streams.
- Use native plants for landscaping since they don't require as much fertilizer and water.

Physical changes to streams can prevent them from providing enough oxygen to biodegrade the materials that are naturally present. A few additional actions can address this problem:

- Maintain shade over a stream. Cooler water can hold more oxygen and retard the growth of algae. Nixon and Little Nixon Creeks suffer from canopy removal.
- Discourage impoundments. Ponds and lakes do not aerate water. *Note: Permits are required for any work on a stream, including impoundments.*

6.3.B.iv. Toxins and Other Materials.

Many materials enter our streams due to apathy, or lack of civility or knowledge by the public. Litter in roadside ditches, garbage bags tossed over bridge railings, paint brushes washed off over storm drains, and oil drained into ditches are all examples of pollution in streams. Some can be addressed by:

Voluntary activities

- Providing public education.
- Painting warnings on storm drains that connect to a stream (This would benefit Sandy and Central Creeks).
- Sponsoring community clean-up days (This has already benefited Anderson Branch and Bond Creek).
- Landscaping of public areas.
- Encouraging public surveillance of their streams and reporting of dumping activities to their local authorities.

Needing regulation

- Prohibition of illicit discharges to storm drains.
- Litter laws and strong enforcement at the local level.

6.3.B.v. Habitat Alteration.

The alteration of the habitat within a stream can have severe consequences. Whether it is the removal of the vegetation providing a root system network for holding soil particles together, the release of sediment, which increases the bed load and covers benthic life and fish eggs, the removal of gravel bars, "cleaning out" creeks with heavy equipment, or the impounding of the water in ponds and lakes, many alterations impair the use of the stream for designated uses. Habitat alteration also includes the draining or filling of wetlands.

Measures that can help address this problem are:

Voluntary activities

- Sponsoring litter pickup days to remove litter that might enter streams. Anderson Branch and Bond Creek have had such cleanup efforts in recent years.
- Organizing stream cleanups removing trash, limbs and debris before they cause blockage.
- Avoiding use of heavy equipment to "clean out" streams. Little Nixon Creek has recently suffered from such activity.

- Planting vegetation along streams to stabilize banks and provide habitat. Bond Creek had a segment “bio-engineered” using matting and willow post to re-vegetate following the 1998 tornado.
- Encouraging developers to avoid extensive culverts in streams.

Current regulations

- Restrict modification of streams by such means as culverting, lining, or impounding.
- Require mitigation for impacts to streams and wetlands when modifications are allowed.

Additional Enforcement

- Increased enforcement may be needed when violations of current regulations occur.

APPENDIX II

ID	NAME	HAZARD		ID	NAME	HAZARD
127001	MORRIS	3		397013	SPENCER CK #96-1	2
127003	TIGNOR'S	3		497013	LOST CK # 421-SW-5	3
127006	WILLIAMS	3		557002	LOGANS LK	S
127007	JONES CK #101-102-0	2		577001	JOHNSON CK # 2	2
127008	BUTLER	O		577002	MERIDIAN CK # 1	2
127009	SMITH POND	S		577003	MERIDIAN CK # 2	2
127010	SPRING CK #105A-1	2		577004	MERIDIAN CK # 3	2
127011	DEANBURG HILLS	2		577005	JOHNSON CK # 7	3
127012	PISGAH CK #12A-NW-3	3		577006	JOHNSON CK # 4	3
127013	CLARK CK #446-SE-12A-NE-1	3		577007	JOHNSON CK # 10	3
127014	SHEFFIELD BR #12A-SW-3	2		577008	JOHNSON CK #5	1
127015	GLENDALE #12A-NE-3	3		577009	DUNCAN LK	3
177004	MILLS	B		577010	WILDERWOOD	2
177005	LEWIS	S		577011	TYSON	3
237022	ANNIE HAMILTON FARM POND	L		577018	TN SHERIFF'S YOUTHTOWN	2
387002	COBB	H		577020	DORRIS	3
387003	DUFFY	3		577023	PATTON	L
387008	POWELL	L		577024	JOHN GRAHAM	1
387009	VIERS	3		577025	CUB CK #438-SW-1	3
387010	WIGGINS	3		577030	MCKELLAR CK #438-SW-6	3
387011	JAMESON	3		577031	MILLER CK #438-SW-4	3
387012	CANNON LK #2	3		577032	PHILLIPS CK #446-NW-8	3
387013	MELTON	3		577033	COTTON GROVE CK #446-NW-9	2
387015	CANNON LK #3	3		577034	HICKS CK #438-SE-SW-1	3
387020	MUD CK TRIB #15M-28-1	3		577035	POWELL CK #438-SW-3B	3
387021	PENNEL	2		577036	CUB CK NO 2 #438-SW-7	3
387023	HOLT	H		577042	BROWN CREEK #446-NW-7	3
387024	BYRD	H		577043	JONES CREEK	3
387025	COBB CK #15M-28-2	3				

Table A2-1. Inventoried Dams in the South Fork Forked Deer Watershed. *Hazard Codes: F, Federal; High (H, 1); Significant, (S, 2); Low, (L, 3); Breached, (B); O, Too Small. TDEC only regulates dams indicated by a numeric hazard score.*

LAND COVER/LAND USE	SQUARE MILES	% OF WATERSHED
Open Water	6.3	0.6
Forested Wetlands	88.0	8.3
Nonforested	8.9	0.8
Pasture	462.7	43.5
Cropland	192.7	18.1
Scrub Shrub	0.0	0.0
Deciduous Forest	249.1	23.4
Mixed Forest	30.9	2.9
Coniferous Forest	10.0	0.9
Urban	14.0	1.3
Barren Land	0.0	0.0
Strip Mines	0.0	0.0
Cloud/Shadow	0.0	0.0
Forested Dead Wetlands	0.0	0.0
Total	**1062.5**	**100**

Table A2-2. Land Use Distribution in South Fork Forked Deer Watershed. *Data are from Multi-Resolution Land Characterization (MRLC) derived by applying a generalized Anderson level II system to mosaics of Landsat thematic mapper images collected every five years.*

ECOREGION	REFERENCE STREAM	WATERSHED	(HUC)
Southeastern Plains and Hills (65e)	Slickup Creek	Upper Obion	(08010203)
	Blunt Creek	TN Western Valley	(06040005)
	Griffin Creek	North Fork Forked Deer	(08010204)
	Harris Creek	South Fork Forked Deer	(08010205)
	Marshall Creek	Lower Hatchie	(08010208)
	West Fork Spring Creek	Lower Hatchie	(08010208)
Northern Mississippi Alluvial Plain (73a)	Cold Creek	Mississippi	(08010100)
	Middle Fork, Forked Deer River	Mississippi	(08010100)
Bluff Hills (74a)	Sugar Creek	Mississippi	(08010100)
	Paw Paw Creek	Lower Obion	(08010202)
	Unnamed Trib to Running Reelfoot Bayou	Lower Obion	(08010202)
Loess Plains (74b)	Terrapin Creek	Lower Obion	(08010202)
	Powell Creek	Lower Obion	(08010202)
	Wolf River	Wolf	(08010210)

Table A2-3. Ecoregion Monitoring Sites in Level IV Ecoregions 65e, 73a, 74a, and 74b.

CODE	NAME	AGENCY	AGENCY ID
353	TDOT ESPY PARK ROAD MITIGATION/PERMIT SITE	TDOT	
357	TDOT SR 5 MITIGATION/PERMIT SITE	TDOT	
375	TDOT SR 198 MITIGATION/PERMIT SITE	TDOT	
398	TDOT SR 5 PERMIT SITE	TDOT	
867	USFWS MANNING FARMS WRP SITE	USFWS	TRACT 1999, FARM 1918
868	USFWS MB AND J FARMS WRP SITE	USFWS	TRACT 2746, FARM 2682
870	USFWS JUANITA KIRKPATRICK WRP SITE	USFWS	TRACT 2446, FARM 1212
871	USFWS JERE KIRK WRP SITE	USFWS	TRACT 1201, FARM 3552
873	USFWS DANNY OLIVER WRP SITE	USFWS	TRACTS 1817+, FARM 2807
874	USFWS ALEXANDRA CORPORATION WRP SITE	USFWS	TRACT 988, FARM 2255
878	USFWS WILLIAM PATTERSON WRP SITE	USFWS	TRACT 4710, FARM 1885
911	USFWS J.W. DAVIS WRP SITE	USFWS	TRACT 8953, FARM 2450
1128	BRAD BINGHAM THESIS: SITE 35 KNOB CR. QUAD	USFWS	BINGHAM-KNOB CR..35
1129	BRAD BINGHAM THESIS: SITE 36 KNOB CR. QUAD	USFWS	BINGHAM-KNOB CR..36
1130	BRAD BINGHAM THESIS: SITE 37 KNOB CR. QUAD	USFWS	BINGHAM-KNOB CR..37
1131	BRAD BINGHAM THESIS: SITE 38 KNOB CR. QUAD	USFWS	BINGHAM-KNOB CR..38
1221	TWRA SITE	TWRA	
1231	TWRA SITE	TWRA	
1232	TWRA SITE	TWRA	
1256	TWRA ANDERSON TULLY/MANN SITE	TWRA	
1263	USACOE CANE CR. SITE	USACOE_M	
1329	USACOE MERIDIAN CR. SITE	USACOE_M	
1347	USACOE NIXON CR. (TN) 95-002 [TF] SITE	USACOE_M	
1348	USACOE NIXON CR. (TN) 95-012 [TD] SITE	USACOE_M	
1374	USACOE N. F. F.ED DEER RIVER 95-006 [TS] SITE	USACOE_M	
1385	USACOE OLD BED S.F. F.ED DEER SITE	USACOE_M	
1387	USACOE S.F. F.ED DEER SITE	USACOE_M	
1388	USACOE S.F. F.ED DEER-58 SITE	USACOE_M	
1389	USACOE S.F. F.ED DEER-62 [TD] SITE	USACOE_M	
1390	USACOE S.F. F.ED DEER-64 (TD) SITE	USACOE_M	
1391	USACOE S.F. F.ED DEER RIVER 94-004 [TD] SITE	USACOE_M	
1392	USACOE S. F. F.ED DEER RIVER 95-003 [TF] SITE	USACOE_M	
1393	USACOE S. F. F.ED DEER RIVER 95-019 [TS] SITE	USACOE_M	
1394	USACOE S. F. F.ED DEER RIVER 95-020 [TD] SITE	USACOE_M	
1395	USACOE S. F. F.ED DEER RIVER 95-026 [TD] SITE	USACOE_M	
1396	USACOE S. F. F.ED DEER RIVER 96-000 [TF] SITE	USACOE_M	
1397	USACOE S. F. F.ED DEER RIVER 96-004 [TS] SITE	USACOE_M	
1398	USACOE S F. F.ED DEER RIVER/JOHNSON CR. SITE	USACOE_M	
1439	USACOE N. F./S. F. F.ED DEER RIVER SITE	USACOE_M	
1440	USACOE S. F. F.ED DEER RIVER/BROWNS CRK SITE	USACOE_M	
1441	USACOE S. F. F.ED DEER/CYPRESS CR. TN-3	USACOE_M	
1442	USACOE S. F. F.ED DEER/NIXON CR.-1 SITE	USACOE_M	
1443	USACOE S. F. F.ED DEER/ NIXON CR.-2 SITE	USACOE_M	
1444	USACOE S.F. F.ED DEER 95-025 SITE	USACOE_M	
1445	USACOE S. F. F.ED DEER 95-026 [TD] SITE	USACOE_M	
1455	USACOE S.F. F.ED DEER-23 SITE	USACOE_M	
1456	USACOE S.F. F.ED DEER-24 SITE	USACOE_M	
1457	USACOE S. F. F.ED DEER-25 SITE	USACOE_M	
1458	USACOE S.F. F.ED DEER-28A SITE	USACOE_M	

CODE	NAME	AGENCY	AGENCY ID
1459	USACOE S.F. F.ED DEER-30A SITE	USACOE_M	
1460	USACOE S.F. F.ED DEER-30A SITE	USACOE_M	
1461	USACOE S.F. F.ED DEER-31 SITE	USACOE_M	
1462	USACOE S.F. F.ED DEER 34/34A SITES	USACOE_M	
1463	USACOE S.F. F.ED DEER-40 SITE	USACOE_M	
1464	USACOE S.F. F.ED DEER-42 SITE	USACOE_M	
1465	USACOE S.F. F.ED DEER-45 SITE	USACOE_M	
1466	USACOE S.F. F.ED DEER-46 SITE	USACOE_M	
1467	USACOE S.F. F.ED DEER-37 SITE	USACOE_M	
1468	USACOE S.F. F.ED DEER-38 SITE	USACOE_M	
1469	USACOE S. F. F.ED DEER/JACKS CR.-57 SITE	USACOE_M	
1470	USACOE S. F. F.ED DEER/JACKS CR.-56 SITE	USACOE_M	
1471	USACOE S.F. F.ED DEER-58 SITE	USACOE_M	
1472	USACOE S. F. F.ED DEER/NORTH F.-60 SITE	USACOE_M	
1473	USACOE JOE CARTER VIOLATION SITE	USACOE_M	
1474	USACOE S. F. F.ED DER RIVER-7 SITE	USACOE_M	
1475	USACOE S.F. F.ED DEER-9 SITE	USACOE_M	
1476	USACOE S.F. F.ED DEER-10 SITE	USACOE_M	
1477	USACOE S.F. F.ED DEER-12 SITE	USACOE_M	
1478	USACOE S.F. F.ED DEER-13 SITE	USACOE_M	
1479	USACOE S.F. F.ED DEER-14 SITE	USACOE_M	
1480	USACOE S.F. F.ED DEER-14 SITE	USACOE_M	
1482	USACOE S.F. F.ED DEER-16 SITE	USACOE_M	
1483	USACOE S.F. F.ED DEER-17 SITE	USACOE_M	
1484	USACOE S.F. F.ED DEER-18 SITE	USACOE_M	
1485	USACOE S.F. F.ED DEER-21 SITE	USACOE_M	
1497	USACOE-LMM S.F. F.ED DEER 95-026 [TD] SITE	USFWS	
1519	NRCS SITE	USFWS	
1520	USFWS ARAP 96-009 DANNY W. LESTER SITE	USFWS	
1656	USACOE S.F. F.ED DEER-35 SITE	USACOE_M	
1827	NRCS SITE	NRCS	
1828	NRCS SITE	NRCS	
1838	NRCS SITE	NRCS	
1854	NRCS SITE	NRCS	
1855	NRCS SITE	NRCS	
1856	NRCS SITE	NRCS	
1857	NRCS SITE	NRCS	
1866	NRCS SITE	NRCS	
2022	TWRA FORT RIDGE SITE	TWRA	
2023	TWRA FORT RIDGE SITE	TWRA	
2024	TWRA FORT RIDGE SITE	TWRA	
2025	TWRA FORT RIDGE SITE	TWRA	
2026	TWRA FORT RIDGE SITE	TWRA	
2027	TWRA FORT RIDGE SITE	TWRA	
2028	TWRA FORT RIDGE SITE	TWRA	
2069	TWRA JACKSON GREENBELT SITE	TWRA	
2070	TWRA JACKSON GREENBELT SITE	TWRA	
2079	TWRA NIXON CR. SITE	TWRA	
2080	TWRA NIXON CR. SITE	TWRA	
2119	TWRA TULL BOTTOMS SITE	TWRA	
2144	TWRA FORT RIDGE SITE	TWRA	
2145	TWRA FORT RIDGE SITE	TWRA	

CODE	NAME	AGENCY	AGENCY ID
2147	TWRA FORT RIDGE SITE	TWRA	
2148	TWRA FORT RIDGE SITE	TWRA	
2149	TWRA FORT RIDGE SITE	TWRA	
2150	TWRA FORT RIDGE SITE	TWRA	
2151	TWRA FORT RIDGE SITE	TWRA	
2152	TWRA FORT RIDGE SITE	TWRA	
2153	TWRA FORT RIDGE SITE	TWRA	
2154	TWRA FORT RIDGE SITE	TWRA	
2155	TWRA FORT RIDGE SITE	TWRA	
2156	TWRA FORT RIDGE SITE	TWRA	
2157	TWRA FORT RIDGE SITE	TWRA	
2158	TWRA FORT RIDGE SITE	TWRA	
2159	TWRA FORT RIDGE SITE	TWRA	
2160	TWRA FORT RIDGE SITE	TWRA	
2161	TWRA FORT RIDGE SITE	TWRA	
2162	TWRA FORT RIDGE SITE	TWRA	
2163	TWRA FORT RIDGE SITE	TWRA	
2164	TWRA FORT RIDGE SITE	TWRA	
2165	TWRA FORT RIDGE SITE	TWRA	
2166	TWRA FORT RIDGE SITE	TWRA	
2167	TWRA FORT RIDGE SITE	TWRA	
2168	TWRA FORT RIDGE SITE	TWRA	
2169	TWRA FORT RIDGE SITE	TWRA	
2170	TWRA FORT RIDGE SITE	TWRA	
2171	TWRA FORT RIDGE SITE	TWRA	
2172	TWRA FORT RIDGE SITE	TWRA	
2173	TWRA FORT RIDGE SITE	TWRA	
2174	TWRA FORT RIDGE SITE	TWRA	
2175	TWRA FORT RIDGE SITE	TWRA	
2176	TWRA FORT RIDGE SITE	TWRA	
2177	TWRA FORT RIDGE SITE	TWRA	
2178	TWRA FORT RIDGE SITE	TWRA	
2179	TWRA FORT RIDGE SITE	TWRA	
2180	TWRA FORT RIDGE SITE	TWRA	
2181	TWRA FORT RIDGE SITE	TWRA	
2182	TWRA FORT RIDGE SITE	TWRA	
2183	TWRA FORT RIDGE SITE	TWRA	
2184	TWRA FORT RIDGE SITE	TWRA	
2226	TWRA CHICKASAW SITE	TWRA	
2241	TWRA LAKE LAUDERDALE SITE	TWRA	
2245	TWRA FMHA SITE	TWRA	
2246	TWRA FMHA SITE	TWRA	
2247	TWRA FMHA SITE	TWRA	
2358	TWRA NIXON CR. SITE	TWRA	
2359	TWRA NIXON CR. SITE	TWRA	
2360	TWRA NIXON CR. SITE	TWRA	
2465	TWRA TULL BOTTOM-EAST SITE	TWRA	
2466	TWRA TULL BOTTOM-ROUTE 100 SITE	TWRA	
2467	TWRA TULL BOTTOM SITE	TWRA	
2468	TWRA TULL BOTTOM SITE	TWRA	
2469	TWRA TULL BOTTOM SITE	TWRA	
2470	TWRA TULL BOTTOM SITE	TWRA	

CODE	NAME	AGENCY	AGENCY ID
2471	TWRA TULL BOTTOM SITE	TWRA	
2472	TWRA TULL BOTTOM SITE	TWRA	
2473	TWRA TULL BOTTOM SITE	TWRA	
2474	TWRA TULL BOTTOM SITE	TWRA	
2475	TWRA TULL BOTTOM SITE	TWRA	
2476	TWRA TULL BOTTOM SITE	TWRA	
2477	TWRA TULL BOTTOM SITE	TWRA	
2478	TWRA TULL BOTTOM SITE	TWRA	
2479	TWRA TULL BOTTOM SITE	TWRA	
2480	TWRA TULL BOTTOM SITE	TWRA	
2481	TWRA TULL BOTTOM SITE	TWRA	
2482	TWRA TULL BOTTOM SITE	TWRA	
2483	TWRA TULL BOTTOM SITE	TWRA	
2579	TWRA SITE	TWRA	
2596	TWRA LAKE LAUDERDALE REFUGE SITE	TWRA	
2684	NRCS SITE	NRCS	
2688	NRCS SITE	NRCS	
2690	NRCS SITE	NRCS	
2694	NRCS SITE	NRCS	
2773	TDOT MADISON CO. WETLAND BANK SITE	USFWS	
2785	USACOE S. F. F.ED DEER 96-059 [TD] SITE	USACOE_M	960410590

Table A2-4. Wetland Sites in South Fork Forked Deer Watershed in TDEC Database. *TDEC, Tennessee Department of Environment and Conservation; USACOE, United States Army Corps of Engineers-Memphis District; WPC, Water Pollution Control; TDOT, Tennessee Department of Transportation' USFWS, United States Fish and Wildlife Service; TWRA, Tennessee Wildlife Resources Agency; DNH, Division of Natural Heritage, NRCS, Natural Resources Conservation Service.*

APPENDIX III

SEGMENT NAME	WATERBODY SEGMENT ID	SEGMENT SIZE (MILES)
Browns Creek	TN08010205028_0100	2.3
Harris Creek	TN08010205028_0200	31.5
South Fork Forked Deer River	TN08010205018_1000	19.8

Table A3-1a. Streams Fully Supporting Designated Uses in South Fork Forked Deer River Watershed. *Data are based on Year 2000 Water Quality Assessment*

SEGMENT NAME	WATERBODY SEGMENT ID	SEGMENT SIZE (MILES)
Anderson Branch	TN08010205012_0500	5.2
Black Creek	TN08010205031_1000	12.9
North Fork of the SFFD River	TN08010205028_1000	24.4
South Fork Forked Deer River	TN08010205001_1000	15.6
South Fork Forked Deer River	TN08010205003_1000	6.8
South Fork Forked Deer River	TN08010205010_1000	13.2
South Fork Forked Deer River	TN08010205012_1000	21.6
Sumrow Creek	TN08010205036_1000	15.7

Table A3-1b. Streams Partially Supporting Designated Uses in South Fork Forked Deer River Watershed. *Data are based on Year 2000 Water Quality Assessment.*

SEGMENT NAME	WATERBODY SEGMENT ID	SEGMENT SIZE (MILES)
Hicks Creek	TN08010205012_0800	28.5
Johnson Creek	TN08010205012_0900	44.2
Nixon Creek	TN08010205005_1000	20.4
Sandy Creek	TN08010205012_0400	4.3

Table A3-1c. Streams Not Supporting Designated Uses in South Fork Forked Deer River Watershed. *Data are based on Year 2000 Water Quality Assessment.*

SEGMENT NAME	WATERBODY SEGMENT ID	SEGMENT SIZE (MILES)
Adair Branch	TN08010205012_0300	5.9
Allen Creek	TN08010205018_0910	16.3
Bear Creek	TN08010205018_0900	23.1
Bear Creek	TN08010205028_0300	9.7
Bear Creek	TN08010205031_0200	6.4
Beech Bluff Creek	TN08010205036_0200	9.8
Billies Creek	TN08010205023_0310	8.9
Bond Creek	TN08010205012_0600	9.7
Browns Creek	TN08010205028_0150	12.6
Cane Creek	TN08010205012_0700	14.4
Clarks Creek	TN08010205018_0500	31.6
Conneley Creek	TN08010205012_0200	12.7
Cypress Creek	TN08010205012_1200	36.9
Dry Branch	TN08010205012_0810	4.5
Dry Creek	TN08010205018_0700	5.9
Dry Creek	TN08010205023_0110	12.0
Finger Creek	TN08010205018_0300	7.8
Halls Creek	TN08010205036_0100	24.8
Hart Creek	TN08010205012_0920	9.0
Hogwallow Creek	TN08010205023_0320	5.4
Horse Creek	TN08010205023_0400	8.2
Huggins Creek	TN08010205023_0300	40.0
Hunters Creek	TN08010205018_1100	5.6
Jacks Creek	TN08010205023_0100	50.2
Jacobs Creek	TN08010205010_0200	25.9
Jones Creek	TN08010205018_0100	18.4
Jones Creek	TN08010205018_0400	7.1
Kail Creek	TN08010205010_0100	27.4
Lackey Creek	TN08010205012_0910	8.5
Lick Creek	TN08010205031_0100	6.6
Little Nixon Creek	TN08010205005_0100	15.3
Little Sugar Creek	TN08010205022_0200	7.9
Lost Creek	TN08010205005_0400	14.6
Marlin Creek	TN08010205028_0600	8.8
Melton Branch	TN08010205022_0300	4.4
Meridian Creek	TN08010205005_0200	44.0
Meridian Creek	TN08010205017_1000	41.2
Middle Fork Creek	TN08010205028_0500	35.5
Mill Creek	TN08010205001_0200	27.2
Misc Tribs to NF of the SFFD River	TN08010205028_0999	86.9
Misc Tribs to SFFD River	TN08010205001_0999	21.1
Misc tribs to SFFDRiver	TN08010205003_0999	13.5
Misc tribs to SFFD River	TN08010205010_0999	62.8
Misc Tribs to SFFD River	N08010205012_0999	116.3
Misc Tribs to SFD River	TN08010205018_0999	51.9
Misc. Tribs to Nixon Creek	TN08010205005_0999	53.5
Moore Branch	TN08010205018_0200	14.5
Msic tribs to Black Creek	TN08010205031_0999	21.8
Mud Creek	TN08010205011_1000	42.9
Panther Creek	TN08010205012_1300	21.1
Pearsons Creek	TN08010205012_0100	13.9
Pond Creek	TN08010205005_0300	45.2

Sandy Creek	TN08010205023_0120	8.1
South Fork Forked Deer River	TN08010205023_1000	7.5
Spencer Creek	TN08010205028_0400	34.4
Spring Creek	TN08010205023_0130	9.7
Sugar Creek	TN08010205022_1000	58.5
Sweet Lips Creek	TN08010205023_0140	18.6
Tar Creek	TN08010205023_0200	29.5
Turk Creek	TN08010205018_0800	7.1
Turkey Creek	TN08010205018_0600	37.0
Unnamed trib to Black Creek	TN08010205031_0300	15.0
Unnamed trib to Sandy Creek	TN08010205012_0410	3.4
Unnamed trib to SFFD River	TN08010205001_0100	7.2
Unnamed Trib to SFFD River	TN08010205003_0100	22.9
Webb Branch	TN08010205022_0100	16.3

Table A3-1d. Streams Not Assessed in South Fork Forked Deer River Watershed. *Data are based on Year 2000 Water Quality Assessment.*

SEGMENT NAME	WATERBODY SEGMENT ID	SEGMENT SIZE (ACRES)
Graham Lake	TN08010205GRAHAMLK_1000	570

Table A3-1e. Lakes Not Assessed in South Fork Forked Deer River Watershed. *Data are based on Year 2000 Water Quality Assessment.*

SEGMENT NAME	WATERBODY SEGMENT ID	SIZE (MILES)	SUPPORT DESCRIPTION
Black Creek	TN08010205031_1000	12.9	Partial
Johnson Creek	TN08010205012_0900	44.2	Not supporting
Nixon Creek	TN08010205005_1000	20.4	Not supporting
Sandy Creek	TN08010205012_0400	4.3	Not supporting
South Fork Forked Deer River	TN08010205001_1000	15.6	Partial
South Fork Forked Deer River	TN08010205003_1000	6.8	Partial
South Fork Forked Deer River	TN08010205010_1000	13.2	Partial
South Fork Forked Deer River	TN08010205012_1000	21.6	Partial

Table A3-2a. Stream Impairment Due to Habitat Alterations in South Fork Forked Deer River Watershed. *Data are based on Year 2000 Water Quality Assessment.*

SEGMENT NAME	WATERBODY SEGMENT ID	SIZE (MILES)	SUPPORT DESCRIPTION
Black Creek	TN08010205031_1000	12.9	Partial
Nixon Creek	TN08010205005_1000	20.4	Not supporting

Table A3-2b. Stream Impairment Due to Organic Enrichment/Low Dissolved Oxygen Levels in South Fork Forked Deer River Watershed. *Data are based on Year 2000 Water Quality Assessment.*

SEGMENT NAME	WATERBODY SEGMENT ID	SIZE (MILES)	SUPPORT DESCRIPTION
Anderson Branch	TN08010205012_0500	5.2	Partial
Johnson Creek	TN08010205012_0900	44.2	Not supporting
Nixon Creek	TN08010205005_1000	20.4	Not supporting
North Fork of the SFFD River	TN08010205028_1000	24.4	Partial
Sandy Creek	TN08010205012_0400	4.3	Not supporting
South Fork Forked Deer River	TN08010205003_1000	6.8	Partial
South Fork Forked Deer River	TN08010205010_1000	13.2	Partial
South Fork Forked Deer River	TN08010205012_1000	21.6	Partial

Table A3-2c. Stream Impairment Due to Pathogens in South Fork Forked Deer River Watershed. *Data are based on Year 2000 Water Quality Assessment.*

SEGMENT NAME	WATERBODY SEGMENT ID	SIZE (MILES)	SUPPORT DESCRIPTION
Black Creek	TN08010205031_1000	12.9	Partial
Hicks Creek	TN08010205012_0800	28.5	Not supporting
Johnson Creek	TN08010205012_0900	44.2	Not supporting
Nixon Creek	TN08010205005_1000	20.4	Not supporting
South Fork Forked Deer River	TN08010205001_1000	15.6	Partial
South Fork Forked Deer River	TN08010205003_1000	6.8	Partial
South Fork Forked Deer River	TN08010205010_1000	13.2	Partial
South Fork Forked Deer River	TN08010205012_1000	21.6	Partial
Sumrow Creek	TN08010205036_1000	15.7	Partial

Table A3-2d. Stream Impairment Due to Siltation in South Fork Forked Deer River Watershed. *Data are based on Year 2000 Water Quality Assessment.*

APPENDIX IV

LAND USE/LAND COVER	AREAS IN HUC-11 SUBWATERSHEDS (ACRES)							
	010	020	030	040	050	060	070	080
Deciduous Forest	14,165	16,281	10,317	10,557	3,387	16,761	5,014	5,185
Evergreen Forest	3,284	3,251	1,575	1,138		1,883	1,553	629
High Intensity:								
Commercial/Industrial/Transportation	13	2	102	42	11	19	0	24
High Intensity: Residential	4	4	140	10	1	8		
Low Intensity: Residential	33	6	955	135	31	88	5	1
Mixed Forest	2,747	2,671	3,364	1,752	771	2,797	1,212	967
Open Water	214	78	156	82	66	147	41	30
Other Grasses: Urban/Recreational	0	0	59	3		105	4	1
Pasture/Hay	5,296	8,496	11,911	7,069	3,643	8,087	3,251	5,128
Row Crops	4,023	5,940	7,306	4,403	1,883	5,617	2,468	3,939
Transitional	86	27	64	15	6	25	19	11
Woody Wetlands	1,475	940	3,935	287		1,832	713	2,403
Emergent Herbaceous Wetlands			2,398		575		205	87
Quarries/Strip Mines	17							
Total	**31,356**	**37,697**	**42,284**	**25,494**	**10,374**	**37,369**	**14,484**	**18,404**

LAND USE/LAND COVER	AREAS IN HUC-11 SUBWATERSHEDS (ACRES)					
	090	100	110	120	130	140
Deciduous Forest	13,059	15,860	6,633	4,936	7,664	3,975
Evergreen Forest	1,177	987	1,029	1,080	1,259	465
High Intensity:						
Commercial/Industrial/Transportation	12	112	1,376	41	103	225
High Intensity: Residential	8	9	1,199	52	0	106
Low Intensity: Residential	45	285	5,713	680	28	569
Mixed Forest	2,253	2,775	2,461	1,345	2,093	1,977
Open Water	352	644	336	141	228	223
Other Grasses: Urban/Recreational	1	1	540	4	513	107
Pasture/Hay	7,731	6,397	6,314	2,592	4,372	6,096
Row Crops	6,977	5,818	5,514	1,874	6,809	8,681
Transitional	57	53	173	2	19	45
Woody Wetlands	3,550	1,780	4,068	28	24	3,410
Emergent Herbaceous Wetlands	927	599	1,010			1,082
Quarries/Strip Mines			8			
Small Grains	75				18	155
Total	**36,224**	**35,320**	**36,375**	**12,775**	**23,129**	**27,115**

LAND USE/LAND COVER	AREAS IN HUC-11 SUBWATERSHEDS (ACRES)					
	150	160	170	180	190	200
Deciduous Forest	1,003	1,648	566	154	1,077	923
Evergreen Forest	138	143	52	15	67	89
High Intensity: Commercial/Industrial/Transportation	28	96	62	45	23	88
High Intensity: Residential		94	0	34	2	315
Low Intensity: Residential	17	412	42	131	8	655
Mixed Forest	581	1,085	520	156	558	531
Open Water	10	312	59	47	953	77
Other Grasses: Urban/Recreational		16		6		93
Pasture/Hay	3,330	11,904	4,797	4,123	6,859	4,936
Row Crops	8,005	17,629	9,748	7,507	19,369	12,821
Transitional	0	38		30	6	4
Woody Wetlands	1,655	5,568	32	10	9,825	741
Emergent Herbaceous Wetlands		473			1,098	
Quarries/Strip Mines						
Small Grains	35	156		187	1	
Bare Rocks, Sand, Clay				13		
Total	**14,802**	**39,574**	**15,878**	**12,458**	**39,847**	**21,272**

LAND USE/LAND COVER	AREAS IN HUC-11 SUBWATERSHEDS (ACRES)					
	210	220	230	240	250	260
Deciduous Forest	1,839	757	778	2,459	1,384	2,707
Evergreen Forest	68	47	57	203	154	189
High Intensity: Commercial/Industrial/Transportation	22	15	33	95	72	238
High Intensity: Residential	3		17	113		171
Low Intensity: Residential	7	7	68	251	4	382
Mixed Forest	719	207	306	1,750	768	1,229
Open Water	93	23	86	33	25	665
Other Grasses: Urban/Recreational	1		8	32	157	337
Pasture/Hay	5,523	2,605	3,954	4,964	4,132	6,679
Row Crops	23,163	13,821	16,137	9,404	5,063	22,451
Transitional	22	4	2	25	48	161
Woody Wetlands	4,166	1,186	119			3,948
Emergent Herbaceous Wetlands						
Quarries/Strip Mines						
Small Grains	350		33			
Total	**35,976**	**18,670**	**21,597**	**19,328**	**12,057**	**39,156**

Table A4-1. Land Use Distribution in South Fork Forked Deer River Watershed by HUC-11. *Data is from 1992 Multi-Resolution Land Characterization (MRLC) derived by applying a generalized Anderson Level II system to mosaics of Landsat thematic mapper images collected every five years.*

HYDROLOGIC SOIL GROUPS
GROUP A SOILS have low runoff potential and high infiltration rates even when wet. They consist chiefly of sand and gravel and are well to excessively drained. **GROUP B SOILS** have moderate infiltration rates when wet and consist chiefly of soils that are moderately deep to deep, moderately to well drained, and moderately coarse to coarse textures. **GROUP C SOILS** have low infiltration rates when wet and consist chiefly of soils having a layer that impedes downward movement of water with moderately fine to fine texture. **GROUP D SOILS** have high runoff potential, very low infiltration rates, and consist chiefly of clay soils.

Table A4-2. Hydrologic Soil Groups in Tennessee as Described in WCS.

STATION	HUC-11	NAME	AREA (SQ MILES)	PERIOD OF OBSERVATIONS	FLOW (CFS)		
					Min	Max	Mean
07027500	08010205110	SFFD River	495.0	07/01/29-09/06/91	70.0	35,200.0	726.0
07027800	08010205260	SFFD River	932.0	10/01/68-12/31/81	145.0	33,400.0	1,389.0
07028100	08010205260	SFFD River	1,019.0	01/01/55-09/30/84	94.0	34,000.0	1,407.0
07028000	08010205260	SFFD River	1,003.0	07/01/29-09/30/57	102.0	43,900.0	1,403.0

Table A4-3. Historical USGS Streamflow Data Summary Based on Mean Daily Flows in South Fork Forked Deer River Watershed. *Min, absolute minimum flow for period of record.*

PARAMETER ID	PARAMETER NAME
00010	Water Temperature (Degrees Centigrade)
00061	Flow, Stream, Instantaneous (cfs)
00065	Stream Stage (Feet)
00080	Color (Platinum-Cobalt Units)
00094	Specific Conductance, Field (μmhos/cm @ 25° C)
00095	Specific Conductance, Field (μmhos/cm @ 25° C)
00299	Oxygen, Dissolved, Analysis by Probe (mg/L)
00300	Oxygen, Dissolved (mg/L)
00310	BOD 5 Day @ 20° C (mg/L)
00335	COD (Low Level) in .025 N $K_2Cr_2O_7$ (mg/L)
00340	COD (High Level) in .025 N $K_2Cr_2O_7$ (mg/L)
00400	pH (Standard Units)
00410	Alkalinity, Total (mg/L as $CaCO_3$)
00431	Alkalinity, Total Field (mg/L as $CaCO_3$)
00515	Residue, Total Filtrable (mg/L)
00530	Residue, Total Nonfiltrable (mg/L)
00605	Nitrogen, Organic, Total (mg/L as N)
00608	Nitrogen Ammonia , Dissolved (mg/L as N)
00610	Nitrogen Ammonia , Total (mg/L as N)
00613	Nitrite Nitrogen, Dissolved (mg/L as N)
00619	Ammonia, Unionized (Calculated From Temp-pH-NH_4; mg/L)
00620	Nitrate Nitrogen, Total (mg/L as N)
00623	Nitrogen, Kjeldahl, Dissolved (mg/L as N)
00625	Nitrogen, Kjeldahl, Total (mg/L as N)
00630	Nitrite Plus Nitrate, Total (1 Determination mg/L as N)
00631	Nitrite Plus Nitrate, Dissolved (1 Determination mg/L as N)
00665	Phosphorus, Total (mg/L as P)
00666	Phosphorus, Dissolved (mg/L as P)
00671	Phosphorus, Dissolved Orthophosphate (mg/L as P)
00680	Carbon, Total Organic (mg/L as C)
00900	Hardness, Total (mg/L as $CaCO_3$)
00915	Calcium, Dissolved (mg/L as Ca)
00916	Calcium, Total (mg/L as Ca)
00925	Magnesium, Dissolved (mg/L as Mg)
00927	Magnesium, Total (mg/L as Mg)
00929	Sodium, Total (mg/L as Na)
00930	Sodium, Dissolved (mg/L as Na)
00935	Potassium, Dissolved (mg/L as K)
00937	Potassium, Total (mg/L as K)
00940	Chloride, Total In Water (mg/L)
00941	Chloride, Dissolved in Water (mg/L)
00945	Sulfate, Total (mg/L as SO_4)
00946	Sulfate, Dissolved (mg/L as SO_4)
00950	Fluoride, Dissolved (mg/L as F)
00955	Silica, Dissolved (mg/L as SiO_2)
01002	Arsenic, Total (μg/L as As)
01007	Barium, Total (μg/L as Ba)
01025	Cadmium, Dissolved (μg/L as Cd)
01027	Cadmium, Total (μg/L as Cd)
01034	Chromium, Total (μg/L as Cr)
01040	Copper, Dissolved (μg/L as Cu)
01042	Copper, Total (μg/L as Cu)
01045	Iron, Total (μg/L as Fe)

01046	Iron, Dissolved (µg/L as Fe)
01049	Lead, Dissolved (µg/L as Pb)
01051	Lead, Total (µg/L as Pb)
01065	Nickel, Dissolved (µg/L as Ni)
01067	Nickel, Total (µg/L as Ni)
01075	Silver Dissolved (µg/L as Ag)
01077	Silver Total (µg/L as Ag)
01090	Zinc, Dissolved (µg/L as Zn)
01092	Zinc, Total (µg/L as Zn)
01105	Aluminum, Total (µl as Al)
01106	Aluminum, Dissolved (µl as Al)
01147	Selenium, Total (µl as Se)
31616	Fecal Coliform (Membrane Filter, M-FC Broth at 44.5^{o} C)
31613	Fecal Coliform (Membrane Filter, M-FC Agar at 44.5^{o} C, 24 h)
31625	Fecal Coliform (Membrane Filter, M-FC, 0.7 UM)
31673	Fecal Streptococci, (Membrane Filter, KF Agar, at 35^{o}C, 48h)
39086	Alkalinity, Water, Dissolved, Field Titration (mg/l as $CaCO_3$)
70300	Residue, Total Filtable (Dried at 180^{o}C, as mg/L)
70507	Phosphorus, in Total Orthophosphate (mg/L as P)
71845	Nitrogen, Ammonia, Total (mg/L as NH_4)
71900	Mercury, Total (µg/L as Hg)
80154	Suspended Sediment (Evaporation at 110^{o}C, as mg/L)
82078	Turbitity, Field (as Nephelometric Turbidity Units, NTU)
82079	Turbitity, Lab (as Nephelometric Turbidity Units, NTU)

Table A4-4. Water Quality Parameters and Codes.

PARAMETER ID	SUBWATERSHED			
	060	100	160	260
00010	a	b		d,e
00061		b		
00080		b		
00094	a	b		d,e
00095	a			
00300	a	b		d,e
00310				d,e
00400	a	b		d,e
00410	a	b		d,e
00515		b		d
00530	a	b		d,e
00610	a	b	c	d,e
00619	a	b		d,e
00630	a	b	c	d,e
00665	a	b	c	d,e
00900	a	b		d,e
00940		b		
01002	a	b		d,e
01027	a	b		d,e
01034	a	b		d,e
01042	a	b		d,e
01045		b		
01051	a	b		d,e
01067	a	b		d,e
01092	a	b		d,e
31616	a	b		d,e
71900	a	b		d,e

Table A4-5. Water Quality Parameters Monitored at STORET Sites in the South Fork Forked Deer River Watershed.

CODE	STATION	ALIAS	AGENCY	LOCATION
a	002472	SFFDE062.0MN	TDEC	South Fork Forked Deer River @ RM 62.0
b	ECO65e08		TDEC	Harris Creek @ RM 2.19
c	002487	SFFDE043.2MN	TDEC	South Fork Forked Deer River @ RM 43.2
d	SFKFKDEER019.1	SFFDE019.1LE	TDEC	South Fork Forked Deer River @ Hwy 88
e	002510	SFFDE007.2LE	TDEC	South Fork Forked Deer River @RM 7.5

Table A4-6. Water Quality Monitoring STORET Stations in the South Fork Forked Deer River Watershed. *TDEC, Tennessee Department of Environment and Conservation.*

FACILITY NUMBER	FACILITY NAME	SIC	SIC NAME	MADI	RECEIVING WATER	HUC-11
TN0026026	Henderson-East Lagoon	4952	Sewerage System	Minor	SFFD @ RM 73.2	08010205030
TN0064220	Henderson-North Lagoon	4952	Sewerage System	Minor	SFFD @ RM 67.3	08010205030
TN0064238	Henderson-South Lagoon	4952	Sewerage System	Minor	SFFD @ RM 74.9	08010205030
TN0067083	Pinson US STP	4952	Sewerage System	Minor	SFFD @ RM 65.7	08010205060
TN0023272	Beech Bluff School STP	4952	Sewerage System	Minor	RM 1.7 of trib to North Fork of SFFD @ RM 8.1	08010205090
TN0068390	Van de Kamp, Inc.	2038	Frozen Specialties	Minor	RM 1.4 of trib to Jones Creek @ RM 2.7 to SFFD River @ RM 56.7	08010205110
TN0024813	Jackson UD STP	4952	Sewerage System	Major	SFFD @ RM 50.8 and @ RM 51.1	08010205110
TN0000264	Consolidated Aluminum	3353	Sheet Aluminum	Major	RM 2.6 o a tributary to Anderson Branch @ RM 2.5	08010205110
TN0067563	U.S. Silica Company	5085	Industrial Supplies	Minor	RM 2.5 of trib to SFFD @ RM 51.7	08010205110
TN0057665	Miller Lumber Company	2411	Logging	Minor	RM 0.5 of trib to Sandy Creek @ RM 0.7	08010205110
TN0058017	Kelly Foods	2091	Canned/Cured Fish and Seafood	Minor	Storm Drain to Sandy Creek @ RM 0.5	08010205110
TN0023311	West Middle School STP	4952	Sewerage System	Minor	RM 0.1 of trib to Johnson Creek @ RM 5.3	08010205130
TN0056472	Denmark School	4952	Sewerage System	Minor	Cub Creek @ RM 7.8	08010205130
TN0022519	Wilhite's 76 Truck Stop	4953	Waste Treatment and Disposal	Minor	Panther Creek @ RM 6.9 and RM 0.2 of trib to Panther Creek @ RM 6.9	08010205160
TN0023230	Econolodge-Denmark	4952	Sewerage System	Minor	RM 0.6 of trib to Panther Creek @ RM 6.9	08010205160

TN0055786	Pictsweet Frozen Foods	0723	Crop Preparation	Minor	Wet Weather Conveyance to trib @ RM 2.9 to SFFD @ RM 35.8	08010205160
TN0026247	Bells Lagoon	4952	Sewerage System	Major	Old Channel SFFD	08010205170
TN0065218	Maury City WWTP	4952	Sewerage System	Minor	SFFD @ RM 27.1	08010205190
TN0041921	Dynametal Technologies	3568	Mechanical Power Transmission	Minor	Impoundment Pond to RM 2.6 of trib to Little Nixon Creek @ RM 4.1	08010205200
TN0041939	Haywood Company	2869	Other Organic	Minor	RM 0.7 of a trib to Little Nixon Creek @ RM 4.1	08010205200
TN0064301	51 Travel Center STP	4952	Sewerage System	Minor	Drain Field	08010205260
TN0057291	Halls lagoon	4952	Sewerage System	Major	SFFD @ RM 10.8	08010205260

Table A4-7. Active Permitted Point Source Facilities in the South Fork Forked Deer River Watershed. *SIC, Standard Industrial Classification; MADI, Major Discharge Indicator.*

FACILITY NUMBER	FACILITY NAME	SIC	SIC NAME	RECEIVING WATER	HUC-11
TN0072036	Memphis Stone & Gravel Co: Deadfall Road Pit	1442	Construction Sand and Gravel	Trib to Crooked Fork and Beaver Creeks	08010205040
TN0070807	U.S. Silica Company: Jackson Quarry	1442	Construction Sand and Gravel	Hicks Creek	08010205110
TN0070939	Teague Transports: Westover Sand Plant	1442	Construction Sand and Gravel	Hicks Creek	08010205110
TN0069094	Dement Construction Co: Denmark Sand Plant	1442	Construction Sand and Gravel	Hart Creek	08010205130
TN0070777	Jackson Sand: Mine #1	1442	Construction Sand and Gravel	Unnamed Drainage to SFFD	08010205140
TN0071994	McArmour Enterprises: Armour Pit	1442	Construction Sand and Gravel	Lost Creek	08010205210
TN0069108	Dement Construction Co: Parks Gravel Pit	1442	Construction Sand and Gravel	Tisdale Creek	08010205240
TN0069116	Dement Construction Co: Ford Gravel Pit	1442	Construction Sand and Gravel	Trib to Tisdale Creek	08010205240
TN0070955	Ford Construction Co: Eugene White Pit	1442	Construction Sand and Gravel	Tisdale Creek	08010205240
TN0071901	White Sand and Gravel: Sand and Gravel Mine	1442	Construction Sand and Gravel	Tisdale Creek	08010205240

Table A4-8. Active Mining Sites in the South Fork Forked Deer River Watershed. *SIC, Standard Industrial Classification.*

LOG NUMBER	COUNTY	DESCRIPTION	WATERBODY	HUC-11
98.130	McNairy	Rip-Rap	Huggins Creek @ RM2.68	08010205010
98.623	Madison	Culveret Extension	Turk Creek @ 0.84	08010205060
98.624	Madison	Road Crossing	Turk Creek @ 0.86	08010205060
99.522C	Madison	Debris Removal	SFFD @ RM 1.85	08010205060
99.522D	Madison	Debris Removal	Turk Creek @ RM 0.84	08010205060
99.522H	Madison	Debris Removal	Hunters Creek @ RM 3.94	08010205060
99.358	Madison	Bridge and Approaches	SFFD	08010205090
99.522J	Madison	Debris Removal	Brown Creek @ RM 4.41	08010205090
99.380	Madison	Bank Stabilization	Central Creek in Jackson	08010205110
99.403	Madison	Debris removal	Sandy Creek us/ U.S. 45/70	08010205110
99.522I	Madison	Debris Removal	Anderson Branch @ RM 0.45	08010205110
99.522R	Madison	Debris Removal	Anderson Branch @ RM 18.0	08010205110
99.375	Madison	Wetland Fill: 1.06 Acres	Meridian Creek	08010205120
99.522E	Madison	Debris Removal	Meridian Creek @ RM 4.70	08010205120
99.522K	Madison	Debris Removal	Cub Creek @ RM 8.56	08010205140
99.522S	Madison	Debris Removal	Unnamed Trib @ RM 1.31	08010205140
99.522T	Madison	Debris Removal	Unnamed Trib @ RM 5.06	08010205140
99.522U	Madison	Debris Removal	SFFD @ RM 7.19	08010205140
99.522V	Madison	Debris Removal	Adair Branch @ RM 3.06	08010205140
99.522W	Madison	Debris Removal	Unnamed Trib @ RM 6.51	08010205140
99.021	Madison	Bridge and Approaches	Cypress Creek @ RM 0.37	08010205150
99.022	Madison	Bridge and Approaches	Cypress Creek @ RM 0.37	08010205150
99.268	Madison	Bridge Scour Repair	Cypress Creek @ RM 3.29	08010205150
98.268	Haywood	Bridge Scour Repair	Mud Creek @ RM 21.59	08010205170
98.267	Haywood	Bridge Scour Repair	Jacock's Creek @ SR 76	08010205190
99.267	Haywood	Bridge Scour Repair	Trib to Pond Crk @ RM 2.61	08010205210
98.219	Lauderdale	Bridge Scour Repair	Sumrow Creek @ RM 19.21	08010205240
99.049	Lauderdale	Bridge Scour Repair	Tisdale Creek @ RM 14.55	08010205240
99.288	Lauderdale	Bridge Scour Repair	Unnamed Trib to Sumrow Crk	08010205240

Table A4-9. Individual ARAP Permits Issued January 1994 Through June 2000 in South Fork Forked Deer River Watershed.

PERMIT #	COUNTY	DATE ISSUED	SITE	IMPACTED ACRES	IMPACTED WATER	MITIGATION	HUC-11
95.494	McNairy	10/09/95	US 45	0.75	Huggins Crk	On-Site	08010205010
	Chester		SR 22A	0.43	Jack's Creek	On-Site	08010205020
95.026	Chester	05/05/95	SR 5	7.95	Sugar Creek	On-Site	08010205040
95.651	McNairy/Chester	12/05/95	SR 5	7.95	Sugar Creek	On-Site	08010205040
	Madison	08/29/95	SR 5	3.0	SFFD	On-Site	08010205110
	Madison	07/05/90	Riverside Dr.	1.0	SFFD	On-Site	08010205110
94.013	Madison	09/01/94	SFFD @ RM 94	27.5	SFFD	Off-Site	08010205140
99.021	Madison	05/10/99	St. Johns Road	0.091	Cypress Crk	Off-Site	08010205150

Table A4-10. Individual ARAP Permits Issued for Impacting Wetlands in South Fork Forked Deer River Watershed.

PERMIT #	COUNTY	IMPACTED ACREAGE	MITIGATION ACREAGE	MITIGATION	HUC-11
95.494	McNairy	0.75	3.0	On-Site	08010205101
95.651	McNairy/Chester	7.95	17.0	On-Site	08010205040
	Madison	3.0	3.0		08010205110
	Madison	1.0	1.0		08010205110
94.013	Madison	27.5	55.0	Off-Site	08010205140

Table A4-11. Individual ARAP Permits Issued for Mitigating Wetlands in South Fork Forked Deer River Watershed.

APPENDIX V

CONSERVATION PRACTICE	UNITS	AMOUNT
Alley Cropping	Acres	0
Contour Buffer Strips	Acres	0
Crosswind Trap Strips	Acres	0
Grassed Waterways	Acres	0
Filter Strips	Acres	59
Riparian Forest Buffers	Acres	0
Streambank and Shoreline Protection	Feet	2,500
Windbreaks and Shelterbelts	Feet	0
Hedgerow Plantings	Feet	0
Herbaceous Wind Barriers	Feet	0
Field Borders	Feet	322,000

Table A5-1a. Conservation Buffers Conservation Practices in Partnership with NRCS in South Fork Forked Deer River Watershed. *Data are from Performance & Results Measurement System (PRMS) for October 1, 1999 through September 30, 2000 reporting period.*

PARAMETER	TOTAL
Highly Erodible Land With Erosion Control Practices	7,625
Estimated Annual Soil Saved By Erosion Control Measures (Tons/Year)	102,641
Total Acres Treated With Erosion Control Measures	7,910

Table A5-1b. Erosion Control Conservation Practices in Partnership with NRCS in South Fork Forked Deer River Watershed. *Data are from PRMS for October 1, 1999 through September 30, 2000 reporting period.*

PARAMETER	TOTAL
Acres of AFO Nutrient Management Applied	0
Acres of Non-AFO Nutrient Management Applied	3,564
Total Acres Applied	3,564

Table A5-1c. Nutrient Management Conservation Practices in Partnership with NRCS in South Fork Forked Deer River Watershed. *Data are from PRMS and represent total of Watts Bar and Fort Loudoun Lake Subwatersheds for October 1, 1999 through September 30, 2000 reporting period.*

PARAMETER	TOTAL
Number of Pest Management Systems	29
Acres of Pest Management Systems	2,558

Table A5-1d. Pest Management Conservation Practices in Partnership with NRCS in South Fork Forked Deer River Watershed. *Data are from PRMS for October 1, 1999 through September 30, 2000 reporting period.*

CONSERVATION PRACTICE	ACRES
Acres of Coniferous Tree and Shrub Establishment	493
Acres Prepared for Revegetation of Forestland	0
Acres Improved Through Forest Stand Improvement	0
Acres of Tree and Shrub Establishment	520

Table A5-1e. Tree and Shrub Conservation Practices in Partnership with NRCS in South Fork Forked Deer River Watershed. *Data are from PRMS for October 1, 1999 through September 30, 2000 reporting period.*

CONSERVATION PRACTICE	ACRES
Acres of Upland Habitat Management	1,152
Acres of Wetland Habitat Management	51
Total Acres Wildlife Habitat Management	1,203

Table A5-1f. Wildlife Habitat Management Conservation Practices in Partnership with NRCS in South Fork Forked Deer River Watershed. *Data are from PRMS for October 1, 1999 through September 30, 2000 reporting period.*

COMMUNITY	TYPE OF LOAN	PROJECT DESCRIPTION	AWARD DATE
Brownsville	Plan, Design, Construction	New Lagoon Cell, Modification to WWTP	7/13/2000
Henderson	Construction	Gravity Collection Lines: New Addition and Extension	6/25/90
Jackson	Design, Construction	Extend Water Main	3/25/1998
Jackson	Plan, Design, Construction	Sewer Rehabilitation	6/24/1997
Jackson	Plan, Design, Construction	New WWTP	8/31/1991
Pinson	Construction	Construct STP and Collection System	2/5/1992

Table A5-2. Communities in South Fork Forked Deer River Watershed Receiving SRF Grants or Loans.

PRACTICE	COUNTY	NUMBER OF BMPs
Cattle Panel - GSS	Crockett	1
Conservation Cover	Chester	1
Critical Area Treatment	Chester	2
Critical Area Treatment	Lauderdale	1
Cropland Conversion	Fayette	1
Cropland Conversion	Madison	2
Diversion	Lauderdale	7
Fencing	Chester	1
Grade Control	Madison	1
Grade Control Structure	Madison	1
Grade Stabilization	Lauderdale	2
Grade Stabilization	Madison	3
Grade Stabilization Structure	Crockett	2
Grade Stabilization Structure	Lauderdale	3
Grade Structure	Lauderdale	5
Hayland Planting	Chester	5
Heavy Use Area	Chester	2
Nutrient Management	Chester	1
Pasture & Hayland Mgmt.	Chester	3
Pasture & Hayland Planting	Chester	2
Pasture Establishment	Henderson	1
Pasture Renovation	Chester	1
Pasture Renovation	Henderson	2
Pest Management	Chester	1
Pond	Dyer	1
Sediment Control Basin	Lauderdale	3
Seeding/Pasture Mgt.	Henderson	3
Seeding/Pasture Mgt.	Lauderdale	1
Stream Crossing	Chester	1
Terraces	Chester	5
Terraces	Crockett	8
Terraces	Lauderdale	4
Terraces	Madison	7
Water & Sediment Control Basin	Crockett	6
Water/Sediment Control Basin	Lauderdale	4
Waterway	Madison	1
Winter Cover	Madison	3

Table A5-3. Best Management Practices Installed by Tennessee Department of Agriculture and Partners in South Fork Forked Deer River Watershed.

SITE ID	WATER BODY
1199000301	Clarks Creek
1199000302	Clarks Creek
1199000401	Jacks Creek
1199000402	Jacks Creek
1199000701	Pond Creek
1199001402	Nixion Creek
1199101601	South Fork Forked Deer River
1199101602	South Fork Forked Deer River
1199101603	South Fork Forked Deer River
1199202401	Johnson Creek
1199202402	Johnson Creek
1199300701	Finger Creek
1199300801	Jones Creek
1199300901	Sandy Creek
1199301001	Sweetlips Creek
1199302001	Middle Fork Creek
1199302002	Middle Fork Creek
1199303101	Browns Creek
1199303201	Cotton Grove Creek
1199303301	Cub Creek
1199303401	Harris Creek
1199303402	Harris Creek
1199303501	Jones Creek
1199400501	Sugar Creek
1199400601	Turkey Creek
1199400602	Turkey Creek
1199401101	Spencer Creek
1199402101	Allen Creek
1199402201	Bear Creek
1199402202	Bear Creek
1199402301	Cane Creek
1199402401	Hunter Creek
1199402501	Meridian Creek
1199402502	Meridian Creek
1199402601	Billie Branch
1199402801	Huggins Creek
1199402802	Huggins Creek
1199402803	Huggins Creek
1199402901	Tar Creek
1199402902	Tar Creek
1199500101	Black Creek
1199500102	Black Creek
1199501001	C0bb Creek
1199501201	Kail Creek
1199501301	Meridian Creek

1199501401	Mud Creek
1199501402	Mud Creek
1199501501	Otter Creek
1199502001	Sumrow Creek
1199502101	Bear Creek
1199502202	Bear Creek
1199502301	Jones Creek
1199502401	Marlin Creek
1199502402	Marlin Creek
1199502501	Trace Creek
1199502901	Tisdale Creek

Table A5-4. TWRA TADS Sampling Sites in South Fork Forked Deer River Watershed.