Ecological Data Collected in the Santee River Basin and Coastal Drainages, North and South Carolina, 1996-98

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U.S. Geological Survey

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FOREWORD

The U.S. Geological Survey (USGS) is committed to serve the Nation with accurate and timely scientific information that helps enhance and protect the overall quality of life, and facilitates effective management of water, biological, energy, and mineral resources. Information on the quality of the Nation's water resources is of critical interest to the USGS because it is so integrally linked to the long-term availability of water that is clean and safe for drinking and recreation and that is suitable for industry, irrigation, and habitat for fishes and wildlife. Escalating population growth and increasing demands for these multiple water uses make water availability, now measured in terms of quantity *and* quality, even more critical to the long-term sustainability of our communities and ecosystems.

The USGS implemented the National Water-Quality Assessment (NAWQA) program to support national, regional, and local information needs and decisions related to water-quality management and policy. Shaped by and coordinated with ongoing efforts of other Federal, State, and local agencies, the NAWQA Program is designed to answer: What is the condition of our Nation's streams and ground water? How are the conditions changing over time? How do natural features and human activities affect the quality of streams and ground water, and where are those effects most pronounced? By combining information on water chemistry, physical characteristics, stream habitat, and aquatic life, the NAWQA Program aims to provide science-based insights for current and emerging water issues. Program results can contribute to informed decisions that result in practical and effective water-resource management and strategies that protect and restore water quality.

Since 1991, the NAWQA Program has implemented interdisciplinary assessments in more than 50 of the Nation's most important river basins and aquifers, referred to as "study units." Collectively, these study units account for more than 60 percent of the overall water use and population served by public-water supply, and are representative of the Nation's major hydrologic landscapes, priority ecological resources, and agricultural, urban, and natural sources of contamination.

Each assessment is guided by a nationally consistent study design and methods of sampling and analysis. The assessments thereby build local knowledge about water-quality issues and trends in a particular stream or aquifer while providing an understanding of how and why water quality varies regionally and nationally. The consistent, multiscale approach helps to determine if certain types of water-quality issues are isolated or pervasive, and allows direct comparisons of how human activities and natural processes affect water quality and ecological health in the Nation's diverse geographic and environmental settings. Comprehensive assessments on pesticides, nutrients, volatile organic compounds, trace metals, and aquatic ecology are developed at the national scale through comparative analyses of the study-unit findings.

The USGS places high value on the communication and dissemination of credible, timely, and relevant science so that the most recent and available knowledge about water resources can be applied in management and policy decisions. We hope this NAWQA publication will provide you the needed insights and information to meet your needs, and thereby foster increased awareness and involvement in the protection and restoration of our Nation's waters.

The NAWQA Program recognizes that a national assessment by a single program cannot address all water-resource issues of interest. External coordination at all levels is critical for a fully integrated understanding of watersheds and for cost-effective management, regulation, and conservation of our Nation's water resources. The program, therefore, depends extensively on the advice, cooperation, and information from other Federal, State, interstate, tribal, and local agencies, nongovernment organizations, industry, academia, and other stakeholder groups. The assistance and suggestions of all are greatly appreciated.

Robert M. Hirsch
Associate Director for Water

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Conversion Factors

Multiply	By	To obtain
centimeter (cm)	0.3937	inch
square centimeter (cm^2)	0.001076	square foot
meter (m)	3.281	foot
square meter (m^2)	10.76	square foot
square kilometer (km^2)	0.3861	square mile

Additional Abbreviations and Acronyms

mL	milliliter
µm	micrograms per liter
<	less than
>	greater than
ANSP	Academy of Natural Sciences (Philadelphia)
DTH	depositional targeted habitat
NAWQA	National Water-Quality Assessment program
QMH	qualitative multihabitat
RTH	richest targeted habitat
SANT	Santee River Basin and Coastal Drainages study unit
USGS	U.S. Geological Survey

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ABSTRACT

As part of the National Water-Quality Assessment Program, ecological investigations were conducted in 23 reaches of 16 streams in the Santee River Basin and Coastal Drainages study unit in North and South Carolina during 1996-98. Habitat characteristics, such as stream width and depth, bank composition, bank vegetative cover, stream shading by overhanging vegetation, and streambed composition were recorded. Algal and benthic invertebrate communities were sampled using quantitative and qualitative techniques. These data will provide information needed to: (1) support findings of the effects of human land-use activities on water quality by augmenting or enhancing physical and chemical water-quality data, (2) provide a basic overview of aquatic community structure in selected stream reaches in the study unit, and (3) provide a means for comparing aquatic communities in subsequent years of the assessment program.

INTRODUCTION

During 1996-98, ecological data were collected in the Santee River Basin and Coastal Drainages (SANT) study unit (fig. 1) as part of the U.S. Geological Survey (USGS) National Water-Quality Assessment (NAWQA) Program. An objective of this ongoing investigation is an attempt to integrate ecological data with more traditional chemical and physical methods of determining the quality of water. These data were collected coincidentally with surface-water-quality data (Maluk, 2000), bed-sediment and tissue data (Abrahamsen, 1999), and ground-water-quality data as part of the comprehensive investigation within the study unit (Hughes and others, 2000).

The NAWQA Program is designed to evaluate the quality of the Nation's water resources and to link an assessment of the status and trends in water quality with an understanding of the natural and human factors that affect the quality of water. That assessment is based on a nationally consistent design structure that incorporates a multiscale, interdisciplinary approach for ground-water and surface-water investigations. The goal of the program is to provide an understanding of the causes of processes that affect water quality at various spatial and temporal scales, so that knowledge

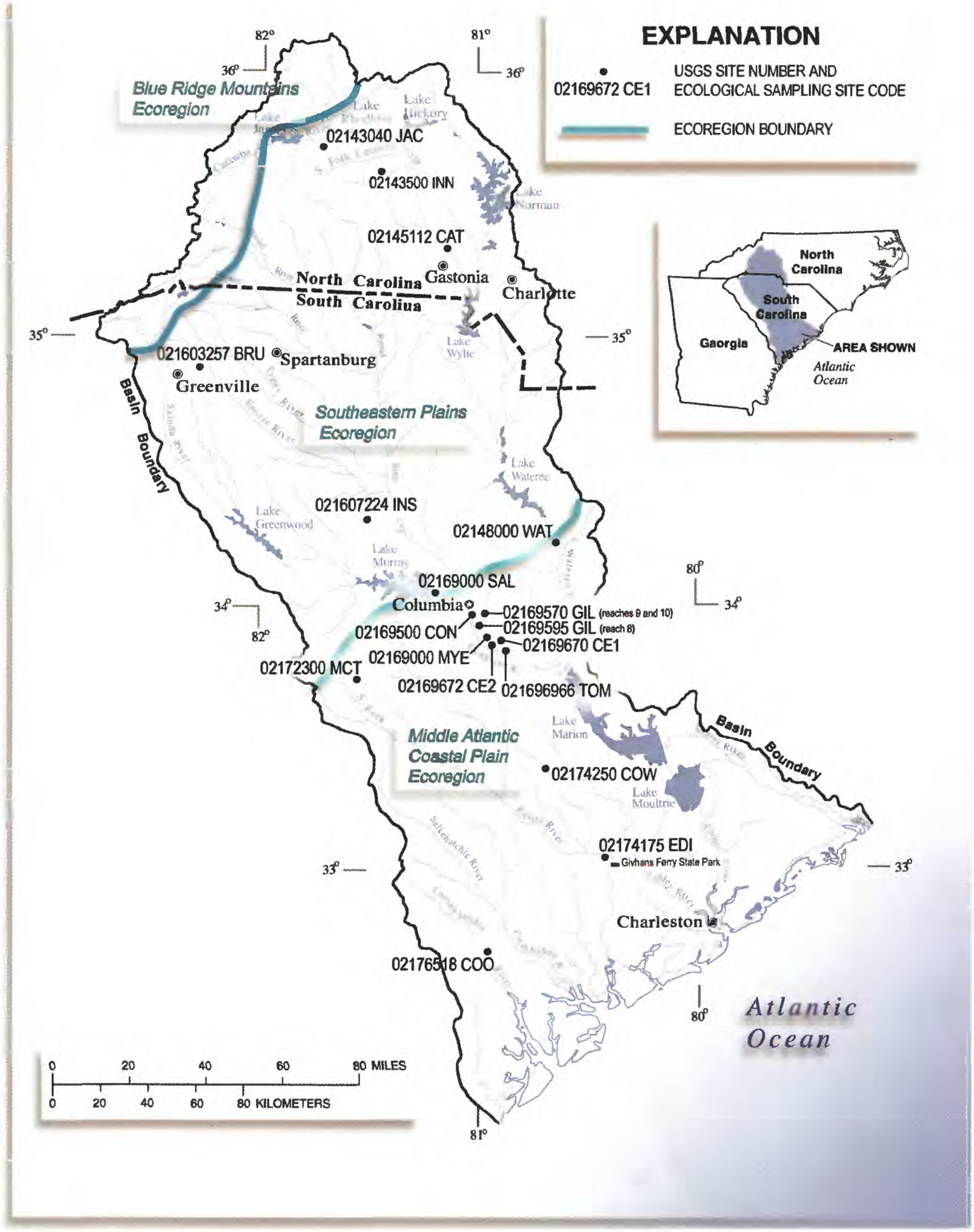


Figure 1. Location of the Santee River Basin and Coastal Drainages (SANT) study unit and ecological sampling sites, North and South Carolina.

can be useful in policy and management actions that improve water quality. The program integrates information about water quality for a wide range of spatial scales, locally and nationally. For example, it focuses on water-quality conditions, such as organic compounds and trace elements in water associated with urban areas, and nutrients and pesticide concentrations in water associated with large agricultural regions.

The building blocks of the NAWQA Program are study-unit investigations in 51 major hydrologic basins in the United States (Leahy and others, 1990). These study units cover about one-half of the area of the country (fig. 2) and encompass 60 to 70 percent of the public water supplies. They include hydrologic systems having diverse human and natural factors that can affect water quality. The SANT is one of these study units.

Purpose and Scope

Ecological data, collected as part of the NAWQA Program in the SANT study unit (fig. 1) during 1996-98, are presented in this report. The data describe ecological characteristics in 23 stream reaches within 16 different streams (table 1). Habitat measurements were made in 16 categories that include stream-channel geomorphology, substrate composition, and water-column characteristics (tables 2-8). Riparian-zone tree species were identified and measured (tables 9-26). Aquatic community measurements involved qualitative and quantitative collections of algae (tables 27-28), benthic invertebrates (tables 29-30), and fishes (table 31) from a variety of habitats. Tables 2-31 are presented as appendixes. Descriptions of data-collection methods and explanations of pertinent reach characteristics are provided in the text.

Description of the Study Unit

The SANT study unit (fig. 1) encompasses approximately 61,100 square kilometers (km^2) and contains parts of western North Carolina and much of South Carolina. Sections of three ecoregions—the Blue Ridge, the Southeastern Plains, and the Middle Atlantic Coastal Plain (Omernik, 1987, 1995)—are included within the study unit. Major streams in the study unit include the: Saluda, Broad, Congaree, Catawba, and Wateree Rivers. The Saluda and Broad Rivers converge to form the Congaree River, at Columbia, S.C. The Catawba River (with headwaters in North Carolina) becomes the Wateree River in S.C., downstream of Lake Wateree. The Wateree and Congaree Rivers converge to form the Santee River which then forms Lakes Marion and Moultrie before flowing to the coast and into the Atlantic Ocean. In addition, McTier and Cow Castle Creeks and the Edisto and Coosawhatchie Rivers (unconnected to the Santee River Basin), contain ecological sampling sites that were used for this study (fig. 1). A more detailed description of the study unit is provided in Abrahamsen and others (1997).

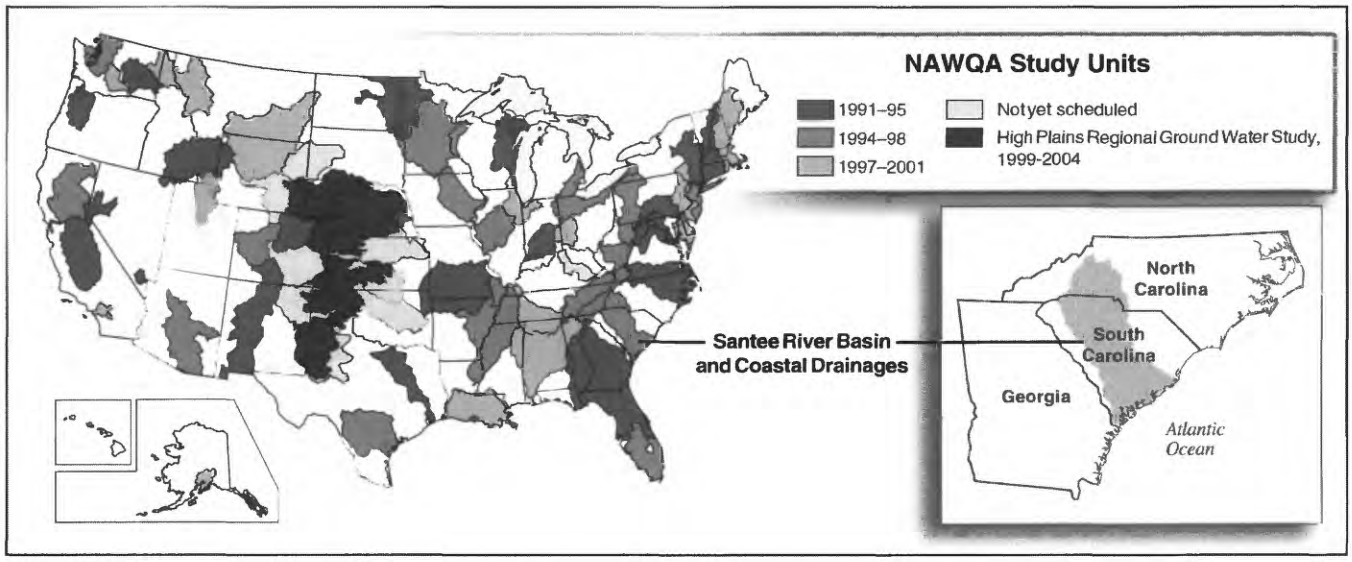


Figure 2. Location of the National Water-Quality Assessment (NAWQA) Program study units in the United States.

Table 1. Data-collection and sampling sites in the Santee River Basin and Coastal Drainages study unit, North and South Carolina

[km², square kilometers; °, degrees; ′, minutes; ″, seconds; CR, county road]

U.S. Geological Survey site name and number	Reach ID	Reach number	Basin area (km²)	Lati-tude	Longi-tude	Reference site description/location[1]
North Carolina sites:						
02143040 Jacob Fork near Ramsey	JAC	1	67	35°35′26″	81°34′02″	Upstream center of bridge on Old NC-18
02143500 Indian Creek near Laboratory	INN	2	168	35°25′46″	81°17′24″	Upstream center of bridge on Laboratory Rd.
02145112 South Fork Catawba River at McAdenville[2]	CAT	3	1,630	35°17′10″	81°06′00″	Upstream center of bridge on Spencer Mountain Rd.
South Carolina sites:						
021603257 Brushy Creek near Pelham	BRU	4	36	34°51′48″	82°15′06″	Upstream center of bridge on Pelham Rd.
021607224 Indian Creek above Newberry	INS	5, 6, 7	130	34°25′50″	81°36′30″	Upstream center of bridge on Monument Rd.
02169595 Gills Creek near Hopkins	GIL	8	[3]>155	33°55′22″	80°58′58″	USGS gage 02169570
02169570 Gills Creek at Columbia	GIL	9, 10	155	33°59′22″	80°58′28″	USGS gage 02169570
02169660 Myers Creek near Hopkins	MYE	11	83	33°50′27″	80°51′36″	Upstream center of bridge that crosses the stream on Richland CR-734
02169670 Cedar Creek below Myers Creek near Hopkins	CE1	12	52	33°50′20″	80°50′45″	Upstream center of bridge that crosses the stream on Richland CR-734
02169672 Cedar Creek at Cedar Creek Hunt Club near Gadsden	CE2	13	184	33°48′58″	80°49′39″	USGS gage 02169672
021696966 Toms Creek near Gadsden	TOM	14	101	33°48′41″	80°43′30″	Upstream end of culvert under the road crossing the stream
02172300 McTier Creek near Monetta	MCT	15	47	33°45′15″	81°36′00″	USGS gage 02172300
02174250 Cow Castle Creek near Bowman	COW	16, 17, 18	61	33°22′31″	80°42′00″	USGS gage 02174250
02176518 Coosawhatchie River near Grays	COO	19	1,040	32°38′35″	80°57′35″	USGS gage 02176518
02148000 Wateree River near Camden[2]	WAT	20	13,100	34°14′42″	80°39′15″	Upstream center of bridge on US-601 and SC-34
02169000 Saluda River near Columbia[2]	SAL	21	6,530	34°00′50″	81°05′17″	USGS gage 02169000
02174175 Edisto River near Cottageville[2]	EDI	22	7,080	33°03′20″	80°27′00″	Mas Old Field Boat Landing off SC 61, upstream of Givhans
02169500 Congaree River at Columbia[2]	CON	23	20,300	33°59′35″	81°03′00″	Barney Jordan Public Boat Landing off SC-48 in Southeastern Columbia

[1] Reference sites that are not shown in figure 1 are located only a few meters from their respective stream reaches, as noted in table 2.
[2] Habitat and riparian-zone data were not collected at these river sites.
[3] Drainage area is not delineated, but is greater than 155 km².

DATA-COLLECTION METHODS

Field-collection and assessment methods used in this study followed standard NAWQA protocols, referenced below. Unless otherwise noted, there was no deviation from the protocols.

Habitat

Habitat data were collected in accordance with Meador and others (1993a). A revised habitat protocol (Fitzpatrick and others, 1998) was published subsequent to the collection of data reported herein. Where practicable, the data were adjusted to coincide with the requirements of the new protocol to make them consistent with data collected in later NAWQA studies.

Geomorphology

Reaches (stream sections), ranging from 150 meters (m) in small streams to 2,000 m in rivers, were the principal sampling sites for the collection of ecological data. One or more reaches were selected for description of habitat characteristics at each of 12 wadeable streams. Three reaches were sampled in each

of three streams to investigate spatial variability within streams. Several reaches in the study unit coincided with surface-water-quality sampling sites, so water-column chemistry data were available for comparison with ecological information.

Six transects, oriented perpendicular to streamflow, were measured along each reach The first and last transects defined the start and end, respectively, of each reach. Transects were laid out at approximately equidistant intervals and a number of physical attributes were measured at each (tables 2-8). Characteristics of at least seven points along each transect were measured or observed and noted (fig. 3).

The points included the left and right bankfull points, the left and right edges of the water, and three or more points in the stream (labeled points 1, 2, 3, ... in the tables) that corresponded to the thalweg (defined as the

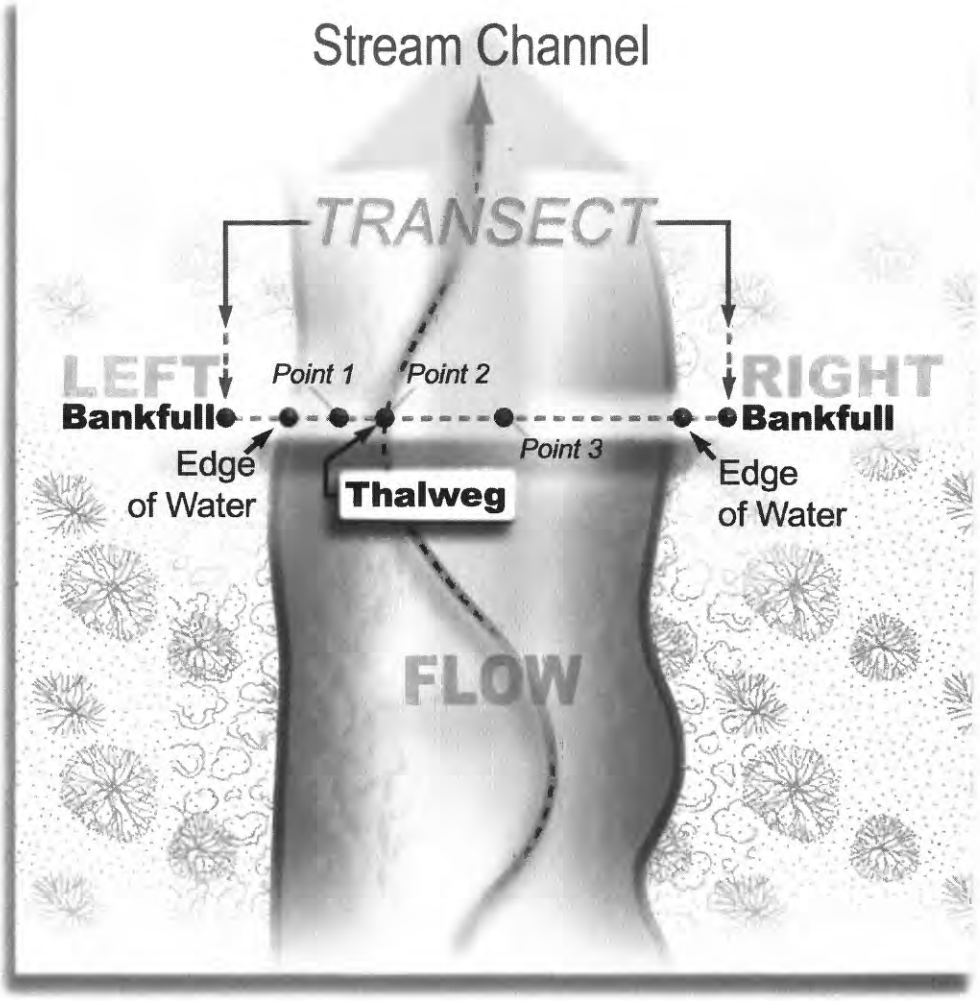
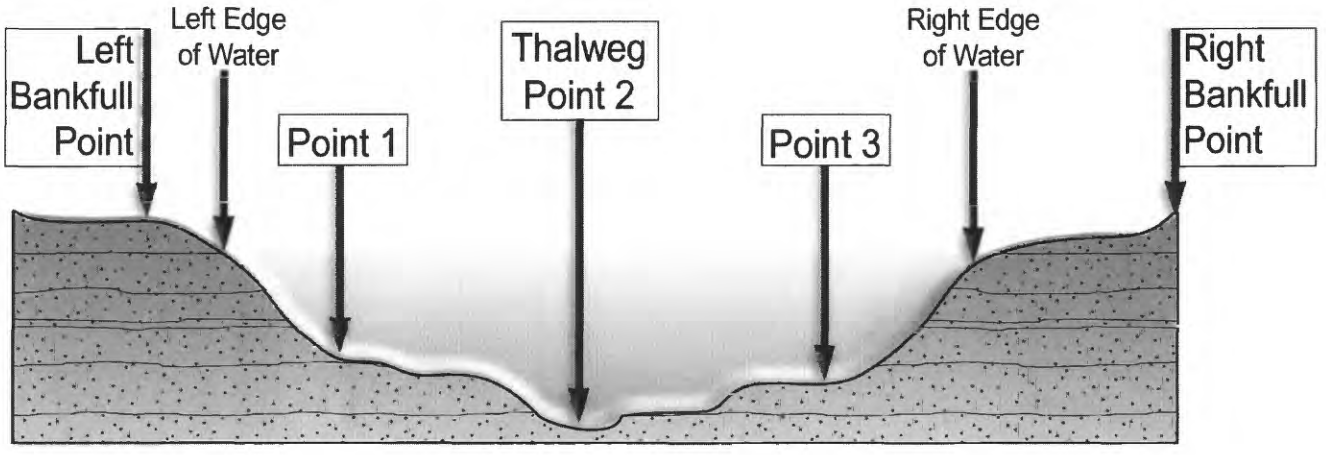


Figure 3. Plan and cross-section view collection points for stream habitat data.



deepest part of the channel), and to one location on each side of the thalweg, halfway between it and the edge of the water. If no thalweg existed, the points were spaced equidistantly across the channel.

The characteristics (modified from Fitzpatrick and others, 1998) measured at each transect included:

Distance from the reach boundary closest to the reference location.—This distance was measured as the distance along the stream channel from a transect to the reach boundary closest to the reference location. A reference location is a permanent structure that is expected to remain in place for several years, and from which the study reach can be readily located.

Channel width at bankfull.—The bankfull points are those points on either side of a stream where water flows onto a floodplain and is no longer contained by the stream channel. The channel width is the distance between the two bankfull points. For example, referring to figure 3, the channel width at bankfull would be measured as the distance between the points represented by the two vertical lines, labeled left or right "...bankfull point" on either side of the stream.

Bank width.—Banks include geomorphic features, such as channel shelves, and are flooded, on average, more than once every 1 to 3 years (Hupp, 1986). Banks are bounded by the channelbed and the floodplain. Thus, bank width is the distance between the channelbed and the floodplain. This distance is measured with a tape measure or rangefinder (Meador and others, 1993b).

Floodplain width.—The floodplain is a relatively flat surface that is flooded, on average, once every 1 to 3 years (Leopold and others, 1964). The floodplain is bounded by features at higher elevations, such as terraces, that are flooded, on average, once every 3 or more years (Hupp, 1986). If the floodplain width was less than (<) 50 m, it was measured with a tape measure or rangefinder. Floodplain widths greater than (>) 50 m were determined by observation or from maps or aerial photographs, and are indicated as >50 m in the tables.

Depth.—The depth of the water was measured at each of the designated points in the water along the transect by using a meterstick, wading rod, or a surveyor's transit and rod.

Distance from left bank.—The distance of each point from the left bankfull point of the transect was measured by using a tape measure, range finder, or a surveyor's transit and rod.

Streambed substrate composition.—The composition of the substrate was determined by observation and a descriptive code was assigned for each point. The descriptive codes are defined in the headnotes of tables 2-8.

Silt.—The presence or absence of silt was recorded at each point within the stream. The presence of silt is indicative of the velocity and flow of the water at that point. Large deposits of silt indicate the water velocity is too low to carry suspended sediments or resuspend sediments that have been deposited.

Embeddedness.—This measure refers to the extent that coarse material (boulders, cobbles, or gravel) is surrounded or covered by sand or finer sediment . As the percentage of embeddedness decreases, biotic productivity is thought to decrease (Platts and others, 1983). Embeddedness was visually estimated and rated by the percentage of surface area of large particles covered by fine sediment, as listed below:

Rating	Percentage of surface area of gravel, cobbles, and boulders covered by fine sediment
5	<5
4	5-25
3	26-50
2	51-75
1	>75
0	No gravel, cobbles, or boulders visible

Canopy angle.—The amount of direct sunlight that a unit area receives is an important factor in the composition of the biological community. Canopy angle provides a measure of the openness of the vegetation overhanging the stream, or the extent to which manmade structures shade the stream. A clinometer was used to determine the angles from the line of sight of the investigator (while standing in midchannel) to the tallest structure (for example, tree, shrub, building, or grass) on the left and right banks. The canopy angle can be used to determine the amount of direct sunlight potentially reaching the stream. The sum of the canopy angles was subtracted from 180 degrees (°), resulting in the open-canopy angle. The smaller the open-canopy angle, the more shading of the stream at that point.

Aspect.—This characteristic is the direction of the flow of the stream (0-360°). It was measured from the middle of the stream channel at the transect, by facing downstream and reading a compass pointed parallel to streamflow.

Habitat features.—Any mineral or organic matter that produces shelter for aquatic organisms to rest, hide, or feed, is considered to be habitat. Habitat includes the natural features of a stream, such as boulders, woody debris, and undercut banks, as well as aquatic macrophyte beds and artificial structures, such as discarded tires, appliances, or parts of automobiles. The type and amount (as a percentage) of all habitat features were measured that were partly or wholly within a 2-m zone on either side of each transect. Habitat features were not counted when they were at insufficient depth (usually <20 centimeters (cm)). For example, an accumulation of woody debris in 5 cm of water was not considered a significant habitat feature. Habitat-feature type was noted using the letter codes listed in the table headnotes.

Bar/island.—Some features of a stream channel can be indicative of the velocity and flow of water. Bars generally consist of sand, gravel, and cobbles, typically have no woody vegetation, and are transitory in nature. Islands are classified as bars in midchannel with permanent woody vegetation. On average, bars and islands are flooded once per year.

Bank height.—This is the vertical distance between the thalweg and the bankfull discharge point at the transect being measured.

Bank erosion.—A visual determination of the presence or absence of bank erosion was recorded for each end of each transect.

Streambank dominant substrate.—The same codes used for the bed substrate description were used for streambank dominant substrate. Data listed herein follow the protocol by Meador and others (1993b).

Microhabitat

Microhabitat is the localized set of conditions that describe where aquatic organisms live. It consists of relatively homogeneous patches of macrophytes, woody debris, or bed substrate within areas such as pools, riffles, and runs, characterized by channel shape and stream velocity (Fitzpatrick and others, 1998). Studies have revealed that analyzing relational patterns between aquatic organisms and habitat at the microhabitat scale can provide insight to relational patterns between biota and habitat at larger scales (Hawkins, 1985; Biggs and others, 1990).

Collection of microhabitat data is essential to understanding the relations between benthic invertebrate and algal communities, and the physical, chemical, and biological factors affecting them. Invertebrate and algal samples were collected at specific locations within geomorphic channel units in a reach. Conversely, fishes were collected throughout each reach because they generally are not associated with a specific microhabitat. Procedures for collecting microhabitat data are described in Cuffney and others, 1993 and Porter and others, 1993.

Riparian-Zone Tree Communities

A point-centered quarter method (Mueller-Dombois and Ellenberg, 1974) was used to assess the nature of the riparian-zone tree communities. This method allows a quantitative estimate of tree density and biomass and provides a record of the tree species. A pivot point was randomly selected at each end of a transect. From the pivot point, the nearest tree in each quarter section (90° section of a 360° circle) was identified. Distance from the pivot point and the diameter of each tree at chest height were measured, and the scientific and common names of the trees were recorded (see tables 9-26). As many as 48 trees were recorded at each of 18 reaches. At some sites there were no riparian-zone trees or the riparian zone was inaccessible.The riparian zones of the 6 river reaches were not assessed.

Aquatic Community

The aquatic community, as defined for this report, includes multicellular and single-celled algae (diatoms), benthic invertebrates, and fishes.

Algae

Algal samples were collected using procedures outlined in Porter and others (1993). For quantitative analysis and taxonomic enumeration, two types of discrete areal samples were collected, depending on the habitat being sampled. The faunistically richest habitat, called the richest targeted habitat (RTH), and the depositional targeted habitat (DTH) in bed sediments were sampled by semiquantitative methods to determine organism density and diversity.

The RTH in 21 of the reaches in the study area included logs and other woody snags. In 2 reaches the RTH consisted of rocks and gravel. For woody surfaces

and rocks, the branch or rock was gently moved to within about 3 cm of the water surface and the algal sample was collected in place, with the SG-92 sampling device as described below. Alternatively, the branch or rock was slowly removed from the water (to reduce loss of algal cells through runoff) and placed in a large plastic dishpan for processing.

A modified syringe sampling device (SG-92), designed for the NAWQA Program (Porter and others, 1993) was used for collecting algae from the surfaces of branches and rocks. This device is a 5-cm-long plastic cylinder, with an inside diameter of 2.54 cm, and a rubber O-ring attached to one end. To collect algal samples, the SG-92 was held tightly against the surface of the branch or rock to make a watertight seal with the O-ring. While the SG-92 was held in place, a stiff-bristled brush was used to thoroughly scrub the area within the O-ring. A plastic tube attached to a 60-milliliter (mL) syringe was inserted into the cylinder and the water containing the algae was withdrawn into the syringe. The contents of the syringe were placed in a collection jar. During the removal process, the SG-92 was maintained in position on the branch or rock so that a second collection from the same area could be accomplished. For the second collection, a small volume of distilled water was placed into the cylinder and the scrubbing and withdrawal process was repeated. The result was a collection of algae from a discrete area of 5.07 cm^2 of the branch or rock. The process was completed for at least two sites within each of five locations in the reach being studied, resulting in a composite sample from at least 51cm^2.

Collection of algal samples from bed sediments (DTH) was accomplished with a shallow plastic petri-dish cover with an inside diameter of 4.9 cm and a spatula. The petri dish was inverted under water to remove air and carefully pushed into the surface of the bed sediment. While holding the dish on the sediment with a finger, the spatula was carefully inserted under it to capture the sediment in the dish. Dish and spatula were removed from the water while the dish was held firmly against the spatula then inverted so that the dish opening was facing up. The spatula was removed and the material in the petri dish was scraped into a sample jar. This process was conducted at least twice at each of five sites within the reach, resulting in a composite sample of at least 77 cm^2.

For taxonomic evaluation only, qualitative multihabitat (QMH) samples of macroalgae and aquatic mosses were collected in each reach where these organisms were observed. Sampling was accomplished by hand and forceps, collecting visible algae and moss at several sites within each reach.

All algal samples were preserved in 3 to 5 percent buffered formaldehyde. The Academy of Natural Sciences in Philadelphia, Pennsylvania, was contracted to perform taxonomic analyses. Academy phycologists identified algal taxa in the quantitative samples from each reach (table 27)

Benthic Invertebrates

Benthic invertebrates were collected in RTH and QMH samples (no DTH sampling was required) using qualitative and quantitative techniques (Cuffney and others, 1993). The RTH in each reach (determined by observation to be either woody snags or rocks and gravel) was sampled in discrete areal collections. For example, submerged branches and sticks were detached and collected in an aquatic D-frame net. The branches were scrubbed with soft-bristled brushes and rinsed with streamwater into a bucket. All loose material on the branches was removed and the branches were picked apart to dislodge burrowing and hiding invertebrates. All debris and loose material were processed through a standard brass 425-micrometer (µm) mesh sieve. Large organic debris, such as leaves and twigs, were examined, and any adhering organisms or material were brushed into the sieve before the debris was discarded. Invertebrates and small organic debris retained by the sieve were placed in a sample container.

Two reaches in the study unit had designated RTHs of rocks and gravel. The collection procedure for this type of RTH is different from that used for a woody RTH. A Surber sampler (Cuffney and others, 1993) was used to collect benthic invertebrates at the reach in the South Fork Catawba River (USGS Site Number 02145112) This sampler is a 30.5 cm-square frame with attached Nitex net having 425-µm mesh openings. The sampler was held perpendicular to streamflow and pressed tightly to the stream bottom, so that the net was stretched out behind (downstream of) the frame by the current. The sampling area was delineated by an extendable frame attached to the net frame. The extendable frame encompasses 929 cm^2.

The Saluda River (USGS Site Number 02169000) reach was sampled with a Hess sampler (Cuffney and others, 1993). This device is an open-ended cylinder with an inner diameter of 33 cm and a sampling area of 855 cm^2. It has a collection net (425-µm mesh) attached to a hole in the side and has a screened (425-µm mesh) opening opposite the collection net. Water flows through the screened opening and washes organisms into the collection net.

For the Surber and Hess samplers, rocks within the sampling area were carefully picked up, held in front of the net opening, and gently brushed with a fingernail brush or soft-bristled toothbrush so that adhering material was washed into the net by the current. Cleaned rocks were carefully examined for invertebrates and such organisms were removed from the rock surface with forceps and placed in a separate vial designated "large-rare" organisms.

Once the rocks had been cleaned and removed, the sample area was thoroughly dug up to a depth of 0.1 m with a marked metal bar. Where a depth of 0.1 m was not possible, the digging was done to the greatest depth practical. Final processing of the rock/gravel RTH samples was accomplished in the same manner as for those samples collected in the woody snag RTHs. Qualitative multihabitat (QMH) samples were collected from logs, branches, root masses, and rocks by using nets, forceps, and fingers, and by searching for individual organisms in leaves and organic detritus. All qualitative samples were processed through a standard brass 212-µm mesh sieve. All retained material from the quantitative and qualitative samples was preserved in a 10 percent solution of buffered formaldehyde and sent to the USGS National Water Quality Laboratory in Lakewood, Colorado, for taxonomic evaluation.

The surface area for each collection from woody snags was calculated using the standard formula for determining the area of a cylinder (area = $\pi\, d\, h$, where d = diameter, and h = height or length), and the total area was used to determine the density of the benthic invertebrates at each site. The diversity of the benthic invertebrate community at each site was determined through a count of the total number of different species or higher taxa. Community diversity (total number of taxa) is used as an indicator of water quality. Several indices of diversity have been developed (Plafkin and others, 1989) and fine tuned. These indices concentrate on the total number of species, the number of species of a particular family or order, and the number of different feeding guilds (such as shredders or scrapers) represented by the organisms in a stream.

The density (number of organisms per unit area) of the invertebrate community also is indicative of the quality of the water and the type and quality of the habitat in a stream. Under stressful conditions, the more sensitive organisms undergo intense selection pressure. As they die out, the niches they vacate become available to more tolerant organisms that multiply because of the decrease in competition and the concomitant increase in available resources. Communities where only a few species hold numerical dominance are generally considered to have undergone some type of environmental stress. The number of taxa identified in each reach is shown in figure 4. The diversity and density of the benthic invertebrate community at each site are presented in tables 29 and 30.

Fishes

Fish collections were conducted in accordance with Meador and others (1993a). Fishes were collected by power-fishing techniques, using a backpack power fisher in most streams. In reach 8 (Gills Creek near Hopkins, S.C.) and reach 13 (Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C.), where water depth was too great for safe operation of the backpack unit, a commercial, barge-mounted power-fishing unit was used. A noncommercial, boat-mounted power-fishing apparatus was used to collect fishes at reach 19 (Coosawhatchie River near Grays, S.C.) and a second time at reach 13. In the Wateree, Saluda, Edisto, and Congaree Rivers (reaches 20,21,22, and 23, respectively), a 5.5-m boat, equipped with a commercial boat-mounted power-fishing apparatus was used to collect fishes.

In small, wadeable streams, three people (an operator and two collectors) worked as a team to collect fishes. Starting at the most downstream end of a reach, the team member with the backpack shocker proceeded upstream, followed by the collectors (carrying long-handled nets) wading behind and to each side. The team waded upstream from bank to bank, shocking and netting stunned fish in a variety of habitats. Habitats included natural brush piles, logs, root masses, undercut banks, rocks, tires, shopping carts, and any other structures that could provide cover. Stunned fishes were collected in the nets and placed into buckets for processing. Once the entire reach had been shocked, the collection team returned to the beginning of the reach to process the collection.

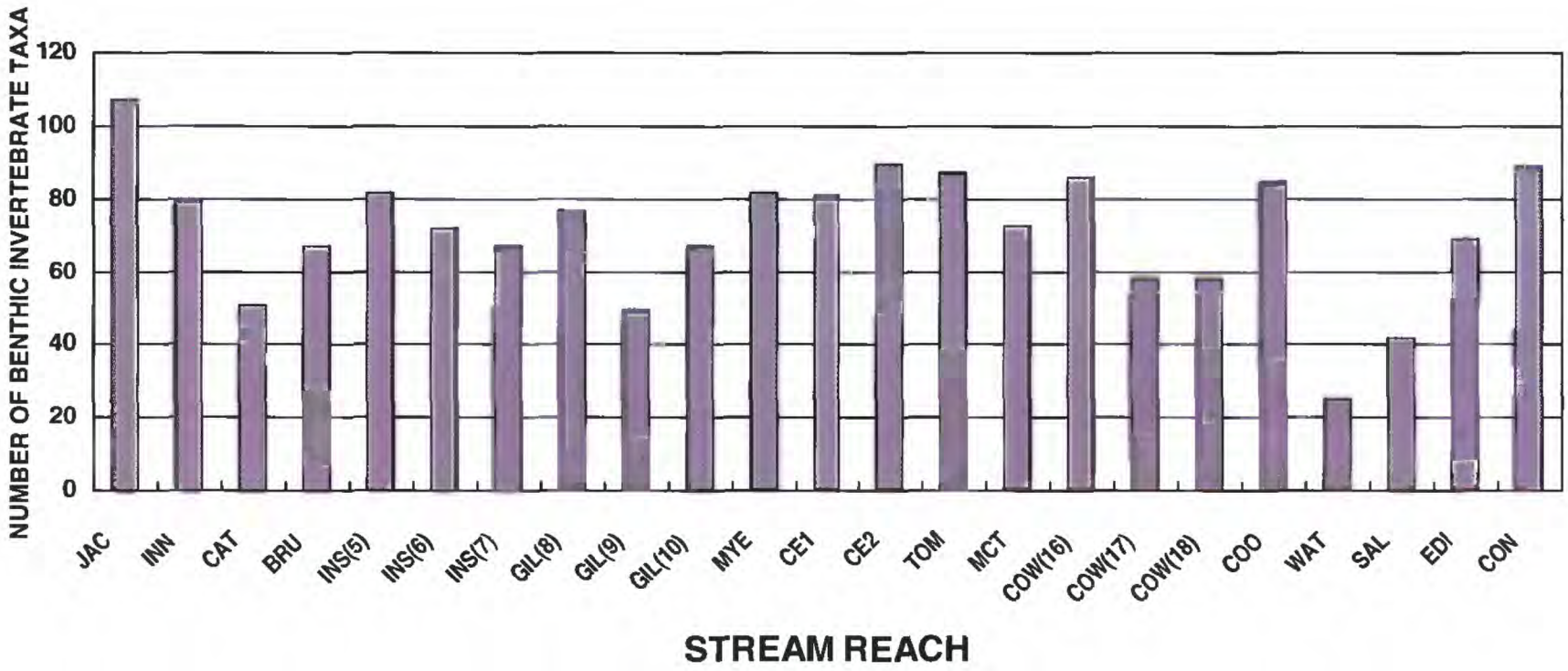


Figure 4. Number of benthic invertebrate taxa identified in each stream reach of the Santee River Basin and Coastal Drainages study unit, North and South Carolina, 1996-98.

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 21435000 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C, USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS(5), INS(6), INS(7), Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL(8), Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8); GIL(9) and GIL(10), Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2. Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden. S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW(16), Cow Castle Creek near Bowman, S.C., USGS 02174250 (reach 16); COW(17), Cow Castle Creek near Bowman, S.C., USGS 02174250 (reach 17); COW(18), Cow Castle Creek near Bowman, S.C., USGS 02174250 (reach 18); COO, Coosawhatchie River near Grays, S.C., 02176518 (reach 19); WAT, Wateree River near Camden, S.C., USGS 02148000 (reach 20); SAL, Saluda River near Columbia, S.C., USGS 02169000 (reach 21); EDI, Edisto River near Cottageville, SC, USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23)]

Fish collection by barge or boat was conducted in a downstream direction, with the current, so that shocked fish could more easily be netted as they floated downstream. Two passes were made along each bank of the stream or river. The fishes were held in a live-well or large bucket in preparation for processing.

The captured fishes were identified, weighed, measured (standard length and total length), and observed for anomalies such as lesions. tumors, parasites, and frayed fins. Afterwards, they were placed in a holding reservoir to prevent them from being recaptured.

The "shock and catch" process was performed a second time. If additional species were collected, a third pass was performed. All fishes were released when the processing was completed; more than 90 percent of the fishes survived the processing and were returned to the stream. Two or three individuals of each species identified were preserved in 10 percent buffered formaldehyde as voucher specimens. Fishes that could not be readily identified onsite were preserved and taken to the laboratory for identification. The primary taxonomic authority for the field identifications was from Rohde and others (1994). Identification was verified by Fritz Rohde, North Carolina Department of Marine Fisheries in Wilmington, under contract to the USGS. The number and species of fishes collected at each site in the study unit are shown in figure 5 and table 31, respectively.

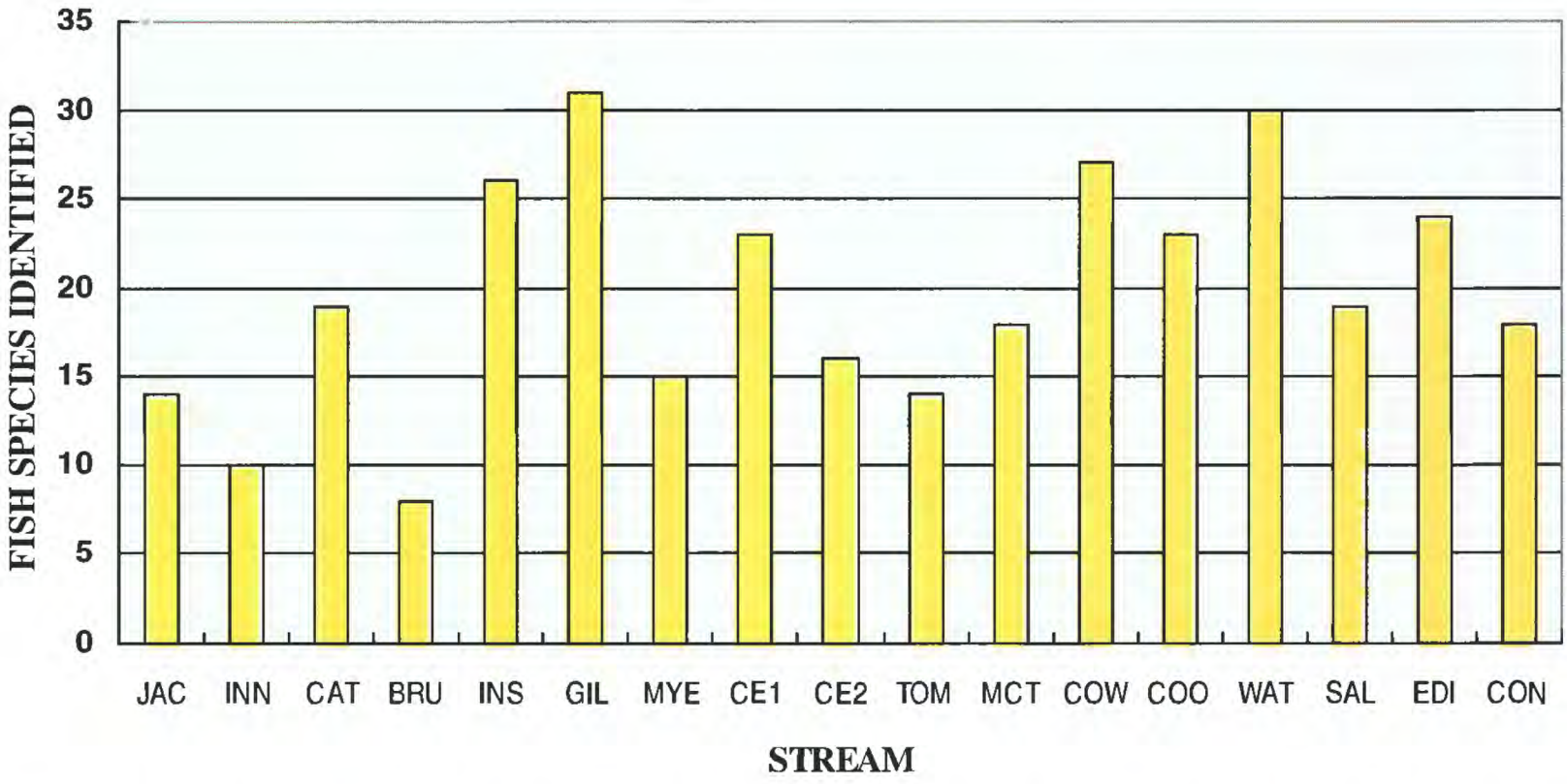


Figure 5. Number of fish species identified in each stream of the Santee River Basin and Coastal Drainages study unit, North and South Carolina, 1996-98.

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 21435000 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C, USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8) and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16, 17, and 18); COO, Coosawhatchie River near Grays, S.C., 02176518 (reach 19); WAT, Wateree River near Camden, S.C., USGS 02148000 (reach 20); SAL, Saluda River near Columbia, S.C., USGS 02169000 (reach 21); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23)]

SUMMARY

An evaluation of several ecological components of 16 streams was made during 1996-98 as part of the U.S. Geological Survey National Water Quality Assessment Program in the Santee River Basin and Coastal Drainages study unit. Data were collected to evaluate habitat structure, aquatic community structure and composition, and water quality. These data are available for use with physical and chemical water-quality data, to relate streamwater quality and aquatic-community health to human land-use activities. This report presents the ecological data in tabular form.

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Habitat Data

Table 2. Habitat characteristics of Jacob Fork near Ramsey, N.C., USGS 02143040; Indian Creek near Laboratory, N.C., USGS 02143500; and Brushy Creek near Pelham, S.C., USGS 021603257

[m, meter(s); >, greater than; CO, cobbles; BR, bedrock; GV, gravel; SA, sand; BO, boulders; NO, none, or characteristic absent; --, no data; YES, characteristic present or erosion evident; SI, silt; HP, hardpan; Note: Reach 3 is not included here because it is a large-river reach where habitat data were not collected]

Habitat Characteristic	Jacob Fork, N.C. (reach 1, transects 1-6)						Indian Creek, N.C. (reach 2, transects 7-12)						Brushy Creek, S.C. (reach 4, transects 13-18)					
Transect number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Distance to reach boundary closest to reference location (m)	0	40	90	120	177	219	0	40	95	146	192	273	9.5	39.5	79.5	116.5	159.5	184.5
Channel width at bankfull (m)	20	23	18.3	15.5	17	17.6	22	21.5	19.6	21	25.6	19.5	11.3	10	10	9.3	12.8	10.3
Left-bank width (m)	0	0	2.3	3.5	0	5	4	4.8	4.4	5.4	7	0	0	0	0	0	0	0
Right-bank width (m)	0	6	0	3	0	0	4	4.5	4	3.4	4	5.2	0	0	0	0	2.8	1.8
Left-bank flood plain width (m)	>50	>50	>50	10	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50
Right-bank flood plain width (m)	>50	15	10	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50
Water depth (m) – point 1	0.6	0.2	0.4	1	0.9	0.2	0.8	0.9	0.6	0.3	0.6	0.9	1.0	0.1	0.6	0.4	0.2	0.7
Water depth (m) – point 2	0.3	0.5	0.2	0.5	0.5	0.5	0.6	0.6	1.1	0.7	0.5	0.7	0.6	0.5	0.12	0.2	0.2	1.4
Water depth (m) – point 3	0.2	0.4	0.2	0.5	0.3	0.7	0.5	0.6	1.2	1.3	1.0	0.5	0.5	0.4	0.5	0.1	0.1	1.3
Distance (m) from left bankfull, point 1	5.1	12	4.1	5.5	3	8	8	8	7	7	11.1	5	1.5	5	2.1	2.5	3.2	5
Distance (m) from left bankfull, point 2	7.6	15	7.3	8.5	7	11	10.5	11	10.2	11.3	14	8.5	5.6	7	4	5	6	7
Distance (m) from left bankfull, point 3	11	18.3	10.8	115	11	15.5	14	14	12.5	14.3	17.5	12	7.5	9	7.5	7	9	8.5
Dominant substrate - point 1	CO	CO	CO	BR	GV	SA	BO	BO	SA	SA	SA	BR	SA	SA	SA	SA	CO	SA
Dominant substrate - point 2	CO	CO	CO	BR	GV	SA	BO	BO	CO	CO	CO	CO	SA	SA	SA	SA	CO	SA
Dominant substrate - point 3	CO	CO	CO	BR	GV	SA	BO	BO	SA	SA	SA	CO	SA	SA	SA	SA	CO	SA
Silt - point 1	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Silt - point 2	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Silt - point 3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Embeddedness - point 1	4	4	4	5	2	2	3	3	0	0	0	5	0	1	0	0	5	1
Embeddedness - point 2	4	4	4	5	3	2	3	3	0	0	0	3	0	0	0	1	5	0
Embeddedness - point 3	4	4	4	5	3	2	3	3	1	1	1	3	0	0	0	1	5	0
Left-bank canopy angle (degrees)	65	64	90	60	90	90	70	80	90	90	90	90	90	90	45	40	75	90
Right-bank canopy angle (degrees)	58	75	90	60	65	60	80	55	90	90	90	90	75	90	45	70	30	90
Open canopy angle (degrees)	57	41	0	60	25	30	30	45	0	0	0	0	15	0	90	70	75	0
Aspect (degrees)	75	77	98	100	25	5	35	5	2	69	105	123	165	70	145	122	160	120
Habitat features (type and percentage areal coverage within 2 meters on either side of transect)																		
Overhanging vegetation (terrestrial) (percent)	0	10	0	10	0	10	60	20	95	100	90	90	30	90	50	20	0	10
Undercut Banks (percent)	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2. Habitat characteristics of Jacob Fork near Ramsey, N.C., USGS 02143040; Indian Creek near Laboratory, N.C., USGS 02143500; and Brushy Creek near Pelham, S.C., USGS 021603257 (Continued)

[m, meter(s); >, greater than; CO, cobbles; BR, bedrock; GV, gravel; SA, sand; BO, boulders; NO, none, or characteristic absent; --, no data; YES, characteristic present or erosion evident; SI, silt; HP, hardpan; Note: Reach 3 is not included here because it is a large-river reach where habitat data were not collected]

Habitat Characteristic	Jacob Fork, N.C. (reach 1, transects 1-6)						Indian Creek, N.C. (reach 2, transects 7-12)						Brushy Creek, S.C. (reach 4, transects 13-18)					
Boulders (percent)	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0
Sloughs (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes – emergent (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Woody Snags (percent)	25	0	10	0	0	0	0	10	5	0	0	0	0	5	10	0	0	0
Macrophytes – submerged (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes – floating (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubbish (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (percent)	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
Bar/island																		
Type	Bar	Bar	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	Bar	Bar	NO	NO	NO	Bar
Width – (m)	2.5	1.5	---	---	---	---	---	---	---	---	---	---	3.3	2.0	---	---	---	2.0
Dominant substrate	GV	CO	---	---	---	---	---	---	---	---	---	---	SA	SA	---	---	---	NO
Woody vegetation cover (percent)	50	10	---	---	---	---	---	---	---	---	---	---	NO	NO	---	---	---	NO
Herbaceous vegetation cover (percent)	0	10	---	---	---	---	---	---	---	---	---	---	NO	NO	---	---	---	NO
Bank parameters																		
Left-bank height (m)	3.11	2.80	1.34	1.92	1.95	3.23	4.21	3.87	4.66	4.88	4.88	4.45	2.4	2.2	7.1	2.1	6.1	6.3
Right-bank height (m)	4.54	2.62	2.13	3.23	3.23	3.23	3.11	4.08	4.42	4.63	4.24	4.11	2.7	2.3	7.1	2.1	5.8	6.0
Left-bank erosion	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO	NO	YES	NO	YES	NO	NO	NO
Right-bank erosion	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES
Dominant substrate - left bank	SA	SA	SA	BR	SA	SA	SA	SA	SA	SI	SI	SI	SA	SA	SA	SA	SA	SA
Dominant substrate - right bank	SA	SA	SA	SA	SA	SA	SA	SA	SA	SI	SI	SI	SA	HP	SA	HP	HP	HP

Table 3. Habitat characteristics of Indian Creek above Newberry, S.C., USGS 021607224

[m, meter(s); >, greater than; SA, sand; NO, none, or characteristic absent; ---, no data; YES, characteristic present or erosion evident; HP, hardpan]

Habitat Characteristic	Indian Creek, S.C. (reach 5, transects 19-24)						Indian Creek, S.C. (reach 6, transect 25-30)						Indian Creek, S.C. (reach 7, transects 31-36)					
Transect number	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Distance to reach boundary closest to reference location (m)	0	30	64	94	127	150	0	30	60	90	120	152	0	30	60	90	121	150
Channel width at Bankfull (m)	14.7	12.3	12.5	14.5	14	14	16	14.1	10.1	14.2	14	23.2	14.6	14.8	12.5	15.4	13	7.5
Left-bank width (m)	0	0	0	1	1.8	0	0	0	0	0	8	4	0.61	0	1	1	0	9.5
Right-bank width (m)	0	0.5	4.3	0	0	0	0	0	0	0	4	0	1.07	1.22	2	0	4	3
Left-bank flood plain width (m).	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	0
Right-bank flood plain width (m)	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50
Water depth (m) - point 1	2.0	0.3	0.4	0.4	0.1	0.4	0.2	0.7	0.3	0.5	0.5	0.3	0.4	0.5	0.5	0.4	0.7	0.1
Water depth (m) - point 2	1.1	0.4	0.4	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.5	0.4	0.1	0.1	0.2	0.5	0.6	0.5
Water depth (m) - point 3	1.7	0.1	0.1	0.6	0.4	0.3	0.4	0.3	0.5	0.3	0.2	0.9	0.5	0.3	0.2	0.5	0.3	0.5
Distance (m) from left bankfull, point 1	7	5	3	4	6	1.4	8	2	1.9	1.7	3.3	17	1.5	2.1	2	8	1.7	3
Distance (m) from left bankfull, point 2	10	9	6.5	8	9	5.5	11	4.5	5	4	5	4.5	6.5	6	6	11	3	6
Distance (m) from left bankfull, point 3	12	10.2	9	12.5	11.8	10	12.5	8	10	7	8	21.5	12	11	9	12.5	5	7.5
Dominant substrate - point 1	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Dominant substrate - point 2	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Dominant substrate - point 3	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Silt - point 1	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Silt - point 2	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Silt - point 3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Embeddedness - point 1	0	0	0	0	2	2	0	0	1	1	1	0	1	1	1	1	1	0
Embeddedness - point 2	1	1	1	1	2	2	0	3	2	1	1	0	0	1	1	1	1	0
Embeddedness - point 3	0	0	0	1	2	2	0	2	1	1	0	0	0	0	2	0	1	0
Left-bank canopy angle (degrees)	66	80	90	90	80	82	60	90	90	90	90	90	90	90	90	90	90	90
Right-bank canopy angle (degrees)	60	84	60	90	80	70	90	80	90	90	90	90	80	90	68	90	70	90
Open canopy angle (degrees)	54	16	30	0	20	28	30	10	0	0	0	0	10	0	22	0	20	0
Aspect (degrees)	165	185	200	135	136	150	155	170	140	134	112	50	116	92	78	64	64	24
Habitat characteristics																		
Woody Snags (percent)	30	25	20	0	0	5	10	25	5	10	10	10	10	0	5	10	10	10
Overhanging vegetation (percent)	50	0	80	0	50	0	25	25	5	10	0	20	25	25	5	10	0	20
Undercut Banks (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Boulders (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sloughs (percent)	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	20	0	0

Table 3. Habitat characteristics of Indian Creek above Newberry, S.C., USGS 021607224 (Continued)

[m, meter(s); >, greater than; SA, sand; NO, none, or characteristic absent; ---, no data; YES, characteristic present or erosion evident; HP, hardpan]

Habitat Characteristic	Indian Creek, S.C. (reach 5, transects 19-24)						Indian Creek, S.C. (reach 6, transect 25-30)						Indian Creek, S.C. (reach 7, transects 31-36)					
Macrophytes - emergent (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes - submerged (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes - floating (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubbish (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
										Bar/island								
Type - point 1	Bar	NO	Bar	NO	Bar	Bar	Bar	Bar	NO	Island	Bar	Island	NO	Bar	NO	Slough	Bar	NO
Width (m)	4.0	---	5.0	---	2.2	0.9	5	2.5	---	5	2.5	10.1	---	4	---	4.5	3.3	---
Dominant substrate	SA	---	SA	---	SA	SA	SA	SA	---	SA	SA	SA	---	SA	---	0	SA	---
Woody vegetation cover (percent)	NO	---	NO	---	NO	NO	0	0	---	80	0	80	---	0	---	0	0	---
Herbaceous vegetation cover (percent)	NO	---	NO	---	NO	NO	0	0	---	10	0	10	---	0	---	0	0	---
										Bank parameters								
Left-bank height (m)	2.1	1.6	1.7	1.7	1.5	1.5	1.5	1.8	1.6	1.3	1.6	2.3	1.3	1.1	1.1	1.3	1.6	1.5
Right-bank height (m)	2.2	1.3	1.5	1.3	1.6	1.6	1.6	1.8	1.8	1.3	1.6	2.3	1.6	1.8	1.9	1.8	2.2	1.7
Left-bank erosion	NO	YES	YES	NO	YES	YES	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
Right-bank erosion	YES	NO	NO	YES	YES	YES	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES	YES	YES
Dominant substrate - left bank	SA	SA	HP	SA	SA	HP	HP	HP	HP	HP	HP	SA	HP	HP	HP	SA	HP	SA
Dominant substrate - right bank	SA	HP	SA	HP	SA	SA	HP	SA	HP	HP	SA	HP	SA	HP	HP	HP	SA	HP

Table 4. Habitat characteristics of Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8) and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10)

[m, meter(s); >, greater than; SA, sand; SI, silt; DE, organic debris, muck; YES, characteristic present or erosion evident; NO, none, or characteristic absent; ---, no data; BO, boulders]

Habitat characteristic	Gills Creek (GIL, reach 8, transects 37-42)						Gills Creek (GIL, reach 9, transects 43-48)						Gills Creek (GIL, reach 10, transects 49-54)					
Transect number	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Distance to reach boundary closest to reference location. (m)	0	52	144	241	323	399	244	190	150	110	60	0	0	52	102	154	206	260
Channel width at bankfull (m)	60	30	33.6	17.2	39	26	13.5	12.8	15.8	15.8	15.7	18.3	13.5	10.5	12.1	13	12	13.7
Left bank Width (m)	15	0	6	0	16.2	0	0	0	2	0	0	1	0	0	0	0	0	2
Right bank width (m)	0	0	2.6	3.8	3	5	0	0	0	0	0.5	0	0	0	1	0	0	1
Left bank flood plain width (m)	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	8.6	30	>50	>50	>50	>50
Right bank flood plain width (m)	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	2	>50	>50	>50	>50	>50
Water depth (m) - point 1	0.7	1.4	0.9	0.8	0.7	0.3	0.3	0.6	0.3	0.4	1.0	0.5	0.52	0.76	0.58	0.52	0.79	0.30
Water depth (m) - point 2	0.6	1.3	0.6	1.2	1.4	0.5	0.2	0.5	0.3	0.4	0.5	0.2	0.40	0.52	0.49	0.52	0.64	0.46
Water depth (m) - point 3	0.6	0.4	0.9	1.4	1.8	0.3	0.1	0.7	0.6	0.6	0.1	0.5	0.67	0.70	0.40	0.55	0.88	0.79
Distance (m) from left bankfull, point 1	10.5	12.0	13.0	3.0	19.0	2.0	4.0	2.4	4.0	4.0	2.6	5.6	3	3	3.5	3	2.5	3.7
Distance (m) from left bankfull, point 2	12.0	14.0	16.0	4.4	21.0	5.0	7.0	6.0	8.0	9.0	6.0	10.0	8	5.5	6	6	5	6.5
Distance (m) from left bankfull, point 3	13.3	17.0	19.0	7.3	22.0	7.0	11.0	7.9	12.9	13.5	11.0	15.4	11	9	9	9	9	10
Dominant substrate - point 1	SA	SA	SA	SI	SI	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Dominant substrate - point 2	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Dominant substrate - point 3	SI	SI	SI	DE	SA	DE	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Silt - point 1	YES	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Silt - point 2	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Silt - point 3	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Embeddedness - point 1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Embeddedness - point 2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Embeddedness - point 3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Left-bank canopy angle (degrees)	90	90	90	90	90	45	90	75	90	90	80	60	80	15	75	90	45	30
Right-bank canopy angle (degrees)	60	90	90	90	90	90	90	30	90	70	90	80	90	90	55	60	90	90
Open canopy angle (degrees)	30	0	0	0	0	45	0	75	0	20	10	40	10	75	50	30	45	60
Aspect (degrees)	215	225	200	245	120	200	197	196	194	194	196	192	220	235	238	230	236	230
Habitat features (type and percent areal coverage within two meters on either side of transect)																		
Woody Snags (percent)	5	5	10	0	10	50	0	20	0	0	0	10	10	0	50	0	0	0
Overhanging vegetation (terrestrial) (percent)	10	10	50	90	10	50	100	0	10	10	90	10	80	20	0	90	90	80
Undercut banks (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Boulders (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sloughs (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes-emergent (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes-submerged (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4. Habitat characteristics of Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8) and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10)

[m, meter(s); >, greater than; SA, sand; SI, silt; DE, organic debris, muck; YES, characteristic present or erosion evident; NO, none, or characteristic absent; ---, no data; BO, boulders]

Habitat characteristic	Gills Creek (GIL, reach 8, transects 37-42)						Gills Creek (GIL, reach 9, transects 43-48)						Gills Creek (GIL, reach 10, transects 49-54)					
Macrophytes-floating (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubbish (percent)	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
Other (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
										Bar/island								
Type	NO	Bar	NO	Bar	Island	Island	Bar	NO	NO	Bar	Bar	NO	NO	NO	NO	NO	NO	NO
Width (m)	---	9.4	---	2.6	6.5	6.7	4.5	---	---	1	2	---	---	---	---	---	---	---
Dominant substrate	---	SI	---	SI	SI	SI	SA	---	---	SA	SA	---	---	---	---	---	---	---
Woody vegetation cover (percent)	---	25	---	0	30	25	0	---	---	0	0	---	---	---	---	---	---	---
Herbaceous vegetation cover (percent)	---	5	---	0	70	75	0	---	---	0	0	---	---	---	---	---	---	---
Left-bank height (m)	17.0	4.7	4.3	2.2	3.6	2	1.1	4.9	1.5	1.4	2.1	1.6	1.40	1.86	1.49	1.89	1.83	1.19
Right-bank height (m)	17.0	15.0	3.1	1.7	3.8	3.1	1.1	4.4	1.5	1.2	1.8	1.5	1.46	1.68	1.55	1.89	1.68	1.59
Left-bank erosion	NO	YES	NO	YES	NO	YES	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO
Right-bank erosion	NO	YES	NO	NO	NO	NO	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Dominant substrate - left bank	SI	SI	SI	SI	SI	SI	SI	SI	SA	SA	SI	SA	SI	SI	SI	SA	SA	SI
Dominant substrate - right bank	SI	SI	SI	SI	SI	SI	SI	SA	SI	SI	SI	SA	SI	SI	SI	BO	BO	SA

Table 5. Habitat characteristics of Myers Creek near Hopkins, S.C., USGS 02169660; Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670; and Cedar Creek at Cedar Creek Hunt Club (CCHC) near Gadsden, S.C., USGS 02169672

[m, meter(s); >, greater than; SA, sand; DE, organic debris, muck; SI, silt; YES, characteristic present or erosion evident; NO, none, or characteristic absent; ---, no data]

Habitat characteristics	Myers Creek (reach 11, transects 55-60)						Cedar Creek (reach 12, transects 61-66)						Cedar Creek at CCHC (reach 13, transects 67-72)					
Transect number	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
Distance to reach boundary closest to reference location. (m)	0	30	63.8	99.8	128.8	157.8	37	72	111	140	174	205	0	47	99.7	144.7	219.7	271.2
Channel width at bankfull (m)	9.7	7.2	10.5	9.7	8.5	10.2	6.4	7.8	6.8	7.1	8	6.6	36	36	36.6	40	43	37
Left bank Width (m)	0	0	0	2	0	0	0	0	0	0	0	0	0	3.9	3.2	9	7	8
Right bank width (m)	2.3	0	2.5	1	3	2.2	0	0	0	1.6	1	0	5.3	3.5	0.6	0	21.3	0
Left bank flood plain width (m)	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50
Right bank flood plain width (m)	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50
Water depth (m) - point 1	0.80	1.35	1.00	0.60	0.80	0.68	1.3	0.9	0.9	1.6	0.9	1.1	1.6	0.2	0.4	0.1	0.4	0.2
Water depth (m) - point 2	0.70	1.37	1.20	0.65	0.75	0.62	1.4	1.3	1.2	1.2	1.3	1.5	1.5	0.8	0.4	0.1	1	0.5
Water depth (m) - point 3	0.70	1.04	0.90	0.67	0.52	0.60	1.1	0.7	1.3	0.8	1.6	1.2	0.6	1.6	1.5	1.7	1.8	1.6
Distance (m) from left bankfull, point 1	1.7	1.3	2.7	2.5	1.3	2.8	1.6	1.9	2.3	2.3	2.8	2	4	9	10	10	7.5	15
Distance (m) from left bankfull, point 2	4.3	2.6	4.8	4.5	3.5	4.8	3	4.3	4.3	3.4	5	3.6	7	18	20	20	11	23
Distance (m) from left bankfull, point 3	6.6	4.7	7.2	6.6	5	6.4	4.5	6	6.2	4.9	6.4	4.6	26	24	30	33	17	31
Dominant substrate - point 1	SA	DE	DE	DE	SI	DE	SA	SA	SA	SA	SA	SA	DE	DE	DE	DE	DE	DE
Dominant substrate - point 2	DE	DE	DE	SA	SA	SA	SA	SA	SA	SA	SA	SA	DE	DE	DE	DE	DE	DE
Dominant substrate - point 3	DE	DE	DE	DE	DE	DE	SA	SA	SA	SA	SA	SA	DE	DE	DE	DE	DE	DE
Silt - point 1	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
Silt - point 2	YES	YES	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
Silt - point 3	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
Embeddedness at - point 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Embeddedness at - point 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Embeddedness at - point 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-bank canopy angle (degrees)	90	90	90	90	90	90	70	90	85	90	75	90	90	80	90	60	60	80
Right-bank canopy angle (degrees)	90	90	77	90	90	90	90	90	63	90	80	90	80	90	55	90	70	75
Open canopy angle (degrees)	0	0	13	0	0	0	20	0	32	0	25	0	10	10	35	30	50	25
Aspect (degrees)	210	190	173	171	190	160	240	260	280	300	187	330	205	115	110	85	200	87
Habitat feature																		
Woody Snags (percent)	50	0	10	25	25	15	0	20	50	20	20	25	0	10	40	10	50	20
Overhanging vegetation (percent)	0	35	5	25	25	0	50	75	25	75	25	100	50	10	10	0	20	10
Undercut banks (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Boulders (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sloughs (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes-emergent (percent)	0	0	0	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0

Table 5. Habitat characteristics of Myers Creek near Hopkins, S.C., USGS 02169660; Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670; and Cedar Creek at Cedar Creek Hunt Club (CCHC) near Gadsden, S.C., USGS 02169672 (Continued)

[m, meter(s); >, greater than; SA, sand; DE, organic debris, muck; SI, silt; YES, characteristic present or erosion evident; NO, none, or characteristic absent; ---, no data]

Habitat characteristics	Myers Creek (reach 11, transects 55-60)						Cedar Creek (reach 12, transects 61-66)						Cedar Creek at CCHC (reach 13, transects 67-72)					
Macrophytes-submerged (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes-floating (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubbish (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other (percent)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bar/island																		
Type	NO	NO	NO	NO	NO	Bar	NO	NO	NO	NO	NO	NO	Island	NO	NO	NO	NO	NO
Width (m)	---	---	---	---	---	2.5	---	---	---	---	---	---	9.5	---	---	---	---	---
Dominant substrate	---	---	---	---	---	SI	---	---	---	---	---	---	SI	---	---	---	---	---
Woody vegetation cover (percent)	---	---	---	---	---	0	---	---	---	---	---	---	80	---	---	---	---	---
Herbaceous vegetation cover (percent)	---	---	---	---	---	100	---	---	---	---	---	---	80	---	---	---	---	---
Bank parameters																		
Left-bank height (m)	1.00	1.40	1.50	0.72	0.96	0.79	1.4	1.4	1.4	1.8	1.6	1.8	2.9	2.7	2.3	2.2	2.6	2.6
Right-bank height (m)	0.60	1.40	1.40	0.73	0.93	0.77	1.5	1.2	1.4	1.8	1.7	1.6	2	2.3	2.7	2.4	1.9	3.0
Left-bank erosion	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO
Right-bank erosion	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	YES
Dominant substrate - left bank	SI	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SI	SI	SI	SI	SI	SI
Dominant substrate - right bank	SI	SI	SI	SA	SA	SI	SA	SA	SA	SA	SA	SA	SA	SI	SI	SI	SI	SI

Table 6. Habitat characteristics of Toms Creek near Gadsden, S.C., USGS 021696966 and McTier Creek near Monetta, S.C., USGS 02172300

[m, meter(s); >, greater than; SA, sand; DE, organic debris, muck; YES, characteristic present or erosion evident; NO, none, or characteristic absent; SI, silt]

Habitat characteristic	Toms Creek (reach 14, transects 73-78)						McTier Creek (reach 15, transects 79-84)					
Transect number	73	74	75	76	77	78	79	80	81	82	83	84
Distance to reach boundary closest to reference location. (m)	0	30.3	65.9	97	124	155	0	30	59	90	120	150
Channel width at bankfull (m)	6.7	6	5.6	6.6	8.3	7	5.8	4.3	8	5.2	4.5	4.1
Left bank width (m)	0	0	0	0	0	0	0	0	0	0	0	0
Right-bank width (m)	0	0	0	0	0	0	0	0	0	0	0	0
Left bank flood plain width (m)	>50	>50	>50	>50	>50	>50	50	>50	>50	>50	>50	>50
Right-bank flood plain width (m)	>50	>50	>50	>50	>50	>50	50	>50	>50	>50	>50	>50
Water depth (m) - point 1	0.6	1.0	0.6	0.7	0.4	0.9	0.8	0.5	0.8	0.7	0.9	0.5
Water depth (m) - point 2	0.6	0.5	0.8	0.6	0.5	0.7	0.6	0.7	1.0	0.8	1	0.9
Water depth (m) - point 3	0.5	0.4	0.5	0.3	0.6	0.4	0.4	0.9	0.4	0.5	3.6	0.7
Distance (m) from left bankfull, point 1	1.4	2	1.6	2.2	2.3	2.2	1.8	1	2	1.2	1	1
Distance (m) from left bankfull, point 2	3	3.5	2.8	3.5	4.5	3.5	3	2	3.5	2.5	2	2.2
Distance (m) from left bankfull, point 3	4.6	4.7	4.2	4.7	7.1	5	4.5	3	6	4	3	3
Dominant substrate - point 1	SA	SA	SA	SA	SA	SA	SA	SA	DE	SA	SA	SA
Dominant substrate - point 2	SA	SA	SA	SA	SA	SA	SA	DE	SA	SA	SA	SA
Dominant substrate - point 3	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Silt – point 1	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	NO
Silt – point 2	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	NO	NO
Silt – point 3	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO
Embeddedness - point 1	0	0	0	0	0	0	0	0	0	0	0	0
Embeddedness - point 2	0	0	0	0	0	0	0	0	0	0	0	0
Embeddedness - point 3	0	0	0	0	0	0	0	0	0	0	0	0
Left-bank canopy angle (degrees)	90	90	90	90	90	90	90	90	60	90	90	90
Right-bank canopy angle (degrees)	90	75	70	80	85	90	90	90	90	90	85	90
Open canopy angle (degrees)	0	15	20	10	5	0	0	0	30	0	5	0
Aspect (degrees)	120	177	187	190	230	255	140	133	257	231	96	138
Habitat features (type and percent areal coverage within two meters on either side of transect)												
Woody Snags (percent)	20	35	50	10	30	10	40	10	0	25	25	50
Overhanging vegetation (terrestrial) (percent)	0	0	20	0	0	0	0	10	50	50	0	50
Undercut Banks (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Boulders (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Sloughs (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes-emergent (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes-submerged (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Macrophytes-floating (percent)	0	0	0	0	0	0	0	0	0	0	0	0

Table 6. Habitat characteristics of Toms Creek near Gadsden, S.C., USGS 021696966 and McTier Creek near Monetta, S.C., USGS 02172300 (Continued)

Habitat characteristic	Toms Creek (reach 14, transects 73-78)						McTier Creek (reach 15, transects 79-84)					
Rubbish (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Other (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Bar/island												
Type	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Bank parameters												
Left-bank height (m)	0.99	1.39	0.87	1.11	0.99	1.60	1.40	1.43	1.19	1.49	1.59	1.37
Right-bank height (m)	0.9	1.1	1	0.9	0.9	1.1	1.6	1.4	1.5	1.4	1.6	1.5
Left-bank erosion	NO	NO	YES	YES	YES	YES	NO	NO	YES	NO	NO	NO
Right-bank erosion	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Dominant substrate - left bank	SI	SI	SI	SI	SA	SA	SA	SA	SA	SA	SA	SA
Dominant substrate – right bank	SI	SI	SI	SI	SA	SA	SA	SA	SA	SA	SA	SA

Table 7. Habitat characteristics of Cow Castle Creek near Bowman, S.C., USGS 02174250

[m, meter(s); >, greater than; SA, sand; NO, none, or characteristic absent; YES, characteristic present or erosion evident; HP, hardpan]

Habitat Characteristic	Cow Castle Creek (reach 16, transects 85-90)						Cow Castle Creek (reach 17, transects 91-96)						Cow Castle Creek (reach 18, transects 97-102)					
Transect number	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102
Distance to reach boundary closest to reference location. (m)	26.5	56.5	86.5	116.5	146.5	176.5	326.5	356.5	386.5	416.5	446.5	476.5	231	196	162	127	92	59
Channel width at bankfull (m)	6	7.3	6.7	6.3	6.6	6.5	785	8.2	31	9.5	7.6	11.2	7.8	7.6	8.6	8.3	8.2	8.5
Left-bank Width (m)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-bank width (m)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-bank flood plain width (m)	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50
Right-bank flood plain width (m)	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50
Water depth (m) - point 1	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.5	0.4	0.3	0.6	0.7	0.4	0.4	0.7
Water depth (m) - point 2	0.5	0.6	0.4	0.5	0.5	0.4	0.5	0.5	0.3	0.8	0.4	0.4	0.4	0.4	0.9	0.6	0.3	0.4
Water depth (m) - point 3	0.5	0.6	0.5	0.7	0.5	0.6	0.2	0.3	0.4	0.2	0.4	0.5	0.5	0.3	0.6	0.6	0.5	0.3
Distance (m) from left bankfull, point 1	1	1.5	2.1	2.3	2	1.8	2.4	2	3.0	4	1.5	2	2	2	2	2.5	1.5	1
Distance (m) from left bankfull, point 2	3.5	3.0	4	4	4	3.5	4.5	2.7	4.6	4.5	3.5	5	4	4	3.5	4.3	4	3
Distance (m) from left bankfull, point 3	4.7	4.6	5.5	5.4	5.8	5.4	6	5	6.1	6	5.5	7	5.7	6.3	5	6.5	6.5	5
Dominant substrate - point 1	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Dominant substrate - point 2	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Dominant substrate - point 3	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Silt - point 1	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES
Silt - Point 2	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Silt - point 3	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Embeddedness- point 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Embeddedness - point 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Embeddedness - point 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Left-bank canopy angle (degrees)	38	55	90	70	60	70	90	60	90	35	90	90	90	90	80	90	90	90
Right-bank canopy angle (degrees)	63	90	65	90	90	70	90	90	90	90	90	50	90	68	90	62	9	75
Open canopy angle (degrees)	79	35	25	20	30	40	0	30	0	55	0	40	0	22	10	28	0	25
Aspect (degrees)	133	137	135	133	133	136	135	133	135	135	135	135	135	134	133	133	134	134
Habitat features (type and percent areal coverage within two meters on either side of transect)																		
Woody Snags	10	20	20	0	25	0	5	20	0	40	10	10	0	0	0	20	0	0
Overhanging vegetation (terrestrial)	20	80	80	50	50	25	100	0	90	80	0	70	10	20	75	20	0	10
Undercut Banks	0	0	10	10	0	0	0	0	0	0	0	0	0	10	0	0	0	50

Table 7. Habitat characteristics of Cow Castle Creek near Bowman, S.C., USGS 02174250 (Continued)

[m, meter(s); >, greater than; SA, sand; NO, none, or characteristic absent; YES, characteristic present or erosion evident; HP, hardpan]

Habitat Characteristic	Cow Castle Creek (reach 16, transects 85-90)						Cow Castle Creek (reach 17, transects 91-96)						Cow Castle Creek (reach 18, transects 97-102)					
Boulders	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aquatic Macrophytes	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bar/island																		
Type	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Bank parameters																		
Left-bank height (m)	5.6	2	1.6	1.7	5.3	5.5	1.7	1.3	1.8	2.0	1.4	1.7	1.62	1.59	1.83	1.43	1.55	1.55
Right-bank height (m)	5.1	2.0	1.6	1.6	4.7	5.7	1.8	1.8	1.8	2	1.6	1.8	1.77	1.65	2.26	1.89	1.86	1.86
Left-bank erosion	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
Right-bank erosion	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Left-bank dominant substrate	HP	HP	HP	HP	HP	HP	HP	HP	HP	HP	HP	HP	SA	SA	SA	SA	SA	SA
Right-bank dominant substrate	HP	HP	HP	HP	HP	HP	HP	HP	HP	HP	HP	HP	SA	SA	SA	SA	SA	SA

Table 8. Habitat characteristics of the Coosawhatchie River near Grays, S.C., USGS 02176518

[m, meter(s); >, greater than; DE, organic debris, muck; SA, sand; SI, silt; NO, none, or characteristic absent; YES, characteristic present or erosion evident]

Habitat Characteristic	Coosawhatchie River (reach 19, transects 103-108)					
Transect number	103	104	105	106	107	108
Distance to reach boundary closest to reference location. (m)	0	60	110	193	251	305
Channel width at bankfull (m)	35	26.8	49.6	22	26	>60
Left-bank Width (m)	6.5	7	6	3.4	1.6	40
Right-bank width (m)	2.2	1.7	19.8	1	5	2.5
Left-bank flood plain width (m)	>50	>50	>50	>50	>50	>50
Right-bank flood plain width (m)	>50	>50	>50	>50	>50	>50
Water depth (m) - point 1	3.1	2.1	0.7	1.0	0.9	0.7
Water depth (m) - point 2	4.2	1.7	0.9	1.6	1	1.2
Water depth (m) - point 3	1.8	1.2	1.1	1.1	1.6	0.2
Distance (m) from left bankfull, point 1	12.1	13	3	7.4	5	5
Distance (m) from left bankfull, point 2	18	18	15	11.4	10	7.3
Distance (m) from left bankfull, point 3	24	23	30	15	15	13.6
Dominant substrate - point 1	DE	SA	DE	SA	DE	DE
Dominant substrate - point 2	SA	SA	SA	SA	DE	DE
Dominant substrate - point 3	DE	DE	DE	SA	DE	SI
Embeddedness - point 1	0	0	0	0	0	0
Embeddedness - point 2	0	0	0	0	0	0
Embeddedness - point 3	0	0	0	0	0	0
Silt - point 1	NO	NO	NO	NO	NO	NO
Silt - point 2	NO	NO	NO	NO	NO	NO
Silt - point 3	NO	NO	NO	NO	NO	YES
Left-bank canopy angle (degrees)	90	90	90	90	90	80
Right-bank canopy angle (degrees)	90	90	90	90	90	90
Open canopy angle (degrees)	0	0	0	0	0	10
Aspect (degrees)	175	260	0	220	135	150
Habitat features						
Woody Snags (percent)	20	0	0	0	0	0
Overhanging vegetation (terrestrial) (percent)	100	0	0	0	0	0
Undercut Banks (percent)	0	0	0	0	0	0
Boulders (percent)	0	0	0	0	0	0
Sloughs (percent)	0	0	0	0	0	0
Macrophytes-emergent (percent)	0	0	0	0	0	0
Macrophytes-submerged (percent)	0	0	0	0	0	0
Macrophytes-floating (percent)	0	0	0	0	0	0
Rubbish (percent)	0	0	0	0	0	0
Other (percent)	0	0	0	0	0	0
Bar/island						
	NO	NO	NO	NO	NO	NO
Bank parameters						
Left-bank height (m)	2.04	2.33	2.33	1.86	2.59	1.28
Right-bank height (m)	2.04	2.33	2.33	1.86	2.90	1.68
Left-bank erosion	NO	NO	NO	NO	NO	NO
Right-bank erosion	NO	NO	NO	NO	NO	NO
Dominant substrate - left bank	DE	DE	DE	DE	DE	DE
Dominant substrate - right bank	DE	DE	DE	DE	DE	DE

Riparian-Zone Data

Table 9. Riparian-zone trees, Jacob Fork near Ramsey, N.C., USGS site 02143040 (reach 1)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-1 LQP1	BENI	*Betula nigra*	river birch	1.3	0.50
T-1 LQP2	PIST	*Pinus stroba*	white pine	2.1	0.02
T-1 LQP3	CACA	*Carpinus caroliniana*	ironwood	1.5	0.04
T-1 LQP4	CACA	*Carpinus caroliniana*	ironwood	1.3	0.11
T-1 RQP1	CACA	*Carpinus caroliniana*	ironwood	0.5	0.06
T-1 RQP2	RHMA	*Rhododendron maximum*	great rhododendron	0.6	0.06
T-1 RQP3	RHMA	*Rhododendron maximum*	great rhododendron	0.9	0.04
T-1 RQP4	RHMA	*Rhododendron maximum*	great rhododendron	3.6	0.07
T-2 LQP1	ILOP	*Ilex opaca*	American holly	4.5	0.03
T-2 LQP2	ACPE	*Acer pensylvanicum*	striped maple	1.5	0.02
T-2 LQP3	CACA	*Carpinus caroliniana*	ironwood	3.2	0.09
T-2 LQP4	CACA	*Carpinus caroliniana*	ironwood	3.3	0.17
T-2 RQP1	CACA	*Carpinus caroliniana*	ironwood	2.3	0.15
T-2 RQP2	CACA	*Carpinus caroliniana*	ironwood	2.0	0.08
T-2 RQP3	QUAL	*Quercus alba*	white oak	2.5	0.57
T-2 RQP4	RHMA	*Rhododendron maximum*	great rhododendron	0.9	0.02
T-3 LQP1	CACA	*Carpinus caroliniana*	ironwood	1.7	0.10
T-3 LQP2	CACA	*Carpinus caroliniana*	ironwood	2.0	0.06
T-3 LQP3	BENI	*Betula nigra*	river birch	2.1	0.36
T-3 LQP4	CACA	*Carpinus caroliniana*	ironwood	5.1	0.12
T-3 RQP1	COFL	*Cornus florida*	flowering dogwood	3.3	0.07
T-3 RQP2	ACRU	*Acer rubrum*	red maple	4.9	0.02
T-3 RQP3	CACA	*Carpinus caroliniana*	ironwood	1.8	0.09
T-3 RQP4	CACA	*Carpinus caroliniana*	ironwood	3.7	0.18
T-4 LQP1	ACRU	*Acer rubrum*	red maple	1.0	0.06
T-4 LQP2	KALA	*Kalmia latifolia*	mountain laurel	0.8	0.05
T-4 LQP3	KALA	*Kalmia latifolia*	mountain laurel	1.0	0.09
T-4 LQP4	KALA	*Kalmia latifolia*	mountain laurel	1.5	0.05
T-4 RQP1	TSCA	*Tsuga canadensis*	eastern hemlock	1.0	0.31
T-4 RQP2	LITU	*Liriodendron tulipifera*	tulip poplar	1.5	0.19
T-4 RQP3	RHMA	*Rhododendron maximum*	great rhododendron	1.6	0.15
T-4 RQP4	RHMA	*Rhododendron maximum*	great rhododendron	2.0	0.06
T-5 LQP1	COFL	*Cornus florida*	flowering dogwood	1.9	0.11
T-5 LQP2	ACRU	*Acer rubrum*	red maple	2.5	0.02
T-5 LQP3	ILOP	*Ilex opaca*	American holly	2.8	0.05
T-5 LQP4	CACA	*Carpinus caroliniana*	ironwood	5.8	0.05
T-5 RQP1	COFL	*Cornus florida*	flowering dogwood	1.8	0.01
T-5 RQP2	ACRU	*Acer rubrum*	red maple	2.1	0.06
T-5 RQP3	QUAL	*Quercus alba*	white oak	2.2	0.09
T-5 RQP4	COFL	*Cornus florida*	flowering dogwood	2.9	0.03
T-6 LQP1	KALA	*Kalmia latifolia*	mountain laurel	0.5	0.03
T-6 LQP2	KALA	*Kalmia latifolia*	mountain laurel	0.8	0.04
T-6 LQP3	KALA	*Kalmia latifolia*	mountain laurel	1.2	0.04
T-6 LQP4	KALA	*Kalmia latifolia*	mountain laurel	1.3	0.03
T-6 RQP1	ILOP	*Ilex opaca*	American holly	1.8	0.04
T-6 RQP2	CACA	*Carpinus caroliniana*	ironwood	2.1	0.13
T-6 RQP3	TSCA	*Tsuga canadensis*	eastern hemlock	3.9	0.24
T-6 RQP4	CACA	*Carpinus caroliniana*	ironwood	3.3	0.03

Table 10. Riparian-zone trees, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; ---, no data; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-7 LQP1	Pasture	no tree	---	---	---
T-7 LQP2	Pasture	no tree	---	---	---
T-7 LQP3	Pasture	no tree	---	---	---
T-7 LQP4	Pasture	no tree	---	---	---
T-7 RQP1	ACNE	*Acer negundo*	boxelder	3.1	0.09
T-7 RQP2	FRAM	*Fraxinus americana*	white ash	2.2	0.32
T-7 RQP3	RUFL	*Rubus flagellaris*	prickly dewberry	0.5	multiple stems
T-7 RQP4	ACNE	*Acer negundo*	boxelder	1.7	0.02
T-8 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	4.7	0.54
T-8 LQP2	ACNE	*Acer negundo*	boxelder	3.8	0.05
T-8 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	3.8	0.02
T-8 LQP4	RUFL	*Rubus flagellaris*	prickly dewberry	0.5	multiple stems
T-8 RQP1	FRAM	*Fraxinus americana*	white ash	9.1	0.25
T-8 RQP2	PLOX	*Platanus occidentalis*	sycamore	4.1	0.45
T-8 RQP3	CACA	*Carpinus caroliniana*	ironwood	4.8	0.17
T-8 RQP4	PRSE	*Prunus serotina*	black cherry	3.1	0.11
T-9 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.6	0.12
T-9 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	3	0.47
T-9 LQP3	FRAM	*Fraxinus americana*	white ash	5.2	0.18
T-9 LQP4	CACA	*Carpinus caroliniana*	ironwood	5.5	0.09
T-9 RQP1	PRSE	*Prunus serotina*	black cherry	3.1	0.16
T-9 RQP2	FRAM	*Fraxinus americana*	white ash	1.9	0.05
T-9 RQP3	CACA	*Carpinus caroliniana*	ironwood	1.9	0.05
T-9 RQP4	CACA	*Carpinus caroliniana*	ironwood	1.4	0.04
T-10 LQP1	BENI	*Betula nigra*	river birch	4.6	0.41
T-10 LQP2	PRSE	*Prunus serotina*	black cherry	3.1	0.20
T-10 LQP3	FRAM	*Fraxinus americana*	white ash	10.1	0.40
T-10 LQP4	CACA	*Carpinus caroliniana*	ironwood	7	0.08
T-10 RQP1	QUAL	*Quercus alba*	white oak	2.8	0.06
T-10 RQP2	FRAM	*Fraxinus americana*	white ash	4	0.11
T-10 RQP3	FRAM	*Fraxinus americana*	white ash	3.1	0.26
T-10 RQP4	FRAM	*Fraxinus americana*	white ash	4.6	0.28
T-11 LQP1	ACNE	*Acer negundo*	boxelder	8.7	0.24
T-11 LQP2	FRAM	*Fraxinus americana*	white ash	2.6	0.03
T-11 LQP3	FRAM	*Fraxinus americana*	white ash	1.2	0.04
T-11 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	3.5	0.35
T-11 RQP1	FRAM	*Fraxinus americana*	white ash	4.6	0.30
T-11 RQP2	ACNE	*Acer negundo*	boxelder	5.7	0.27
T-11 RQP3	CACA	*Carpinus caroliniana*	ironwood	2	0.02
T-11 RQP4	COFL	*Cornus florida*	flowering dogwood	7	0.03
T-12 LQP1	CACA	*Carpinus caroliniana*	ironwood	1.8	0.24
T-12 LQP2	CACA	*Carpinus caroliniana*	ironwood	3.9	0.20
T-12 LQP3	ACNE	*Acer negundo*	boxelder	4.5	0.26
T-12 LQP4	QUNI	*Quercus nigra*	water oak	5.9	0.07
T-12 RQP1	FRAM	*Fraxinus americana*	white ash	1.7	0.12
T-12 RQP2	FRAM	*Fraxinus americana*	white ash	2.3	0.36
T-12 RQP3	FRAM	*Fraxinus americana*	white ash	4	0.32
T-12 RQP4	ACNE	*Acer negundo*	boxelder	3.2	0.18

Table 11. Riparian-zone trees, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree; NI, not identified; ---, no data]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-13 LQP1	PLOC	*Platanus occidentalis*	sycamore	5.1	0.38
T-13 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	17.2	0.43
T-13 LQP3	BENI	*Betula nigra*	river birch	10.7	0.10
T-13 LQP4	LITU	*Liriodendron tulipifera*	tulip tree	5.2	0.25
T-13 RQP1	ACNE	*Acer negundo*	boxelder	1.1	0.14
T-13 RQP2	PLOC	*Platanus occidentalis*	sycamore	1.6	0.61
T-13 RQP3	PLOC	*Platanus occidentalis*	sycamore	4.4	0.04
T-13 RQP4	ACNE	*Acer negundo*	boxelder	1.2	0.07
T-14 LQP1	ACNE	*Acer negundo*	boxelder	1.8	2.90
T-14 LQP2	BENI	*Betula nigra*	river birch	2.6	0.35
T-14 LQP3	ACNE	*Acer negundo*	boxelder	3.3	0.07
T-14 LQP4	ACNE	*Acer negundo*	boxelder	2.4	0.04
T-14 RQP1	ACNE	*Acer negundo*	boxelder	6.2	0.02
T-14 RQP2	FRSP	*Fraxinus* sp.	ash	5.1	0.17
T-14 RQP3	ACNE	*Acer negundo*	boxelder	5.8	0.2
T-14 RQP4	ACNE	*Acer negundo*	boxelder	4.5	0.07
T-15 LQP1	LITU	*Liriodendron tulipifera*	tulip tree	7.8	0.23
T-15 LQP2	ACNE	*Acer negundo*	boxelder	1.6	0.23
T-15 LQP3	NI	---	tree	4.1	0.07
T-15 LQP4	GLTR	*Gleditsia triacanthos*	honey locust	3.6	0.15
T-15 RQP1	ACNE	*Acer negundo*	boxelder	2.2	0.03
T-15 RQP2	ACNE	*Acer negundo*	boxelder	3.5	0.03
T-15 RQP3	ACNE	*Acer negundo*	boxelder	5.8	0.38
T-15 RQP4	GLTR	*Gleditsia triacanthos*	honey locust	4.1	0.05
T-16 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	17.4	0.62
T-16 LQP2	ACNE	*Acer negundo*	boxelder	5.5	0.03
T-16 LQP3	PRSE	*Prunus serotina*	black cherry	4	0.22
T-16 LQP4	NI	---	tree	9.2	0.03
T-16 RQP1	NI	---	tree	3.1	0.03
T-16 RQP2	ACNE	*Acer negundo*	boxelder	1.3	0.07
T-16 RQP3	ACNE	*Acer negundo*	boxelder	5	0.46
T-16 RQP4	ACNE	*Acer negundo*	boxelder	1.3	0.07
T-17 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	2.5	0.52
T-17 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	3.7	0.08
T-17 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	3.9	0.08
T-17 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	3	0.31
T-17 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	4.8	0.10
T-17 RQP2	GLTR	*Gleditsia triacanthos*	honey locust	4.8	0.06
T-17 RQP3	MALUS	*Malus sp.*	crab apple	8.8	0.18
T-17 RQP4	NI	---	tree	8	0.03
T-18 LQP1	QUNI	*Quercus nigra*	water oak	6.2	0.56
T-18 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	5.1	0.38
T-18 LQP3	BENI	*Betula nigra*	river birch	2.4	0.49
T-18 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	6	0.37
T-18 RQP1	ACNE	*Acer negundo*	boxelder	2.2	0.46
T-18 RQP2	NI	---	shrub	3.8	0.03
T-18 RQP3	NI	---	shrub	1.5	0.11
T-18 RQP4	ACNE	*Acer negundo*	boxelder	7.2	0.19

Table 12. Riparian-zone trees, Indian Creek above Newberry, S.C., USGS 021607224 (reach 5)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint; nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-19 LQP1	LITU	*Liriodendron tulipifera*	tulip poplar	2.5	0.49
T-19 LQP2	LIST	*Liquidambar styraciflua*	sweet gum	2.0	0.09
T-19 LQP3	CACA	*Carpinus caroliniana*	ironwood	2.4	0.07
T-19 LQP4	ACRU	*Acer rubrum*	red maple	2.2	0.07
T-19 RQP1	CACA	*Carpinus caroliniana*	ironwood	1.0	0.15
T-19 RQP2	CACA	*Carpinus caroliniana*	ironwood	1.0	0.16
T-19 RQP3	CACA	*Carpinus caroliniana*	ironwood	4.9	0.11
T-19 RQP4	CACA	*Carpinus caroliniana*	ironwood	4.9	0.16
T-20 LQP1	CACA	*Carpinus caroliniana*	ironwood	2.5	0.08
T-20 LQP2	CACA	*Carpinus caroliniana*	ironwood	3.1	0.14
T-20 LQP3	ACRU	*Acer rubrum*	red maple	1.8	0.04
T-20 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	5.3	0.13
T-20 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.8	0.44
T-20 RQP2	ACRU	*Acer rubrum*	red maple	0.9	0.30
T-20 RQP3	CACA	*Carpinus caroliniana*	ironwood	2.6	0.16
T-20 RQP4	ACRU	*Acer rubrum*	red maple	1.2	0.40
T-21 LQP1	BENI	*Betula nigra*	river birch	2.5	0.46
T-21 LQP2	CACA	*Carpinus caroliniana*	ironwood	2.8	0.05
T-21 LQP3	CACA	*Carpinus caroliniana*	ironwood	2.9	0.12
T-21 LQP4	CACA	*Carpinus caroliniana*	ironwood	2.9	0.09
T-21 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	2.5	0.18
T-21 RQP2	ACRU	*Acer rubrum*	red maple	2.0	0.09
T-21 RQP3	BENI	*Betula nigra*	river birch	3.5	0.30
T-21 RQP4	BENI	*Betula nigra*	river birch	2.8	0.41
T-22 LQP1	PLOX	*Platanus occidentalis*	sycamore	2.8	0.16
T-22 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	2.5	0.05
T-22 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.9	0.14
T-22 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	2.6	0.14
T-22 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	2.2	0.12
T-22 RQP2	CACA	*Carpinus caroliniana*	ironwood	3.3	0.16
T-22 RQP3	COFL	*Cornus florida*	flowering dogwood	4.0	0.11
T-22 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	1.9	0.04
T-23 LQP1	CACA	*Carpinus caroliniana*	ironwood	1.3	0.15
T-23 LQP2	BENI	*Betula nigra*	river birch	5.6	0.23
T-23 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.2	0.21
T-23 LQP4	QUAL	*Quercus alba*	white oak	7.3	0.08
T-23 RQP1	BENI	*Betula nigra*	river birch	4.7	0.32
T-23 RQP2	ACRU	*Acer rubrum*	red maple	2.4	0.24
T-23 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	5.3	0.23
T-23 RQP4	BENI	*Betula nigra*	river birch	3.2	0.35
T-24 LQP1	QUAL	*Quercus alba*	white oak	2.5	0.58
T-24 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	0.8	0.06
T-24 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.7	0.05
T-24 LQP4	COFL	*Cornus florida*	flowering dogwood	1.5	0.06
T-24 RQP1	COFL	*Cornus florida*	flowering dogwood	2.4	0.07
T-24 RQP2	CACA	*Carpinus caroliniana*	ironwood	4.0	0.04
T-24 RQP3	CACA	*Carpinus caroliniana*	ironwood	6.4	0.17
T-24 RQP4	CACA	*Carpinus caroliniana*	ironwood	4.5	0.21

Table 13. Riparian-zone trees, Indian Creek above Newberry, S.C., USGS 021607224 (reach 6)

[m, meter(s) T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree; NI, not identified; ---, no data]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-25 LQP1	CACA	*Carpinus caroliniana*	ironwood	6.3	0.05
T-25 LQP2	CACA	*Carpinus caroliniana*	ironwood	4.0	0.12
T-25 LQP3	PITA	*Pinus taeda*	loblolly pine	4.7	0.26
T-25 LQP4	CACA	*Carpinus caroliniana*	ironwood	4.8	0.08
T-25 RQP1	QUNI	*Quercus nigra*	water oak	4.2	0.30
T-25 RQP2	PITA	*Pinus taeda*	loblolly pine	7.0	0.42
T-25 RQP3	ACRU	*Acer rubrum*	red maple	6.5	0.07
T-25 RQP4	CACA	*Carpinus caroliniana*	ironwood	4.2	0.11
T-26 LQP1	CACA	*Carpinus caroliniana*	ironwood	3.4	0.05
T-26 LQP2	CACA	*Carpinus caroliniana*	ironwood	2.7	0.09
T-26 LQP3	COFL	*Cornus florida*	flowering dogwood	3.1	0.05
T-26 LQP4	COFL	*Cornus florida*	flowering dogwood	2.8	0.03
T-26 RQP1	CACA	*Carpinus caroliniana*	ironwood	3.7	0.14
T-26 RQP2	CACA	*Carpinus caroliniana*	ironwood	3.8	0.12
T-26 RQP3	CACA	*Carpinus caroliniana*	ironwood	4.2	0.13
T-26 RQP4	OSVI	*Ostrya virginiana*	hop hornbeam	3.8	0.12
T-27 LQP1	CACA	*Carpinus caroliniana*	ironwood	2.1	0.04
T-27 LQP2	QUNI	*Quercus nigra*	water oak	3.3	0.16
T-27 LQP3	LITU	*Liriodendron tulipifera*	tulip poplar	3.7	0.46
T-27 LQP4	CACA	*Carpinus caroliniana*	ironwood	3.6	0.11
T-27 RQP1	CACA	*Carpinus caroliniana*	ironwood	4.5	0.13
T-27 RQP2	NI	---	tree	4.0	0.33
T-27 RQP3	CACA	*Carpinus caroliniana*	ironwood	4.0	0.08
T-27 RQP4	CACA	*Carpinus caroliniana*	ironwood	4.3	0.03
T-28 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.5	0.15
T-28 LQP2	CACA	*Carpinus caroliniana*	ironwood	4.1	0.18
T-28 LQP3	QURU	*Quercus rubra*	red oak	4.8	0.56
T-28 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	2.8	0.18
T-28 RQP1	CACA	*Carpinus caroliniana*	ironwood	2.0	0.08
T-28 RQP2	CACA	*Carpinus caroliniana*	ironwood	3.0	0.11
T-28 RQP3	QUNI	*Quercus nigra*	water oak	2.0	0.28
T-28 RQP4	CACA	*Carpinus caroliniana*	ironwood	1.7	0.07
T-29 LQP1	CACA	*Carpinus caroliniana*	ironwood	2.5	0.06
T-29 LQP2	BENI	*Betula nigra*	river birch	2.4	0.24
T-29 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	5.2	0.45
T-29 LQP4	BENI	*Betula nigra*	river birch	1.5	0.43
T-29 RQP1	COFL	*Cornus florida*	flowering dogwood	1.3	0.05
T-29 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	3.8	0.10
T-29 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	3.3	0.06
T-29 RQP4	CACA	*Carpinus caroliniana*	ironwood	4.8	0.05
T-30 LQP1	CACA	*Carpinus caroliniana*	ironwood	2.4	0.04
T-30 LQP2	BENI	*Betula nigra*	river birch	3.5	0.41
T-30 LQP3	BENI	*Betula nigra*	river birch	3.8	0.35
T-30 LQP4	BENI	*Betula nigra*	river birch	5.9	0.32
T-30 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.2	0.11
T-30 RQP2	COFL	*Cornus florida*	flowering dogwood	2.6	0.05
T-30 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	3.7	0.20
T-30 RQP4	CACA	*Carpinus caroliniana*	ironwood	5.6	0.06

Table 14. Riparian-zone trees, Indian Creek above Newberry, S.C., USGS 021607224 (reach 7)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-31 LQP1	QUNI	*Quercus nigra*	water oak	0.5	0.11
T-31 LQP2	BENI	*Betula nigra*	river birch	2.9	0.54
T-31 LQP3	JUVI	*Juniperus virginiana*	eastern redcedar	2.2	0.08
T-31 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	0.8	0.12
T-31 RQP1	BENI	*Betula nigra*	river birch	4.0	0.08
T-31 RQP2	BENI	*Betula nigra*	river birch	2.2	0.25
T-31 RQP3	CACA	*Carpinus caroliniana*	ironwood	0.6	0.03
T-31 RQP4	BENI	*Betula nigra*	river birch	1.5	0.03
T-32 LQP1	ULAL	*Ulmus alata*	winged elm	4.2	0.09
T-32 LQP2	BENI	*Betula nigra*	river birch	2.9	0.51
T-32 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	3.2	0.60
T-32 LQP4	ACRU	*Acer rubrum*	red maple	4.8	0.20
T-32 RQP1	CACA	*Carpinus caroliniana*	ironwood	3.1	0.04
T-32 RQP2	JUVI	*Juniperus virginiana*	eastern redcedar	3.4	0.06
T-32 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	0.9	0.06
T-32 RQP4	ACRU	*Acer rubrum*	red maple	2	0.04
T-33 LQP1	CACA	*Carpinus caroliniana*	ironwood	0.5	0.05
T-33 LQP2	BENI	*Betula nigra*	river birch	6.1	0.22
T-33 LQP3	ACRU	*Acer rubrum*	red maple	3.2	0.33
T-33 LQP4	BENI	*Betula nigra*	river birch	4.4	0.18
T-33 RQP1	QUMI	*Quercus michauxii*	basket oak	1.1	0.06
T-33 RQP2	COFL	*Cornus florida*	flowering dogwood	2.1	0.03
T-33 RQP3	COFL	*Cornus florida*	flowering dogwood	2.5	0.10
T-33 RQP4	BENI	*Betula nigra*	river birch	1.2	0.12
T-34 LQP1	PLOC	*Platanus occidentalis*	sycamore	1.8	0.27
T-34 LQP2	CACA	*Carpinus caroliniana*	ironwood	6.5	0.19
T-34 LQP3	ACRU	*Acer rubrum*	red maple	4.1	0.12
T-34 LQP4	ACRU	*Acer rubrum*	red maple	1.4	0.54
T-34 RQP1	QUNI	*Quercus nigra*	water oak	2.2	0.14
T-34 RQP2	CACA	*Carpinus caroliniana*	ironwood	2.8	0.03
T-34 RQP3	CACA	*Carpinus caroliniana*	ironwood	1.9	0.17
T-34 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	2	0.17
T-35 LQP1	ACRU	*Acer rubrum*	red maple	0.2	0.10
T-35 LQP2	QUMI	*Quercus michauxii*	basket oak	5.2	0.12
T-35 LQP3	LITU	*Liriodendron tulipifera*	tulip tree	1.6	0.10
T-35 LQP4	CACA	*Carpinus caroliniana*	ironwood	0.3	0.10
T-35 RQP1	ACNE	*Acer negundo*	box elder	2.9	0.15
T-35 RQP2	PLOC	*Platanus occidentalis*	sycamore	1.2	0.44
T-35 RQP3	BENI	*Betula nigra*	river birch	1.4	0.49
T-35 RQP4	CACA	*Carpinus caroliniana*	ironwood	0.8	0.07
T-36 LQP1	CACA	*Carpinus caroliniana*	ironwood	2.5	0.05
T-36 LQP2	BENI	*Betula nigra*	river birch	3.9	0.49
T-36 LQP3	CACA	*Carpinus caroliniana*	ironwood	6.4	0.18
T-36 LQP4	BENI	*Betula nigra*	river birch	9.1	0.03
T-36 RQP1	ACRU	*Acer rubrum*	red maple	1.8	0.04
T-36 RQP2	ACRU	*Acer rubrum*	red maple	3.5	0.35
T-36 RQP3	BENI	*Betula nigra*	river birch	1.4	0.34
T-36 RQP4	CACA	*Carpinus caroliniana*	ironwood	2.2	0.08

Table 15. Riparian-zone trees, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-37 LQP1	NYAQ	*Nyssa aquatica*	water tupelo	3.7	0.31
T-37 LQP2	CETE	*Celtis tenuifolia*	upland hackberry	3.2	0.04
T-37 LQP3	BRPA	*Broussonetia papyrifera*	paper mulberry	2.4	0.10
T-37 LQP4	CACA	*Carpinus caroliniana*	ironwood	8.4	0.28
T-37 RQP1	CACA	*Carpinus caroliniana*	ironwood	2	0.16
T-37 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	2.9	0.60
T-37 RQP3	CACA	*Carpinus caroliniana*	ironwood	2.3	0.07
T-37 RQP4	PLAQ	*Planera aquatica*	water elm	7.8	0.25
T-38 LQP1	CACA	*Carpinus caroliniana*	ironwood	3.1	0.10
T-38 LQP2	QUMI	*Quercus michauxii*	chinquapin oak	2.6	0.43
T-38 LQP3	QUNI	*Quercus nigra*	water oak	2.1	0.23
T-38 LQP4	PLAQ	*Planera aquatica*	water elm	3.9	0.06
T-38 RQP1	CACA	*Carpinus caroliniana*	ironwood	1.9	0.09
T-38 RQP2	ACRU	*Acer rubrum*	red maple	3.8	0.21
T-38 RQP3	CACA	*Carpinus caroliniana*	ironwood	2	0.06
T-38 RQP4	ACRU	*Acer rubrum*	red maple	2.4	0.09
T-39 LQP1	CACA	*Carpinus caroliniana*	ironwood	2.1	0.15
T-39 LQP2	CACA	*Carpinus caroliniana*	ironwood	2.6	0.28
T-39 LQP3	QUNI	*Quercus nigra*	water oak	2.8	0.34
T-39 LQP4	CACA	*Carpinus caroliniana*	ironwood	1.7	0.07
T-39 RQP1	BENI	*Betula nigra*	river birch	2	0.72
T-39 RQP2	ACRU	*Acer rubrum*	red maple	2.9	0.24
T-39 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	3.8	0.17
T-39 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	4.7	0.31
T-40 LQP1	ILMO	*Ilex montana*	largeleaf holly	1.2	0.06
T-40 LQP2	CAPA	*Carya pallida*	sand hickory	1.6	0.33
T-40 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.1	0.10
T-40 LQP4	CACA	*Carpinus caroliniana*	ironwood	3.6	0.34
T-40 RQP1	CACA	*Carpinus caroliniana*	ironwood	2.8	0.16
T-40 RQP2	OSVI	*Ostrya virginiana*	hop hornbeam	4.3	0.47
T-40 RQP3	ACRU	*Acer rubrum*	red maple	3.2	0.18
T-40 RQP4	CAPA	*Carya pallida*	sand hickory	3	0.27
T-41 LQP1	CATO	*Carya tomentosa*	mockernut hickory	3.4	0.36
T-41 LQP2	PLAQ	*Planera aquatica*	water elm	4.5	0.54
T-41 LQP3	CATO	*Carya glabra*	pignut hickory	4.2	0.08
T-41 LQP4	CACA	*Carpinus caroliniana*	ironwood	4.5	0.20
T-41 RQP1	ACRU	*Acer rubrum*	red maple	4.2	0.26
T-41 RQP2	ACRU	*Acer rubrum*	red maple	6.3	0.26
T-41 RQP3	ACRU	*Acer rubrum*	red maple	3.9	0.38
T-41 RQP4	CACA	*Carpinus caroliniana*	ironwood	3.7	0.23
T-42 LQP1	ACRU	*Acer rubrum*	red maple	2.9	0.64
T-42 LQP2	ACRU	*Acer rubrum*	red maple	2.8	0.18
T-42 LQP3	QUPH	*Quercus phellos*	willow oak	3	0.38
T-42 LQP4	ACRU	*Acer rubrum*	red maple	5.7	0.27
T-42 RQP1	QUNI	*Quercus nigra*	water oak	4.6	0.52
T-42 RQP2	CACA	*Carpinus caroliniana*	ironwood	1.5	0.12
T-42 RQP3	CACA	*Carpinus caroliniana*	ironwood	6.1	0.07
T-42 RQP4	CACA	*Carpinus caroliniana*	ironwood	3.5	0.18

Table 16. Riparian-zone trees, Gills Creek at Columbia, S.C., USGS 02169570 (reach 9)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree; NI, not identified; ---, no data

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-43 LQP2	ACRU	*Acer rubrum*	red maple	3.3	0.23
T-43 LQP3	LITU	*Liriodendron tulipifera*	tulip tree	3.6	0.24
T-43 LQP4	LITU	*Liriodendron tulipifera*	tulip tree	3.1	0.29
T-43 RQP1	ACRU	*Acer rubrum*	red maple	2.3	0.35
T-43 RQP2	NI	---	shrub	3.6	0.04
T-43 RQP3	NI	---	shrub	2.1	0.02
T-43 RQP4	NI	---	shrub	2.6	0.02
T-44 LQP1	SMGL	*Smilax glauca*	glaucous greenbrier	0	multiple stems
T-44 LQP2	ACRU	*Acer rubrum*	red maple	2.2	0.27
T-44 LQP3	SMRO	*Smilax glauca*	glaucous greenbrier	1.6	multiple stems
T-44 LQP4	QUNI	*Quercus nigra*	water oak	1.6	0.11
T-44 RQP1	RHVE	*Rhus vernix*	poison sumac	1	multiple stems
T-44 RQP2	RUFL	*Rubus flagellaris*	prickly dewberry	0.05	0.02
T-44 RQP3	RUFL	*Rubus flagellaris*	prickly dewberry	2	multiple stems
T-44 RQP4	RUFL	*Rubus flagellaris*	prickly dewberry	1	multiple stems
T-45 LQP1	BENI	*Betula nigra*	river birch	0.8	0.67
T-45 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	0.3	1.80
T-45 LQP3	QUNI	*Quercus nigra*	water oak	5	0.68
T-45 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	5.1	0.36
T-45 RQP1	NI	---	shrub	2	0.02
T-45 RQP2	NI	---	shrub	2.5	0.02
T-45 RQP3	ACRU	*Acer rubrum*	red maple	1.1	0.09
T-45 RQP4	ACRU	*Acer rubrum*	red maple	1	0.08
T-46 LQP1	NI	---	shrub	---	---
T-46 LQP2	NI	---	shrub	---	
T-46 LQP3	NI	---	shrub	---	---
T-46 LQP4	NI	---	shrub	---	---
T-46 RQP1	ACRU	*Acer rubrum*	red maple	1.4	0.05
T-46 RQP2	QUNI	*Quercus nigra*	water oak	2	0.12
T-46 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	3.8	0.54
T-46 RQP4	NI	---	shrub	4.6	0.02
T-47 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	4.3	0.36
T-47 LQP2	QUNI	*Quercus nigra*	water oak	3.1	0.03
T-47 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	4.3	0.52
T-47 LQP4	NI	---	tree	2.6	0.06
T-47 RQP1	ACNE	*Acer negundo*	box elder	4	0.04
T-47 RQP2	BENI	*Betula nigra*	river birch	4.4	0.05
T-47 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	5.8	0.37
T-47 RQP4	PEBO	*Persea borbonia*	redbay	2.4	0.35
T-48 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.4	0.05
T-48 LQP2	ACRU	*Acer rubrum*	red maple	2.9	0.10
T-48 LQP3	QUNI	*Quercus nigra*	water oak	2.2	0.10
T-48 LQP4	QUNI	*Quercus nigra*	water oak	0.7	0.12
T-48 RQP1	FRAM	*Fraxinus americana*	white ash	4.4	0.18
T-48 RQP2	FRAM	*Fraxinus americana*	white ash	6.05	0.29
T-48 RQP3	QUNI	*Quercus nigra*	water oak	1.8	0.08
T-48 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	5	0.30

Table 17. Riparian-zone trees, Gills Creek at Columbia, S.C., USGS 02169570 (reach 10)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree; NI, not identified; ---, no data]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-49 LQP1	SANI	*Salix nigra*	black willow	2.1	0.11
T-49 LQP2	BENI	*Betula nigra*	river birch	2.2	0.52
T-49 LQP3	ACRU	*Acer rubrum*	red maple	2.2	0.03
T-49 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	2.3	0.09
T-49 RQP1	BENI	*Betula nigra*	river birch	1.2	0.03
T-49 RQP2	PRSE	*Prunus serotina*	black cherry	4	0.30
T-49 RQP3	PLAQ	*Planera aquatica*	water elm	3.6	0.18
T-49 RQP4	QUNI	*Quercus nigra*	water oak	4.6	0.06
T-50 LQP1	NI	---	shrub	10.4	0.13
T-50 LQP2	NI	---	shrub	3.3	0.03
T-50 LQP3	NI	---	shrub	3.1	0.02
T-50 LQP4	RUFL	*Rubus flagellaris*	prickly dewberry	2	patch
T-50 RQP1	Private property – no access		---	---	---
T-50 RQP2	Private property – no access		---	---	---
T-50 RQP3	Private property – no access		---	---	---
T-50 RQP4	Private property – no access		---	---	---
T-51 LQP1	LITU	*Liriodendron tulipifera*	tulip tree	2.3	0.22
T-51 LQP2	LITU	*Liriodendron tulipifera*	tulip tree	2	0.25
T-51 LQP3	SANI	*Salix nigra*	black willow	8.8	0.10
T-51 LQP4	ACRU	*Acer rubrum*	red maple	10	0.16
T-51 RQP1	Private property – no access		---	---	---
T-51 RQP2	Private property – no access		---	---	---
T-51 RQP3	Private property – no access		---	---	---
T-51 RQP4	Private property – no access		---	---	---
T-52 LQP1	BENI	*Betula nigra*	river birch	3.8	0.28
T-52 LQP2	QUNI	*Quercus nigra*	water oak	3.4	0.08
T-52 LQP3	QUNI	*Quercus nigra*	water oak	2.5	0.08
T-52 LQP4	QUNI	*Quercus nigra*	water oak	2.1	0.13
T-52 RQP1	Private property – no access		---	---	---
T-52 RQP2	Private property – no access		---	---	---
T-52 RQP3	Private property – no access		---	---	---
T-52 RQP4	Private property – no access		---	---	---
T-53 LQP1	RUFL	*Rubus flagellaris*	prickly dewberry	1	multiple stems
T-53 LQP2	NI		tree	4.8	0.03
T-53 LQP3	QUNI	*Quercus nigra*	water oak	8.2	0.06
T-53 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	6.8	0.05
T-53 RQP1	Private property – no access		---	---	---
T-53 RQP2	Private property – no access		---	---	---
T-53 RQP3	Private property – no access		---	---	---
T-53 RQP4	Private property – no access		---	---	---
T-54 LQP1	FRSP	*Fraxinus species*	ash species	2	0.05
T-54 LQP2	BENI	*Betula nigra*	river birch	4.2	0.11
T-54 LQP3	RUFL	*Rubus flagellaris*	prickly dewberry	1	multiple stems
T-54 LQP4	RUFL	*Rubus flagellaris*	prickly dewberry	3	multiple stems
T-54 RQP1	Private property – no access		---	---	---
T-54 RQP2	Private property – no access		---	---	---
T-54 RQP3	Private property – no access		---	---	---
T-54 RQP4	Private property – no access		---	---	---

Table 18. Riparian-zone trees, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-55 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.6	0.50
T-55 LQP2	ACRU	*Acer rubrum*	red maple	7.2	0.46
T-55 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	1.9	0.14
T-55 LQP4	ACRU	*Acer rubrum*	red maple	1.8	0.07
T-55 RQP1	ACRU	*Acer rubrum*	red maple	2.2	0.04
T-55 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	2.6	0.14
T-55 RQP3	ACRU	*Acer rubrum*	red maple	3.6	0.08
T-55 RQP4	ILDE	*Ilex decidua*	possumhaw holly	2.3	0.04
T-56 LQP1	NYAQ	*Nyssa aquatica*	water tupelo	1.2	0.45
T-56 LQP2	ULAM	*Ulmus americana*	American elm	1.6	0.16
T-56 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.1	0.44
T-56 LQP4	ULAM	*Ulmus americana*	American elm	1.0	0.11
T-56 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	3.8	0.32
T-56 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	5.0	0.42
T-56 RQP3	NYAQ	*Nyssa aquatica*	water tupelo	3.3	0.38
T-56 RQP4	ILDE	*Ilex decidua*	possumhaw holly	2.3	0.04
T-57 LQP1	NYSY	*Nyssa sylvatica*	sourgum	1.6	0.06
T-57 LQP2	NYAQ	*Nyssa aquatica*	water tupelo	7.3	0.23
T-57 LQP3	ACRU	*Acer rubrum*	red maple	1.3	0.11
T-57 LQP4	ACRU	*Acer rubrum*	red maple	1.3	0.20
T-57 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.3	0.18
T-57 RQP2	QULA	*Quercus laurifolia*	laurel oak	4.4	0.09
T-57 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	1.0	0,30
T-57 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	3.4	0.36
T-58 LQP1	ACRU	*Acer rubrum*	red maple	1.3	0.18
T-58 LQP2	ACRU	*Acer rubrum*	red maple	3.1	0.07
T-58 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.8	0.16
T-58 LQP4	ACRU	*Acer rubrum*	red maple	2.2	0.10
T-58 RQP1	NYAQ	*Nyssa aquatica*	water tupelo	9.0	0.30
T-58 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	2.1	0.43
T-58 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	1.5	0.13
T-58 RQP4	ACRU	*Acer rubrum*	red maple	1.5	0.45
T-59 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	2.8	0.27
T-59 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	4.0	0.40
T-59 LQP3	ACRU	*Acer rubrum*	red maple	2.0	0.60
T-59 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	1.4	0.23
T-59 RQP1	ACRU	*Acer rubrum*	red maple	2.0	0.47
T-59 RQP2	FRCA	*Fraxinus caroliniana*	Carolina (water) ash	3.6	0.03
T-59 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	1.4	0.09
T-59 RQP4	NYSY	*Nyssa sylvatica*	sourgum	4.7	0.11
T-60 LQP1	ACRU	*Acer rubrum*	red maple	1.1	0.29
T-60 LQP2	NYAQ	*Nyssa sylvatica*	sourgum	10.4	0.24
T-60 LQP3	ACRU	*Acer rubrum*	red maple	6.2	0.60
T-60 LQP4	NYSY	*Nyssa sylvatica*	sourgum	1.3	0.10
T-60 RQP1	ACRU	*Acer rubrum*	red maple	2.5	0.04
T-60 RQP2	ACRU	*Acer rubrum*	red maple	8.0	0.33
T-60 RQP3	ACRU	*Acer rubrum*	red maple	4.2	0.33
T-60 RQP4	NYSY	*Nyssa sylvatica*	sourgum	3.3	0.24

Table 19. Riparian-zone trees, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-61 LQP1	FRCA	*Fraxinus caroliniana*	Carolina (water) ash	1.4	0.03
T-61 LQP2	ILOP	*Ilex opaca*	American holly	1.3	0.04
T-61 LQP3	ILOP	*Ilex opaca*	American holly	1.9	0.03
T-61 LQP4	FRCA	*Fraxinus caroliniana*	Carolina (water) ash	2.0	0.06
T-61 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	0.7	0.20
T-61 RQP2	ILOP	*Ilex opaca*	American holly	1.3	0.05
T-61 RQP3	NYAQ	*Nyssa aquatica*	water tupelo	4.2	0.57
T-61 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	0.8	0.07
T-62 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	0.9	0.36
T-62 LQP2	PEBO	*Persea borbonia*	redbay	4.8	0.14
T-62 LQP3	PEBO	*Persea borbonia*	redbay	4.1	0.05
T-62 LQP4	ILOP	*Ilex opaca*	American holly	0.4	0.03
T-62 RQP1	CYRA	*Cyrilla racemiflora*	cyrilla	2.2	0.04
T-62 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	1.3	0.36
T-62 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	1.0	0.05
T-62 RQP4	FRCA	*Fraxinus caroliniana*	Carolina (water) ash	0.6	0.04
T-63 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	0.8	0.43
T-63 LQP2	ACRU	*Acer rubrum*	red maple	2.9	0.14
T-63 LQP3	ULAM	*Ulmus alata*	winged elm	2.8	0.05
T-63 LQP4	ACRU	*Acer rubrum*	red maple	1.0	0.13
T-63 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.4	0.37
T-63 RQP2	ILOP	*Ilex opaca*	American holly	1.4	0.10
T-63 RQP3	ACRU	*Acer rubrum*	red maple	6.9	0.15
T-63 RQP4	ACRU	*Acer rubrum*	red maple	3.1	0.75
T-64 LQP1	ILOP	*Ilex opaca*	American holly	0.7	0.19
T-64 LQP2	ACRU	*Acer rubrum*	red maple	5.8	0.37
T-64 LQP3	FRCA	*Fraxinus caroliniana*	Carolina (water) ash	1.2	0.10
T-64 LQP4	ACRU	*Acer rubrum*	red maple	2.0	0.39
T-64 RQP1	ILOP	*Ilex opaca*	American holly	0.5	0.03
T-64 RQP2	ACRU	*Acer rubrum*	red maple	0.8	0.31
T-64 RQP3	NYAQ	*Nyssa aquatica*	water tupelo	2.4	0.23
T-64 RQP4	PEBO	*Persea borbonia*	redbay	2.1	0.03
T-65 LQP1	ACRU	*Acer rubrum*	red maple	1.2	0.29
T-65 LQP2	ILOP	*Ilex opaca*	American holly	4.4	0.18
T-65 LQP3	ILOP	*Ilex opaca*	American holly	3.8	0.06
T-65 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	2.1	0.30
T-65 RQP1	QULA	*Quercus laurifolia*	laurel oak	1.8	0.39
T-65 RQP2	ACRU	*Acer rubrum*	red maple	2.3	0.06
T-65 RQP3	ACRU	*Acer rubrum*	red maple	1.6	0.04
T-65 RQP4	ACRU	*Acer rubrum*	red maple	0.2	0.04
T-66 LQP1	PEBO	*Persea borbonia*	redbay	1.6.	0.12
T-66 LQP2	ACRU	*Acer rubrum*	red maple	3.7	0.13
T-66 LQP3	ILOP	*Ilex opaca*	American holly	2.7	0.03
T-66 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	2.0	0.05
T-66 RQP1	ACRU	*Acer rubrum*	red maple	1.1	0.49
T-66 RQP2	CYRA	*Cyrilla racemiflora*	cyrilla	0.9	0.06
T-66 RQP3	ILOP	*Ilex opaca*	American holly	0.6	0.04
T-66 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	1.0	0.27

Table 20. Riparian-zone trees, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree; NI, not identified; ---, no data]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-67 LQP1	CACA	*Carpinus caroliniana*	ironwood	2.7	0.11
T-67 LQP2	QUMI	*Quercus michauxii*	basket oak	1.5	0.53
T-67 LQP3	CACA	*Carpinus caroliniana*	ironwood	3.7	0.03
T-67 LQP4	NYAQ	*Nyssa aquatica*	water tupelo	2.3	0.04
T-67 RQP1	NI	---	tree	0.9	0.03
T-67 RQP2	ULAM	*Ulmus americana*	American elm	5.0	0.29
T-67 RQP3	ULAM	*Ulmus americana*	American elm	4.0	0.05
T-67 RQP4	QUNI	*Quercus nigra*	water oak	1.3	0.07
T-68 LQP1	NYAQ	*Nyssa aquatica*	water tupelo	3.0	0.47
T-68 LQP2	NYAQ	*Nyssa aquatica*	water tupelo	5.0	0.89
T-68 LQP3	NYAQ	*Nyssa aquatica*	water tupelo	1.5	0.94
T-68 LQP4	NYAQ	*Nyssa aquatica*	water tupelo	1.8	0.03
T-68 RQP1	NYAQ	*Nyssa aquatica*	water tupelo	1.0	0.30
T-68 RQP2	CACA	*Carpinus caroliniana*	ironwood	4.2	0.30
T-68 RQP3	QULA	*Quercus laurifolia*	laurel oak	2.2	0.63
T-68 RQP4	TADI	*Taxodium distichum*	baldcypress	3.4	0.64
T-69 LQP1	NYAQ	*Nyssa aquatica*	water tupelo	1.2	0.52
T-69 LQP2	ACRU	*Acer rubrum*	red maple	2.6	0.12
T-69 LQP3	NYAQ	*Nyssa aquatica*	water tupelo	5.0	0.57
T-69 LQP4	NYAQ	*Nyssa aquatica*	water tupelo	1.9	0.03
T-69 RQP1	ILOP	*Ilex opaca*	American holly	2.7	0.06
T-69 RQP2	QULA	*Quercus laurifolia*	laurel oak	4.7	0.41
T-69 RQP3	QULA	*Quercus laurifolia*	laurel oak	1.7	0.35
T-69 RQP4	QULA	*Quercus laurifolia*	laurel oak	1.7	0.07
T-70 LQP1	NYAQ	*Nyssa aquatica*	water tupelo	7.0	0.67
T-70 LQP2	NYAQ	*Nyssa aquatica*	water tupelo	1.8	0.11
T-70 LQP3	NYAQ	*Nyssa aquatica*	water tupelo	1.3	0.29
T-70 LQP4	NYAQ	*Nyssa aquatica*	water tupelo	1.3	0.67
T-70 RQP1	ILOP	*Ilex opaca*	American holly	5.5	0.08
T-70 RQP2	QULA	*Quercus laurifolia*	laurel oak	0.8	0.71
T-70 RQP3	QULA	*Quercus laurifolia*	laurel oak	1.4	0.15
T-70 RQP4	QULA	*Quercus laurifolia*	laurel oak	0.7	0.16
T-71 LQP1	NYAQ	*Nyssa aquatica*	water tupelo	4.2	0.21
T-71 LQP2	NYAQ	*Nyssa aquatica*	water tupelo	3.6	0.30
T-71 LQP3	NYAQ	*Nyssa aquatica*	water tupelo	1.2	0.37
T-71 LQP4	QULA	*Quercus laurifolia*	laurel oak	0.6	0.30
T-71 RQP1	NYAQ	*Nyssa aquatica*	water tupelo	1.6	0.54
T-71 RQP2	NYAQ	*Nyssa aquatica*	water tupelo	1.1	0.03
T-71 RQP3	NYAQ	*Nyssa aquatica*	water tupelo	0.9	0.72
T-71 RQP4	NYAQ	*Nyssa aquatica*	water tupelo	0.8	0.06
T-72 LQP1	NYAQ	*Nyssa aquatica*	water tupelo	8.4	0.51
T-72 LQP2	CACA	*Carpinus caroliniana*	ironwood	1.7	0.12
T-72 LQP3	ACRU	*Acer rubrum*	red maple	2.9	0.03
T-72 LQP4	NYAQ	*Nyssa aquatica*	water tupelo	2.4	0.81
T-72 RQP1	NYAQ	*Nyssa aquatica*	water tupelo	2.0	0.06
T-72 RQP2	NYAQ	*Nyssa aquatica*	water tupelo	3.0	0.88
T-72 RQP3	ACRU	*Acer rubrum*	red maple	3.5	0.08
T-72 RQP4	TADI	*Taxodium distichum*	baldcypress	4.0	0.10

Table 21. Riparian-zone trees, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-73 LQP1	QULA	*Quercus laurifolia*	laurel oak	1.1	0.26
T-73 LQP2	QULA	*Quercus laurifolia*	laurel oak	2.0	0.35
T-73 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.3	0.09
T-73 LQP4	ACRU	*Acer rubrum*	red maple	1.6	0.22
T-73 RQP1	ACRU	*Acer rubrum*	red maple	1.0	0.19
T-73 RQP2	ACRU	*Acer rubrum*	red maple	1.6	0.24
T-73 RQP3	QULA	*Quercus laurifolia*	laurel oak	2.0	0.34
T-73 RQP4	QULA	*Quercus laurifolia*	laurel oak	1.5	0.06
T-74 LQP1	ACRU	*Acer rubrum*	red maple	1.5	0.12
T-74 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	2.4	0.22
T-74 LQP3	ACRU	*Acer rubrum*	red maple	32.5	0.08
T-74 LQP4	ACRU	*Acer rubrum*	red maple	1.6	0.19
T-74 RQP1	CACA	*Carpinus carolina*	ironwood	0.7	0.05
T-74 RQP2	QULA	*Quercus laurifolia*	laurel oak	0.9	0.07
T-74 RQP3	ACRU	*Acer rubrum*	red maple	1.7	0.07
T-74 RQP4	ACRU	*Acer rubrum*	red maple	1.6	0.06
T-75 LQP1	QUIN	*Quercus incana*	bluejack oak	2.1	0.06
T-75 LQP2	TADI	*Taxodium distichum*	baldcypress	2.8	0.02
T-75 LQP3	ACRU	*Acer rubrum*	red maple	2.8	0.33
T-75 LQP4	PLAQ	*Planera aquatica*	water elm	2.0	0.19
T-75 RQP1	ACRU	*Acer rubrum*	red maple	1.1	0.13
T-75 RQP2	ACRU	*Acer rubrum*	red maple	1.6	0.24
T-75 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	3.6	0.21
T-75 RQP4	QULA	*Quercus laurifolia*	laurel oak	2.2	0.07
T-76 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.7	0.20
T-76 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	1.1	0.45
T-76 LQP3	ACRU	*Acer rubrum*	red maple	1.9	0.04
T-76 LQP4	QUAL	*Quercus alba*	white oak	1.6	0.43
T-76 RQP1	ACRU	*Acer rubrum*	red maple	2.6	0.14
T-76 RQP2	ACRU	*Acer rubrum*	red maple	1.2	0.12
T-76 RQP3	ACRU	*Acer rubrum*	red maple	1.8	0.22
T-76 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	4.5	0.18
T-77 LQP1	ILOP	*Ilex opaca*	American holly	1.7	0.06
T-77 LQP2	QULA	*Quercus laurifolia*	laurel oak	1.5	0.35
T-77 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.4	0.13
T-77 LQP4	TADI	*Taxodium distichum*	baldcypress	1.6	0.36
T-77 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.4	0.33
T-77 RQP2	QULA	*Quercus laurifolia*	laurel oak	2.7	0.41
T-77 RQP3	QULA	*Quercus laurifolia*	laurel oak	1.5	0.31
T-77 RQP4	QULA	*Quercus laurifolia*	laurel oak	1.9	0.43
T-78 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.2	0.33
T-78 LQP2	QULA	*Quercus laurifolia*	laurel oak	3.1	0.26
T-78 LQP3	QULA	*Quercus laurifolia*	laurel oak	1.4	0.44
T-78 LQP4	ACRU	*Acer rubrum*	red maple	2.9	0.38
T-78 RQP1	PLAQ	*Planera aquatica*	water elm	1.1	0.04
T-78 RQP2	QULA	*Quercus laurifolia*	laurel oak	4.4	0.43
T-78 RQP3	ACRU	*Acer rubrum*	red maple	4.6	0.10
T-78 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	1.7	0.37

Table 22. Riparian-zone trees, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-79 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	2.0	0.45
T-79 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	1.5	0.13
T-79 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	1.0	0.41
T-79 LQP4	ACRU	*Acer rubrum*	red maple	7.4	0.44
T-79 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	2.5	0.23
T-79 RQP2	LITU	*Liriodendron tulipifera*	tulip tree	3.2	0.41
T-79 RQP3	CAGL	*Carya glabra*	pignut hickory	6.3	0.11
T-79 RQP4	CAGL	*Carya glabra*	pignut hickory	4.1	0.15
T-80 LQP1	LITU	*Liriodendron tulipifera*	tulip tree	2.7	0.73
T-80 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	3.0	0.61
T-80 LQP3	QULA	*Quercus laurifolia*	laurel oak	2.8	0.34
T-80 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	5.0	0.07
T-80 RQP1	ILOP	*Ilex opaca*	American holly	2.9	0.11
T-80 RQP2	ACRU	*Acer rubrum*	red maple	5.4	0.39
T-80 RQP3	QULA	*Quercus laurifolia*	laurel oak	6.2	0.24
T-80 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	3.3	0.13
T-81 LQP1	QULA	*Quercus laurifolia*	laurel oak	3.9	0.43
T-81 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	8.7	0.55
T-81 LQP3	ILOP	*Ilex opaca*	American holly	6.1	0.19
T-81 LQP4	ACRU	*Acer rubrum*	red maple	6.9	0.45
T-81 RQP1	ACRU	*Acer rubrum*	red maple	0.8	0.05
T-81 RQP2	ACRU	*Acer rubrum*	red maple	1.3	0.09
T-81 RQP3	ILOP	*Ilex opaca*	American holly	2.2	0.07
T-81 RQP4	ACRU	*Acer rubrum*	red maple	0.8	0.06
T-82 LQP1	LITU	*Liriodendron tulipifera*	tulip tree	3.0	0.62
T-82 LQP2	ILOP	*Ilex opaca*	American holly	1.9	0.07
T-82 LQP3	ILOP	*Ilex opaca*	American holly	9.7	0.32
T-82 LQP4	ACRU	*Acer rubrum*	red maple	6.9	0.10
T-82 RQP1	QUNI	*Quercus nigra*	water oak	1.3	0.23
T-82 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	0.6	0.16
T-82 RQP3	ILOP	*Ilex opaca*	American holly	2.8	0.1
T-82 RQP4	ACRU	*Acer rubrum*	red maple	4.3	0.10
T-83 LQP1	QUNI	*Quercus nigra*	water oak	3.2	0.34
T-83 LQP2	QUNI	*Quercus nigra*	water oak	2.7	0.43
T-83 LQP3	QULA	*Quercus laurifolia*	laurel oak	2.6	0.15
T-83 LQP4	QULA	*Quercus laurifolia*	laurel oak	4.8	0.16
T-83 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	2.2	0.46
T-83 RQP2	LITU	*Liriodendron tulipifera*	tulip tree	3.5	0.10
T-83 RQP3	ACRU	*Acer rubrum*	red maple	6.5	0.36
T-83 RQP4	ACRU	*Acer rubrum*	red maple	3.4	0.38
T-84 LQP1	QUNI	*Quercus nigra*	water oak	1.9	0.41
T-84 LQP2	QUST	*Quercus stellata*	post oak	1.4	0.07
T-84 LQP3	ACRU	*Acer rubrum*	red maple	2.4	0.09
T-84 LQP4	PEBO	*Persea borbonia*	red bay	3.3	0.06
T-84 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	1.0	0.41
T-84 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	2.0	0.21
T-84 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	4.9	0.27
T-84 RQP4	ACRU	*Acer rubrum*	red maple	3.0	0.12

Table 23. Riparian-zone trees, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reach 16)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; ---, no data; RQPn, right quarterpoint, nth tree; NI, not identified]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-85 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	2.0	0.34
T-85 LQP2	QUNI	*Quercus nigra*	water oak	2.5	0.32
T-85 LQP3	CAPA	*Carya pallida*	sand hickory	4.0	0.38
T-85 LQP4	CASP	*Carya* sp.	hickory	---	---
T-85 RQP1	CASP	*Carya* sp.	hickory	---	---
T-85 RQP2	CASP	*Carya* sp.	hickory	---	---
T-85 RQP3	CASP	*Carya* sp.	hickory	---	---
T-85 RQP4	CASP	*Carya* sp.	hickory	---	---
T-86 LQP1	PLAQ	*Planera aquatica*	water elm	1.2	0.39
T-86 LQP2	QUNI	*Quercus nigra*	water oak	2.3	0.06
T-86 LQP3	CASP	*Carya* sp.	hickory	---	---
T-86 LQP4	CASP	*Carya* sp.	hickory	---	---
T-86 RQP1	ACRU	*Acer rubrum*	red maple	1.0	0.37
T-86 RQP2	QULA	*Quercus laurifolia*	laurel oak	0.2	0.09
T-86 RQP3	QULA	*Quercus laurifolia*	laurel oak	0.2	0.04
T-86 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	1.9	0.29
T-87 LQP1	PLAQ	*Planera aquatica*	water elm	1.5	0.05
T-87 LQP2	ACRU	*Acer rubrum*	red maple	3.6	0.12
T-87 LQP3	CACA	*Carpinus caroliniana*	ironwood	3.2	0.01
T-87 LQP4	QULA	*Quercus laurifolia*	laurel oak	2.7	0.17
T-87 RQP1	LITU	*Liriodendron tulipifera*	tulip poplar	1.4	0.10
T-87 RQP2	QUMI	*Quercus michauxii*	basket oak	0.9	0.16
T-87 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	1.4	0.19
T-87 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	2.0	0.03
T-88 LQP1	QULA	*Quercus laurifolia*	laurel oak	5.4	0.08
T-88 LQP2	CACA	*Carpinus caroliniana*	ironwood	2.3	0.11
T-88 LQP3	QULA	*Quercus laurifolia*	laurel oak	3.2	0.32
T-88 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	2.7	0.36
T-88 RQP1	QULA	*Quercus laurifolia*	laurel oak	42	0.04
T-88 RQP2	ACRU	*Acer rubrum*	red maple	2.5	0.35
T-88 RQP3	ACRU	*Acer rubrum*	red maple	2.2	0.28
T-88 RQP4	CACA	*Carpinus caroliniana*	ironwood	2.4	0.16
T-89 LQP1	ULAM	*Ulmus americana*	slippery elm	1.3	0.25
T-89 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	2.5	0.47
T-89 LQP3	NI	tree	---	---	---
T-89 LQP4	NI	tree	---	---	---
T-89 RQP1	QUMI	*Quercus michauxii*	basket oak	1.3	0.18
T-89 RQP2	COFL	*Cornus florida*	flowering dogwood	2.9	0.11
T-89 RQP3	ACRU	*Acer rubrum*	red maple	3.5	0.16
T-89 RQP4	QULA	*Quercus laurifolia*	laurel oak	4.0	0.05
T-90 LQP1	PLAQ	*Planera aquatica*	water elm	0.2	0.23
T-90 LQP2	QUNI	*Quercus nigra*	water oak	0.2	0.14
T-90 LQP3	QULA	*Quercus laurifolia*	laurel oak	0.7	0.06
T-90 LQP4	PLOX	*Platanus occidentalis*	sycamore	6.8	0.28
T-90 RQP1	ACRU	*Acer rubrum*	red maple	0.7	0.09
T-90 RQP2	CACA	*Carpinus caroliniana*	ironwood	1.7	0.19
T-90 RQP3	PEBO	*Persea borbonia*	redbay	3.3	0.03
T-90 RQP4	QUNI	*Quercus nigra*	water oak	1.4	0.05

Table 24. Riparian-zone trees, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reach 17)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-91 LQP1	QUIN	*Quercus incana*	bluejack oak	1.7	0.12
T-91 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	3.2	0.17
T-91 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.2	0.36
T-91 LQP4	FRAM	*Fraxinus americana*	white ash	2.4	0.10
T-91 RQP1	QUMI	*Quercus michauxii*	basket oak	2.1	0.57
T-91 RQP2	CACA	*Carpinus caroliniana*	ironwood	1.8	0.08
T-91 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.9	0.10
T-91 RQP4	CACA	*Carpinus caroliniana*	ironwood	3.0	0.14
T-92 LQP1	QURU	*Quercus rubra*	northern red oak	2.9	0.20
T-92 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	2.9	0.04
T-92 LQP3	BRPA	*Broussonetia papyrifera*	paper mulberry	2.0	0.09
T-92 LQP4	CAGL	*Carya glabra*	pignut hickory	3.0	0.10
T-92 RQP1	QUNI	*Quercus nigra*	water oak	2.8	0.09
T-92 RQP2	CACA	*Carpinus caroliniana*	ironwood	1.9	0.07
T-92 RQP3	QULA	*Quercus laurifolia*	laurel oak	2.1	0.09
T-92 RQP4	CACA	*Carpinus caroliniana*	ironwood	2.7	0.19
T-93 LQP1	LITU	*Liriodendron tulipifera*	tulip poplar	1.8	0.03
T-93 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	3.5	0.34
T-93 LQP3	PEBO	*Persea borbonia*	redbay	1.8	0.05
T-93 LQP4	LITU	*Liriodendron tulipifera*	tulip poplar	5.3	0.52
T-93 RQP1	ACRU	*Acer rubrum*	red maple	1.8	0.21
T-93 RQP2	LITU	*Liriodendron tulipifera*	tulip poplar	1.0	0.09
T-93 RQP3	QULA	*Quercus laurifolia*	ironwood	1.7	0.03
T-93 RQP4	ACRU	*Acer rubrum*	red maple	2.7	0.05
T-94 LQP1	QURU	*Quercus rubra*	northern red oak	1.2	0.29
T-94 LQP2	PITA	*Pinus taeda*	loblolly pine	5.0	0.63
T-94 LQP3	CACA	*Carpinus caroliniana*	ironwood	1.3	0.10
T-94 LQP4	QULA	*Quercus laurifolia*	laurel oak	5.9	0.07
T-94 RQP1	ACRU	*Acer rubrum*	red maple	3.9	0.04
T-94 RQP2	COFL	*Cornus florida*	flowering dogwood	1.7	0.11
T-94 RQP3	QUNI	*Quercus nigra*	water oak	2.6	0.21
T-94 RQP4	ACRU	*Acer rubrum*	red maple	2.8	0.13
T-95 LQP1	ACRU	*Acer rubrum*	red maple	3.2	0.58
T-95 LQP2	PLAQ	*Planera aquatica*	water elm	2.7	0.08
T-95 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	2.9	0.37
T-95 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	2.2	0.47
T-95 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	4.8	0.24
T-95 RQP2	QULA	*Quercus laurifolia*	laurel oak	2.2	0.09
T-95 RQP3	CACA	*Carpinus caroliniana*	ironwood	0.7	0.15
T-95 RQP4	LITU	*Liriodendron tulipifera*	tulip poplar	1.1	0.25
T-96 LQP1	QUMI	*Quercus michauxii*	basket oak	1.6	0.31
T-96 LQP2	LIST	*Carpinus caroliniana*	ironwood	2.2	0.46
T-96 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	4.7	0.51
T-96 LQP4	QUMI	*Quercus michauxii*	basket oak	4.5	0.12
T-96 RQP1	CACA	*Carpinus caroliniana*	ironwood	1.3	0.12
T-96 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	0.6	0.3
T-96 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	1.2	0.26
T-96 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	4.1	0.21

Table 25. Riparian-zone trees, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reach 18)

[m, meter(s); T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-97 LQP1	CAPA	*Carya pallida*	sand hickory	1.1	0.08
T-97 LQP2	QUNI	*Quercus nigra*	water oak	1.6	0.38
T-97 LQP3	CAVO	*Carya ovata*	shagbark hickory	2.3	0.06
T-97 LQP4	CAPA	*Carpinus caroliniana*	ironwood	4.7	0.07
T-97 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	3.4	0.25
T-97 RQP2	CACA	*Carpinus caroliniana*	ironwood	2	0.05
T-97 RQP3	CAVO	*Carya ovata*	shagbark hickory	5.3	0.15
T-97 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	3.3	0.25
T-98 LQP1	QUMI	*Quercus michauxii*	basket oak	4.1	0.65
T-98 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	3.6	0.07
T-98 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	1.8	0.21
T-98 LQP4	LIST	*Liquidambar styraciflua*	sweetgum	1.1	0.06
T-98 RQP1	QUNI	*Quercus nigra*	water oak	1.6	0.10
T-98 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	2.9	0.50
T-98 RQP3	CAPA	*Carpinus caroliniana*	ironwood	2	0.08
T-98 RQP4	ACRU	*Acer rubrum*	red maple	2.7	0.05
T-99 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	2.9	0.17
T-99 LQP2	CAGL	*Carya glabra*	pignut hickory	1.6	0.04
T-99 LQP3	QUMI	*Quercus michauxii*	basket oak	2.3	0.23
T-99 LQP4	QUMI	*Quercus michauxii*	basket oak	1.5	0.05
T-99 RQP1	QULA	*Quercus laurifolia*	laurel oak	0.9	0.07
T-99 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	0.5	0.09
T-99 RQP3	CAOV	*Carya ovata*	shagbark hickory	3.5	0.10
T-99 RQP4	LITU	*Liriodendron tulipifera*	tulip poplar	1.4	0.05
T-100 LQP1	CAPA	*Carya pallida*	sand hickory	1.8	0.17
T-100 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	3.4	0.41
T-100 LQP3	CAOV	*Carya ovata*	shagbark hickory	1.7	0.05
T-100 LQP4	ACRU	*Acer rubrum*	red maple	4.1	0.12
T-100 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	4.2	0.36
T-100 RQP2	ACRU	*Acer rubrum*	red maple	4	0.21
T-100 RQP3	LIST	*Liquidambar styraciflua*	sweetgum	1.9	0.16
T-100 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	4.7	0.20
T-101 LQP1	PIEC	*Pinus echinata*	shortleaf pine	2.2	0.16
T-101 LQP2	CAPA	*Carya pallida*	sand hickory	2.8	0.17
T-101 LQP3	LIST	*Liquidambar styraciflua*	sweetgum	1	0.49
T-101 LQP4	CAPA	*Carya pallida*	sand hickory	3	0.09
T-101 RQP1	ACRU	*Acer rubrum*	red maple	1.8	0.28
T-101 RQP2	COFL	*Cornus florida*	flowering dogwood	3.5	0.10
T-101 RQP3	CAPA	*Carya pallida*	sand hickory	2.5	0.20
T-101 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	0.7	0.28
T-102 LQP1	LIST	*Liquidambar styraciflua*	sweetgum	2.3	0.34
T-102 LQP2	CAPA	*Carya pallida*	sand hickory	1.5	0.06
T-102 LQP3	QULY	*Quercus lyrata*	overcup oak	1.5	0.06
T-102 LQP4	CAOV	*Carya ovata*	shagbark hickory	2.3	0.10
T-102 RQP1	CAOV	*Carya ovata*	shagbark hickory	2.3	0.11
T-102 RQP2	CAOV	*Carya ovata*	shagbark hickory	2.6	0.76
T-102 RQP3	CAOV	*Carya ovata*	shagbark hickory	1.8	0.35
T-102 RQP4	CAOV	*Carya ovata*	shagbark hickory	4.6	0.10

Table 26. Riparian-zone trees, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19)

[T-n, transect number; LQPn, left quarterpoint, nth tree; RQPn, right quarterpoint, nth tree]

Tree position	Species code	Scientific name	Common name	Distance from pivot point (m)	Trunk diameter at breast height (m)
T-103 LQP1	NYAQ	*Nyssa aquatica*	water tupelo	1.5	0.51
T-103 LQP2	FOAC	*Forestiera acuminata*	swamp forestiera	2.7	0.13
T-103 LQP3	NYAQ	*Nyssa aquatica*	water tupelo	2	0.15
T-103 LQP4	NYAQ	*Nyssa aquatica*	water tupelo	2	0.19
T-103 RQP1	ACRU	*Acer rubrum*	red maple	0.8	0.10
T-103 RQP2	NYAQ	*Nyssa aquatica*	water tupelo	3.6	0.25
T-103 RQP3	ULSP	*Ulmaceae*	elm	2	0.53
T-103 RQP4	LIST	*Liquidambar styraciflua*	sweetgum	2.5	0.26
T-104 LQP1	NYAQ	*Nyssa aquatica*	water tupelo	3.5	0.68
T-104 LQP2	CAAQ	*Carya aquatica*	water hickory	1.2	0.09
T-104 LQP3	ULSP	*Ulmaceae*	elm	1.1	0.08
T-104 LQP4	ULSP	*Ulmaceae*	elm	2.1	0.03
T-104 RQP1	QULA	*Quercus laurifolia*	laurel oak	1.3	0.55
T-104 RQP2	QUAL	*Quercus lyrata*	overcup oak	2.1	0.24
T-104 RQP3	TADI	*Taxodium distichum*	cypress	1.7	0.44
T-104 RQP4	FRCA	*Fraxinus caroliniana*	Carolina ash	2.4	0.09
T-105 LQP1	ULSP	*Ulmaceae*	elm	1.2	0.30
T-105 LQP2	QULA	*Quercus laurifolia*	laurel oak	2.2	0.54
T-105 LQP3	ULSP	*Ulmaceae*	elm	1.6	0.04
T-105 LQP4	QULA	*Quercus laurifolia*	laurel oak	4.1	0.64
T-105 RQP1	NYAQ	*Nyssa aquatica*	water tupelo	2.8	0.32
T-105 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	1.7	0.74
T-105 RQP3	NYAQ	*Nyssa aquatica*	water tupelo	1.2	0.16
T-105 RQP4	ULSP	*Ulmaceae*	elm	2.8	0.07
T-106 LQP1	QULA	*Quercus laurifolia*	laurel oak	1	0.24
T-106 LQP2	LIST	*Liquidambar styraciflua*	sweetgum	2	0.07
T-106 LQP3	ACRU	*Acer rubrum*	red maple	1.2	0.07
T-106 LQP4	ULAQ	*Ulmus aquatica*	water elm	1.2	0.34
T-106 RQP1	NYAQ	*Nyssa aquatica*	water tupelo	2.4	0.20
T-106 RQP2	LIST	*Liquidambar styraciflua*	sweetgum	6	0.17
T-106 RQP3	ULSP	*Ulmaceae*	elm	1.3	0.19
T-106 RQP4	NYAQ	*Nyssa aquatica*	water tupelo	1.1	0.43
T-107 LQP1	ULSP	*Ulmaceae*	elm	2.5	0.08
T-107 LQP2	FRCA	*Fraxinus caroliniana*	Carolina ash	2.3	0.11
T-107 LQP3	NYAQ	*Nyssa aquatica*	water tupelo	1.4	0.51
T-107 LQP4	NYAQ	*Nyssa aquatica*	water tupelo	5.1	0.57
T-107 RQP1	LIST	*Liquidambar styraciflua*	sweetgum	1	0.30
T-107 RQP2	QUAL	*Quercus lyrata*	overcup oak	2.1	0.10
T-107 RQP3	CACA	*Carpinus caroliniana*	ironwood	2.7	0.10
T-107 RQP4	CAAQ	*Carya aquatica*	water hickory	1.9	0.32
T-108 LQP1	NYAQ	*Nyssa aquatica*	water tupelo	1.2	0.13
T-108 LQP2	NYAQ	*Nyssa aquatica*	water tupelo	2.2	0.08
T-108 LQP3	NYAQ	*Nyssa aquatica*	water tupelo	0.9	0.29
T-108 LQP4	FRCA	*Fraxinus caroliniana*	Carolina ash	0.9	0.08
T-108 RQP1	QUNI	*Quercus nigra*	water oak	2.8	0.58
T-108 RQP2	QUNI	*Quercus nigra*	water oak	1.1	0.53
T-108 RQP3	ULSP	*Ulmaceae*	elm	4.3	0.09
T-108 RQP4	CACA	*Carpinus caroliniana*	ironwood	2	0.09

Algal Data

Tables 27 and 28 list algal species and cell densities, respectively, determined from collections at in the Santee River Basin and Coastal Drainages study unit. Specific names and maximum relative abundance are reported. Unknown taxa are uniquely identified. A question mark (?) in the name (for example, *Navicula* sp.?) designates rare taxa that could be identified only to genus, or taxa for which the identification is tentative, but reasonable. Taxa that are almost, but not quite like a known taxon are designated with a "cf" (compare with). For clarity, the authorities for variety and form have been omitted from this listing. Interested readers should contact the Chief of the Santee River Basin and Coastal Drainages study unit for a more detailed listing of the algal species, including authority and miscellaneous information.

Taxonomic analysis was performed under contract by the
Academy of Natural Sciences,
Philadelphia, Pa.

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit

[Maximum relative abundance is the highest percentage of the total number of algal cells found in the sample set, and indicates the relative dominance of the taxon within the sample set. Collections of algal species include all quantitative and qualitative collections in the study unit. Blue-green algae, *Cyanobacterium*; ---, abundance too low to record]

Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Blue-green algae	*Anabaena affinis*	9	1.7
Blue-green algae	*Anabaena oscillarioides*	1	---
Blue-green algae	*Anabaena* sp.	2	3.0
Blue-green algae	*Calothrix parientina*	1	0.33
Blue-green algae	*Calothrix* sp.	2	1.3
Blue-green algae	*Hydrocoleum brebissonii*	3	2.3
Blue-green algae	*Hydrocoleum* sp.	1	7.0
Blue-green algae	*Lyngbya aestuarii*	3	11.0
Blue-green algae	*Lyngbya contorta*	6	12
Blue-green algae	*Lyngbya limnetica*	4	6.4
Blue-green algae	*Lyngbya martensiana*	2	---
Blue-green algae	*Lyngbya* sp.	32	25
Blue-green algae	*Merismopedia glauca*	4	0.99
Blue-green algae	*Microcoleus vaginatus*	2	15
Blue-green algae	*Microcystis* sp.	8	1
Blue-green algae	*Oscillatoria lutea*	3	4.2
Blue-green algae	*Oscillatoria princeps*	3	16
Blue-green algae	*Oscillatoria retzii*	2	0.97
Blue-green algae	*Oscillatoria* sp.	47	64
Blue-green algae	*Oscillatoria splendida*	1	---
Blue-green algae	*Spirulina laxa*	2	0.96
Cryptophytes	*Cryptomonas* sp.	11	26.3
Diatoms	*undifferentiated diatoms*	43	90.6
Diatoms	*Achnanthes bioreti*	1	0.3
Diatoms	*Achnanthes* cf. *grimmei*	1	0.3
Diatoms	*Achnanthes* cf. *lanceolata* var. *apiculata.*	1	0.3
Diatoms	*Achnanthes chlidanos*	1	0.3
Diatoms	*Achnanthes clevei*	9	8.6
Diatoms	*Achnanthes clevei* var. *rostrata*	1	0.3
Diatoms	*Achnanthes deflexa*	16	38.3
Diatoms	*Achnanthes delicatula.*	2	1.7
Diatoms	*Achnanthes exigua*	4	2.55
Diatoms	*Achnanthes exigua* var. *elliptica*	2	0.3
Diatoms	*Achnanthes exigua* var. *heterovalva*	20	22.5
Diatoms	*Achnanthes helvetica*	10	20.3
Diatoms	*Achnanthes hungarica*	2	4.8
Diatoms	*Achnanthes kryophila* var. *denistriata*	1	0.32
Diatoms	*Achnanthes lanceolata*	19	15.8
Diatoms	*Achnanthes lanceolata* cf. var. *capitata*	4	12.8
Diatoms	*Achnanthes lanceolata* var. *abbreviata*	1	0.3
Diatoms	*Achnanthes lanceolata* var. *apiculata*	18	10.3
Diatoms	*Achnanthes lanceolata* var. *dubia*	28	13.6
Diatoms	*Achnanthes lanceolata* var. *haynaldii*	2	0.34
Diatoms	*Achnanthes lanceolata* var. *omissa*	1	0.33
Diatoms	*Achnanthes linearis*	1	0.33
Diatoms	*Achnanthes linearis*	4	1.11
Diatoms	*Achnanthes marginulata*	6	2.66
Diatoms	*Achnanthes microcephala*	1	0.3
Diatoms	*Achnanthes minutissima*	35	35.3

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit (Continued)

[Maximum relative abundance is the highest percentage of the total number of algal cells found in the sample set, and indicates the relative dominance of the taxon within the sample set. Collections of algal species include all quantitative and qualitative collections in the study unit. Blue-green algae, *Cyanobacterium*; ---, abundance too low to record]

Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Diatoms	*Achnanthes peragalli*	7	4.11
Diatoms	*Achnanthes peragalli* var. *parvula*	1	0.97
Diatoms	*Achnanthes pinnata*	2	0.33
Diatoms	*Achnanthes rupestoides*	2	0.16
Diatoms	*Achnanthes semiaperta*	1	0.32
Diatoms	*Achnanthes* sp.	9	5.89
Diatoms	*Achnanthes subatomoides*	13	9.39
Diatoms	*Achnanthes subatomus*	1	0.28
Diatoms	*Achnanthes subhudsonis*	7	1.5
Diatoms	*Actinella punctata*	1	0.33
Diatoms	*Amphipleura pellucida*	1	0.34
Diatoms	*Amphora acutiuscula*	1	0.33
Diatoms	*Amphora* cf. *laevis*	1	0.32
Diatoms	*Amphora ovalis*	1	0.32
Diatoms	*Amphora ovalis* var. *affinis*	5	7.9
Diatoms	*Amphora ovalis* var. *pediculus*	11	3.6
Diatoms	*Amphora perpusilla*	3	1.32
Diatoms	*Amphora* sp.	1	0.32
Diatoms	*Amphora submontana*	2	0.66
Diatoms	*Amphora veneta*	1	0.33
Diatoms	*Anomoeoneis serians* var. *brachysira*	9	27.1
Diatoms	*Anomoeoneis vitrea*	9	8.7
Diatoms	*Aulacosira ambigua*	14	11
Diatoms	*Aulacosira crassipunctata*	4	2.2
Diatoms	*Aulacosira distans*	5	0.83
Diatoms	*Aulacosira distans* var. *nivalis*	5	1.5
Diatoms	*Aulacosira granulata*	6	5.83
Diatoms	*Aulacosira granulata* var. *angustissima*	8	39
Diatoms	*Aulacosira italica*	2	1.83
Diatoms	*Aulacosira lirata*	1	2.24
Diatoms	*Aulacosira lirata* var. *lacustris*	1	1.12
Diatoms	*Bacillaria paradoxa*	14	8.66
Diatoms	*Biddulphia laevis*	1	0.33
Diatoms	*Caloneis bacillum*	5	0.5
Diatoms	*Caloneis bacillum* var. *fontinalis*	1	0.32
Diatoms	*Caloneis hyalina*	6	0.83
Diatoms	*Caloneis limosa*	1	0.5
Diatoms	*Caloneis* sp.?	2	0.68
Diatoms	*Caloneis* sp.	1	0.32
Diatoms	*Caloneis ventricosa* var. *truncatula*	1	0.34
Diatoms	*Capartogramma crucicula*	6	4.83
Diatoms	*Cocconeis* cf. *diminuta*	1	2.6
Diatoms	*Cocconeis fluviatilis*	9	0.83
Diatoms	*Cocconeis neodiminuta*	3	1.16
Diatoms	*Cocconeis placentula* var. *euglypta*	1	0.32
Diatoms	*Cocconeis placentula* var. *lineata*	10	10.6
Diatoms	*Cocconeis* sp.	1	0.15
Diatoms	*Cyclotella atomus*	4	0.33
Diatoms	*Cyclotella meneghiniana*	13	2
Diatoms	*Cyclotella pseudostelligera*	4	2.44

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit (Continued)

[Maximum relative abundance is the highest percentage of the total number of algal cells found in the sample set, and indicates the relative dominance of the taxon within the sample set. Collections of algal species include all quantitative and qualitative collections in the study unit. Blue-green algae, *Cyanobacterium*; ---, abundance too low to record]

Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Diatoms	*Cyclotella stelligera*	15	4.32
Diatoms	*Cymbella aspera*	6	7.33
Diatoms	*Cymbella cuspidata*	1	0.33
Diatoms	*Cymbella lunata*	11	7.83
Diatoms	*Cymbella microcephala*	6	0.95
Diatoms	*Cymbella minuta*	30	12.5
Diatoms	*Cymbella minuta* var. *pseudogracilis*	5	0.98
Diatoms	*Cymbella minuta* var. *silesiaca*	15	8
Diatoms	*Cymbella naviculiformis*	7	1.14
Diatoms	*Cymbella* sp.	1	0.34
Diatoms	*Cymbella triangulum*	1	0.3
Diatoms	*Cymbella tumida*	12	8.66
Diatoms	*Cymbella tumidula*	1	0.47
Diatoms	*Cymbella turgidula*	1	0.66
Diatoms	*Desmogonium* sp.	4	0.86
Diatoms	*Diploneis* cf. *ovalis*	1	0.33
Diatoms	*Diploneis marginestriata*	1	0.32
Diatoms	*Diploneis pseudovalis*	2	0.66
Diatoms	*Diploneis puella*	1	0.97
Diatoms	*Diploneis smithii*	2	0.33
Diatoms	*Diploneis smithii* var. *pumila*	8	3.11
Diatoms	*Entomoneis ornata*	1	0.16
Diatoms	*Epithemia turgida*	1	0.16
Diatoms	*Eunotia arcus*	1	0.32
Diatoms	*Eunotia bidentula*	9	1.7
Diatoms	*Eunotia camelus*	1	0.16
Diatoms	*Eunotia carolina*	4	6.16
Diatoms	*Eunotia* cf. *fallax* var. *gracillima*	1	0.32
Diatoms	*Eunotia* cf. *formica*	1	0.34
Diatoms	*Eunotia* cf. *tecta*	1	0.5
Diatoms	*Eunotia* cf. *tenella*	1	0.15
Diatoms	*Eunotia curvata*	13	1.33
Diatoms	*Eunotia curvata* var. *subarcuata*	8	16.2
Diatoms	*Eunotia elegans*	2	0.33
Diatoms	*Eunotia exigua*	6	0.66
Diatoms	*Eunotia faba*	1	0.3
Diatoms	*Eunotia fallax* var. *gracillima*	1	0.16
Diatoms	*Eunotia flexuosa*	9	7.33
Diatoms	*Eunotia formica*	9	9.5
Diatoms	*Eunotia hemicyclus*	1	0.16
Diatoms	*Eunotia iatriaensis*	3	1.5
Diatoms	*Eunotia incisa*	13	3.83
Diatoms	*Eunotia intermedia*	1	0.79
Diatoms	*Eunotia meisteri*	10	7.66
Diatoms	*Eunotia microcephala*	5	2
Diatoms	*Eunotia monodon*	1	0.32
Diatoms	*Eunotia monodon* var. *major*	1	0.45
Diatoms	*Eunotia naegelii*	9	5
Diatoms	*Eunotia paludosa*	1	0.33
Diatoms	*Eunotia pectinalis*	14	11

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit (Continued)

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Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Diatoms	*Eunotia pectinalis* var. *minor*	24	22.8
Diatoms	*Eunotia pectinalis* var. *undulata*	3	0.83
Diatoms	*Eunotia perpusilla*	10	18.7
Diatoms	*Eunotia polydentula*	2	0.71
Diatoms	*Eunotia praerupta*	2	0.33
Diatoms	*Eunotia rhomboidea*	18	24.2
Diatoms	*Eunotia robusta*	3	3.9
Diatoms	*Eunotia robusta* var. *tetraodon*	1	0.32
Diatoms	*Eunotia serra*	2	0.33
Diatoms	*Eunotia* sp.	7	3.36
Diatoms	*Eunotia sudetica*	2	1.33
Diatoms	*Eunotia tenella*	9	1.33
Diatoms	*Eunotia zasuminensis*	3	23.3
Diatoms	*Fragilaria bicapitata*	1	0.5
Diatoms	*Fragilaria brevistriata*	4	2.5
Diatoms	*Fragilaria capucina*	1	2.97
Diatoms	*Fragilaria capucina* var. *lanceolata*	4	1.58
Diatoms	*Fragilaria* cf. *capucina* var. *lanceolata*	1	2.06
Diatoms	*Fragilaria constricta*	1	0.15
Diatoms	*Fragilaria constricta* var. *trinodis*	1	0.33
Diatoms	*Fragilaria construens* var. *pumila*	3	1.66
Diatoms	*Fragilaria construens* var. *venter*	2	0.66
Diatoms	*Fragilaria crotonensis*	2	1.66
Diatoms	*Fragilaria gracillma*	1	0.32
Diatoms	*Fragilaria hungarica* var. *tumida*	3	0.33
Diatoms	*Fragilaria leptostauron*	1	0.16
Diatoms	*Fragilaria leptostauron* var. *dubia*	1	0.32
Diatoms	*Fragilaria nanana*	5	13.2
Diatoms	*Fragilaria pinnata*	6	1.00
Diatoms	*Fragilaria pinnata* var. *intercedens*	1	0.16
Diatoms	*Fragilaria* sp.	2	3.16
Diatoms	*Fragilaria tenera*	2	1.66
Diatoms	*Fragilaria vaucheriae*	14	4.81
Diatoms	*Fragilaria vaucheriae* var. *capitellata*	1	0.96
Diatoms	*Fragilaria virescens* var. *exigua*	3	0.33
Diatoms	*Frustulia rhomboides*	19	10.5
Diatoms	*Frustulia rhomboides* form. *undulata*	1	2.97
Diatoms	*Frustulia rhomboides* var. *capitata*	4	4.66
Diatoms	*Frustulia rhomboides* var. *crassinervia*	22	11.3
Diatoms	*Frustulia rhomboides* var. *saxonica*	15	36.3
Diatoms	*Frustulia* sp.	1	0.16
Diatoms	*Frustulia vulgaris*	15	1.98
Diatoms	*Frustulia weinholdii*	15	2.46
Diatoms	*Gomphonema affine*	5	0.45
Diatoms	*Gomphonema angustatum*	28	3.83
Diatoms	*Gomphonema angustatum* var. *obtusatum*	1	0.33
Diatoms	*Gomphonema angustatum* var. *productum*	6	3.69
Diatoms	*Gomphonema carolinense*	1	0.31
Diatoms	*Gomphonema* cf. *puiggarianum* var. *reducta*	1	0.32
Diatoms	*Gomphonema clevei*	10	37.0

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit (Continued)

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Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Diatoms	*Gomphonema consector*	1	0.31
Diatoms	*Gomphonema constrictum clavatum*	1	0.65
Diatoms	*Gomphonema dichotomum*	1	0.98
Diatoms	*Gomphonema gracile*	5	1.12
Diatoms	*Gomphonema grunowii*	4	0.61
Diatoms	*Gomphonema lanceolatum* var. *insignia*	1	0.8
Diatoms	*Gomphonema parvulum*	34	6.38
Diatoms	*Gomphonema pumilum*	6	10.5
Diatoms	*Gomphonema* sp.	3	1.06
Diatoms	*Gomphonema* sp.?	1	0.65
Diatoms	*Gomphonema sphaerophorum*	1	0.16
Diatoms	*Gomphonema subclavatum* var. *mexicanum*	1	0.47
Diatoms	*Gomphonema subtile*	1	0.28
Diatoms	*Gomphonema tenellum*	2	0.66
Diatoms	*Gyrosigma acuminatum*	1	0.32
Diatoms	*Gyrosigma exilis*	3	0.34
Diatoms	*Gyrosigma eximium*	1	0.32
Diatoms	*Gyrosigma obscurum*	1	0.65
Diatoms	*Gyrosigma obtusatum*	2	0.33
Diatoms	*Gyrosigma scalproides*	2	0.33
Diatoms	*Gyrosigma spencerii*	11	1.33
Diatoms	*Hantzschia amphioxys*	5	0.33
Diatoms	*Melosira* cf. *islandica subsp. helvetica*	1	0.31
Diatoms	*Melosira herzogii*	6	13.2
Diatoms	*Melosira* sp.	2	6.01
Diatoms	*Melosira varians*	21	4.01
Diatoms	*Meridion circulare*	6	0.66
Diatoms	*Meridion circulare* var. *constrictum*	12	1.33
Diatoms	*Navicula agrestis*	1	0.33
Diatoms	*Navicula aikenensis*	14	15.8
Diatoms	*Navicula amnicola*	1	0.49
Diatoms	*Navicula anatis*	1	0.3
Diatoms	*Navicula angusta*	4	1.2
Diatoms	*Navicula arvensis*	16	32.7
Diatoms	*Navicula atomus*	4	2
Diatoms	*Navicula auriculata*	2	1.33
Diatoms	*Navicula bacillum*	2	0.65
Diatoms	*Navicula bicephala*	15	3.5
Diatoms	*Navicula biconica*	10	0.99
Diatoms	*Navicula bremensis*	4	0.66
Diatoms	*Navicula bryophila*	1	0.3
Diatoms	*Navicula capitata*	17	3.51
Diatoms	*Navicula capitata* var. *hungarica*	9	4.66
Diatoms	*Navicula* cf. *adversa*	1	4.01
Diatoms	*Navicula* cf. *angelica*	1	1.62
Diatoms	*Navicula* cf. *arvensis*	1	4.11
Diatoms	*Navicula* cf. *bicephala*	1	1.23
Diatoms	*Navicula* cf. *declivis*	3	2.04
Diatoms	*Navicula* cf. *hambergii*	2	0.65
Diatoms	*Navicula* cf. *lucens*	1	0.48

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Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Diatoms	*Navicula* cf. *obsoleta*	3	0.66
Diatoms	*Navicula* cf. *perparva*	2	1.36
Diatoms	*Navicula* cf. *protracta*	1	1.63
Diatoms	*Navicula* cf. *pseudoreinhardtii*	1	0.6
Diatoms	*Navicula* cf. *saxophila*	1	0.3
Diatoms	*Navicula* cf. *subarvensis*	1	2.16
Diatoms	*Navicula* cf. *subarvensis*	1	1.63
Diatoms	*Navicula* cf. *subrhynchocephala*	1	1.05
Diatoms	*Navicula* cf. *subrotundata*	1	0.64
Diatoms	*Navicula* cf. *subtilissima* var. *okamurae*	2	0.68
Diatoms	*Navicula* cf. *trivialis*	1	1.44
Diatoms	*Navicula* cf. *utermöhii*	2	5.52
Diatoms	*Navicula* cf. *ventosa*	1	0.96
Diatoms	*Navicula* cf. *zanoni*	1	2.13
Diatoms	*Navicula clementis*	2	0.33
Diatoms	*Navicula cocconeiformis*	3	1.13
Diatoms	*Navicula cohnii*	8	0.61
Diatoms	*Navicula confervacea*	9	5
Diatoms	*Navicula confervacea* form. *rostrata*	1	0.26
Diatoms	*Navicula contenta* form. *parallela*	1	0.97
Diatoms	*Navicula contenta*	2	0.32
Diatoms	*Navicula contenta* var. *biceps*	20	3.83
Diatoms	*Navicula crucicula*	5	5.54
Diatoms	*Navicula cryptocephala*	35	8.88
Diatoms	*Navicula cryptocephala* var. *veneta*	10	0.66
Diatoms	*Navicula cryptotenella*	10	4.66
Diatoms	*Navicula decussis*	24	18.3
Diatoms	*Navicula difficillima*	2	1.28
Diatoms	*Navicula elginensis*	3	1
Diatoms	*Navicula elginensis* var. *neglecta*	1	0.33
Diatoms	*Navicula evanida*	3	0.16
Diatoms	*Navicula exigua*	1	0.32
Diatoms	*Navicula exigua* var. *capitata*	5	0.68
Diatoms	*Navicula falaisensis* var. *lanceola*	1	0.66
Diatoms	*Navicula festiva*	4	0.33
Diatoms	*Navicula gallica* var. *laevissima*	1	0.33
Diatoms	*Navicula gallica* var. *perpusilla*	2	0.33
Diatoms	*Navicula gastrum*	1	0.16
Diatoms	*Navicula goeppertiana*	2	0.66
Diatoms	*Navicula graciloides*	2	1.16
Diatoms	*Navicula gregaria*	12	10.8
Diatoms	*Navicula halophila*	1	0.16
Diatoms	*Navicula halophila* form. *tenuirostris*	1	0.31
Diatoms	*Navicula hambergii*	3	0.33
Diatoms	*Navicula hassiaca*	8	2.33
Diatoms	*Navicula heufleri* var. *leptocephala*	4	0.33
Diatoms	*Navicula hustedtii*	5	1.66
Diatoms	*Navicula ignota* var. *acceptata*	1	0.5
Diatoms	*Navicula indifferens*	1	0.14
Diatoms	*Navicula ingenua*	1	0.16

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit (Continued)

[Maximum relative abundance is the highest percentage of the total number of algal cells found in the sample set, and indicates the relative dominance of the taxon within the sample set. Collections of algal species include all quantitative and qualitative collections in the study unit. Blue-green algae, *Cyanobacterium*; ---, abundance too low to record]

Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Diatoms	*Navicula invicta*	2	0.83
Diatoms	*Navicula kotschyi*	1	0.33
Diatoms	*Navicula krasskei*	1	0.32
Diatoms	*Navicula laevissima*	6	0.98
Diatoms	*Navicula lanceolata*	10	2.04
Diatoms	*Navicula lateropunctata*	12	3.16
Diatoms	*Navicula leptostriata*	26	8.83
Diatoms	*Navicula luzonensis*	6	15.5
Diatoms	*Navicula mediacomplexa*	1	0.32
Diatoms	*Navicula menisculus* var. *upsaliensis*	9	3.82
Diatoms	*Navicula minima*	21	12.8
Diatoms	*Navicula minuscula*	1	0.33
Diatoms	*Navicula minuscula* var. *muralis*	1	0.33
Diatoms	*Navicula mitigata*	1	0.16
Diatoms	*Navicula mobiliensis* var. *minor*	5	3.66
Diatoms	*Navicula modica*	2	0.53
Diatoms	*Navicula molestiformis*	3	0.33
Diatoms	*Navicula mutica* form. *undulata*	1	0.16
Diatoms	*Navicula mutica*	16	2.33
Diatoms	*Navicula mutica* var. *stigma*	1	3.01
Diatoms	*Navicula mutica* var. *ventricosa*	1	0.66
Diatoms	*Navicula obsidialis*	2	0.66
Diatoms	*Navicula omissa*	7	0.5
Diatoms	*Navicula pelliculosa*	13	19.5
Diatoms	*Navicula perminuta*	1	0.33
Diatoms	*Navicula placentula*	2	0.33
Diatoms	*Navicula pseudoreinhardtii*	1	0.33
Diatoms	*Navicula pseudoventralis*	2	1.28
Diatoms	*Navicula pupula*	24	3.6
Diatoms	*Navicula pupula* var. *capitata*	3	0.57
Diatoms	*Navicula pupula* var. *mutata*	5	1.5
Diatoms	*Navicula pupula* var. *rectangularis*	3	0.33
Diatoms	*Navicula pupula* var. *rostrata*	2	0.32
Diatoms	*Navicula pusilla.*	2	0.81
Diatoms	*Navicula radiosa*	6	0.72
Diatoms	*Navicula rhynchocephala*	17	2.46
Diatoms	*Navicula rhynchocephala* var. *germainii*	25	7.66
Diatoms	*Navicula salinarum*	1	0.31
Diatoms	*Navicula savannahiana*	1	0.33
Diatoms	*Navicula schoenfeldii*	1	1.3
Diatoms	*Navicula schroeteri* var. *escambia*	12	6.03
Diatoms	*Navicula scutiformis*	3	1.33
Diatoms	*Navicula secreta* var. *apiculata*	20	21.5
Diatoms	*Navicula secura*	2	0.66
Diatoms	*Navicula seminuloides*	14	5.34
Diatoms	*Navicula seminulum*	23	9.83
Diatoms	*Navicula seminulum* var. *intermedia*	4	5.28
Diatoms	*Navicula* sp.	77	3.84
Diatoms	*Navicula subarvensis*	6	1.36
Diatoms	*Navicula subfasciata*	1	0.16

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit (Continued)

[Maximum relative abundance is the highest percentage of the total number of algal cells found in the sample set, and indicates the relative dominance of the taxon within the sample set. Collections of algal species include all quantitative and qualitative collections in the study unit. Blue-green algae, *Cyanobacterium*; ---, abundance too low to record]

Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Diatoms	*Navicula subhamulata*	1	0.32
Diatoms	*Navicula subrhyncocephala*	3	1.33
Diatoms	*Navicula subtilissima*	1	0.34
Diatoms	*Navicula symmetrica*	14	12.4
Diatoms	*Navicula tantula*	2	0.92
Diatoms	*Navicula tenelloides*	7	5.66
Diatoms	*Navicula tenera*	1	0.16
Diatoms	*Navicula thienemannii*	1	0.16
Diatoms	*Navicula tripunctata*	3	1.83
Diatoms	*Navicula tripunctata* var. *schizonemoides*	5	1
Diatoms	*Navicula utermoehlii*	1	0.66
Diatoms	*Navicula viridula*	1	0.31
Diatoms	*Navicula viridula* var. *linearis*	6	0.5
Diatoms	*Navicula viridula* var. *rostellata*	3	1.31
Diatoms	*Navicula vitabunda*	1	0.34
Diatoms	*Neidium affine*	2	0.65
Diatoms	*Neidium affine* var. *amphirhynchus*	8	0.63
Diatoms	*Neidium affine* var. *ceylonicum*	1	0.3
Diatoms	*Neidium affine* var. *longiceps*	3	0.33
Diatoms	*Neidium affine* var. *undulatum*	1	0.5
Diatoms	*Neidium alpinum*	9	6.83
Diatoms	*Neidium apiculatum*	1	0.66
Diatoms	*Neidium bisulcatum*	2	0.71
Diatoms	*Neidium* cf. *clementoides*	1	0.32
Diatoms	*Neidium* cf. *hankensis*	3	0.98
Diatoms	*Neidium* cf. *hermanii*	1	2.43
Diatoms	*Neidium dubium* var.	1	0.33
Diatoms	*Neidium hercynicum*	8	0.66
Diatoms	*Neidium hercynicum* form. *subrostratum*	4	0.66
Diatoms	*Neidium iridis*	1	0.16
Diatoms	*Neidium ladogense* var. *densestriatum*	5	0.5
Diatoms	*Neidium productum*	2	0.34
Diatoms	*Neidium* sp.	1	0.32
Diatoms	*Nitzschia accommodata*	3	2.04
Diatoms	*Nitzschia acicularis*	9	3.31
Diatoms	*Nitzschia agnita*	1	0.33
Diatoms	*Nitzschia amphibia*	9	11.2
Diatoms	*Nitzschia bergii*	1	1.33
Diatoms	*Nitzschia brevissima*	3	0.5
Diatoms	*Nitzschia calida*	4	0.66
Diatoms	*Nitzschia capitellata*	6	1.66
Diatoms	*Nitzschia capitellata* var. *siberica*	1	0.31
Diatoms	*Nitzschia* cf. *aerophila*	1	1.43
Diatoms	*Nitzschia* cf. *capitellata*	1	0.49
Diatoms	*Nitzschia* cf. *frustulum* var. *perminuta*	1	0.57
Diatoms	*Nitzschia* cf. *obsidialis*	1	1.38
Diatoms	*Nitzschia* cf. *plana*	1	0.16
Diatoms	*Nitzschia* cf. *punctata* var. *coarctata*	1	0.34
Diatoms	*Nitzschia* cf. *sublineais*	1	0.65
Diatoms	*Nitzschia* cf. *sundaensis*	1	0.64

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit (Continued)

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Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Diatoms	*Nitzschia* cf. *tarda*	1	1.95
Diatoms	*Nitzschia clausii*	9	1.66
Diatoms	*Nitzschia compressa*	1	0.16
Diatoms	*Nitzschia constricta*	1	0.33
Diatoms	*Nitzschia constricta* var. *subconstricta*	2	1.66
Diatoms	*Nitzschia diserta*	1	0.32
Diatoms	*Nitzschia dissipata*	15	4.08
Diatoms	*Nitzschia dissipata* var. *media*	3	0.33
Diatoms	*Nitzschia filiformis*	7	3.36
Diatoms	*Nitzschia flexa*	1	1.66
Diatoms	*Nitzschia fonticola*	8	1.98
Diatoms	*Nitzschia frustulum*	12	3.8
Diatoms	*Nitzschia frustulum* var. *perminuta*	15	1.5
Diatoms	*Nitzschia gracilis*	11	10
Diatoms	*Nitzschia hantzschiana*	2	0.33
Diatoms	*Nitzschia inconspicua*	1	0.33
Diatoms	*Nitzschia intermedia*	5	0.33
Diatoms	*Nitzschia linearis*	16	6
Diatoms	*Nitzschia microcephala*	1	0.33
Diatoms	*Nitzschia nana*	2	0.32
Diatoms	*Nitzschia obtusa* var. *scalpelliformis*	2	0.33
Diatoms	*Nitzschia obtusa*	2	0.65
Diatoms	*Nitzschia palea*	37	18
Diatoms	*Nitzschia paleacea*	2	0.64
Diatoms	*Nitzschia pusilla*	3	1.66
Diatoms	*Nitzschia radicula* var. *rostrata*	2	1.63
Diatoms	*Nitzschia recta*	11	2.16
Diatoms	*Nitzschia rostellata*	1	0.86
Diatoms	*Nitzschia scalaris*	1	0.33
Diatoms	*Nitzschia sigma*	1	0.33
Diatoms	*Nitzschia sigmoidea*	1	0.66
Diatoms	*Nitzschia silicula*	1	0.33
Diatoms	*Nitzschia similis*	1	0.65
Diatoms	*Nitzschia* sp.	6	0.68
Diatoms	*Nitzschia stagnorum*	1	0.32
Diatoms	*Nitzschia subacicularis*	1	0.16
Diatoms	*Nitzschia subcommunis*	1	0.8
Diatoms	*Nitzschia tarda*	4	0.97
Diatoms	*Nitzschia terrestris* (Peterson)	1	0.5
Diatoms	*Nitzschia thermalis* var. *minor*	1	0.28
Diatoms	*Nitzschia tryblionella* var. *debilis*	7	2.16
Diatoms	*Nitzschia tryblionella* var. *levidensis*	2	0.83
Diatoms	*Nitzschia tryblionella* var. *victoriae*	3	1.63
Diatoms	*Nitzschia tubicola*	1	0.16
Diatoms	*Opephora martyi*	5	1.27
Diatoms	*Opephora olsenii*	1	0.16
Diatoms	*Peronia fibula*	1	0.33
Diatoms	*Pinnularia abaujensis*	2	0.32
Diatoms	*Pinnularia abaujensis* var. cf. *subundulata*	1	2.55
Diatoms	*Pinnularia acrosphaeria.*	7	1.66

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit (Continued)

[Maximum relative abundance is the highest percentage of the total number of algal cells found in the sample set, and indicates the relative dominance of the taxon within the sample set. Collections of algal species include all quantitative and qualitative collections in the study unit. Blue-green algae, *Cyanobacterium*; ---, abundance too low to record]

Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Diatoms	*Pinnularia acrosphaeria* var.	1	0.16
Diatoms	*Pinnularia appendiculata*	2	0.63
Diatoms	*Pinnularia biceps*	6	0.65
Diatoms	*Pinnularia borealis*	1	0.16
Diatoms	*Pinnularia braunii*	1	0.5
Diatoms	*Pinnularia braunii* var. *amphicephala*	5	1.83
Diatoms	*Pinnularia brebissonii.*	1	0.86
Diatoms	*Pinnularia* cf. *rivularis*	2	0.32
Diatoms	*Pinnularia* cf. *subcapitata*	1	0.32
Diatoms	*Pinnularia divergens*	1	0.5
Diatoms	*Pinnularia latevittata*	3	2.83
Diatoms	*Pinnularia mesogongyla*	9	22.2
Diatoms	*Pinnularia mesolepta*	1	0.16
Diatoms	*Pinnularia microstauron*	6	0.5
Diatoms	*Pinnularia obscura*	11	0.83
Diatoms	*Pinnularia ruttneri*	2	1.31
Diatoms	*Pinnularia* sp.	8	1.27
Diatoms	*Pinnularia* sp.?	1	0.65
Diatoms	*Pinnularia subcapitata*	13	2.07
Diatoms	*Pinnularia subcapitata* var. *paucistriata*	3	1.16
Diatoms	*Pinnularia substomatophora*	2	0.57
Diatoms	*Pinnularia termitina*	3	4.29
Diatoms	*Pinnularia viridis.*	2	0.16
Diatoms	*Reimeria sinuata*	2	0.16
Diatoms	*Rhoicosphenia curvata*	5	6.83
Diatoms	*Rhopalodia gibba*	1	0.16
Diatoms	*Rhopalodia gibberula*	1	0.33
Diatoms	*Rhopalodia gibberula* var. *vanheurckii*	1	0.66
Diatoms	*Stauroneis anceps*	5	0.5
Diatoms	*Stauroneis anceps* form. *americana*	3	1.64
Diatoms	*Stauroneis anceps* form. *gracilis*	5	0.66
Diatoms	*Stauroneis borrichii*	2	0.57
Diatoms	*Stauroneis* cf. *prominula*	1	0.32
Diatoms	*Stauroneis* cf. *thermicola*	2	0.31
Diatoms	*Stauroneis ignorata*	1	0.64
Diatoms	*Stauroneis ignorata* var. *rupestris*	3	0.33
Diatoms	*Stauroneis kriegeri*	3	0.96
Diatoms	*Stauroneis livingstonii*	1	0.32
Diatoms	*Stauroneis phoenicenteron*	5	0.66
Diatoms	*Stauroneis smithii*	9	1.6
Diatoms	*Stauroneis smithii* var. *incisa*	3	0.33
Diatoms	*Stauroneis* sp.	3	0.32
Diatoms	*Stauroneis staurolineata*	1	0.16
Diatoms	*Stauroneis thermicola*	6	0.66
Diatoms	*Stenopterobia densestriata*	8	3
Diatoms	*Stephanodiscus agassizensis*	2	0.16
Diatoms	*Surirella amphioxys*	1	0.16
Diatoms	*Surirella angusta*	25	4.43
Diatoms	*Surirella brebissonii*	1	0.31
Diatoms	*Surirella delicatissima*	9	2.16

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit (Continued)

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Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Diatoms	*Surirella elegans*	3	0.66
Diatoms	*Surirella guatimalensis*	2	0.16
Diatoms	*Surirella linearis* var. *constricta*	1	0.15
Diatoms	*Surirella minuta*	1	0.16
Diatoms	*Surirella ovata* var. *africana*	1	0.3
Diatoms	*Surirella ovata* var. *pinnata*	4	1.2
Diatoms	*Surirella robusta* var. *splendida* form. *constricta*	1	0.34
Diatoms	*Surirella* sp.	1	0.32
Diatoms	*Surirella stalagma*	5	2.61
Diatoms	*Surirella suecica*	1	0.65
Diatoms	*Surirella tenera*	8	1.63
Diatoms	*Surirella tenera* var. *nervosa*	4	1.36
Diatoms	*Synedra acus*	1	0.95
Diatoms	*Synedra amphicephala* var. *austriaca*	1	0.32
Diatoms	*Synedra* cf. *amphicephala*	1	0.43
Diatoms	*Synedra* cf. *famelica*	1	0.31
Diatoms	*Synedra fasciculata*	1	0.16
Diatoms	*Synedra filiformis* var. *exilis*	1	0.16
Diatoms	*Synedra goulardi*	2	0.49
Diatoms	*Synedra minuscula*	3	1.83
Diatoms	*Synedra parasitica*	1	0.33
Diatoms	*Synedra pulchella* var. *lacerata*	3	0.66
Diatoms	*Synedra rumpens*	14	2.46
Diatoms	*Synedra rumpens* var. *familiaris*	7	1.8
Diatoms	*Synedra rumpens* var. *meneghiniana*	5	1
Diatoms	*Synedra* sp.	2	15.3
Diatoms	*Synedra ulna*	17	9.66
Diatoms	*Synedra ulna* var. *danica*	2	0.5
Diatoms	*Tabellaria fenestrata*	10	3.16
Diatoms	*Tabellaria flocculosa*	17	3
Diatoms	*Thalassiosira weissflogii*	5	0.83
Dinoflagellates	*Peridinium* sp.	3	2.3
Euglenoids	*Euglena* sp.	9	1.31
Euglenoids	*Phacus* sp.	3	0.55
Euglenoids	*Trachelomonas cylindrica*	2	0.32
Euglenoids	*Trachelomonas girardiana*	1	0.32
Euglenoids	*Trachelomonas hispida*	1	0.33
Euglenoids	*Trachelomonas* sp.	3	0.49
Euglenoids	*Trachelomonas volvocina*	14	1.46
Green algae	*Actinastrum hantzschii*	1	---
Green algae	*Ankistrodesmus falcatus*	12	3.35
Green algae	*Chlamydomonas* sp.	10	1.89
Green algae	*Cladophora glomerata*	2	0.65
Green algae	*Closterium abruptum form angustissima*	1	---
Green algae	*Closterium baillyanum*	2	---
Green algae	*Closterium dianae*	1	---
Green algae	*Closterium kutzingii*	1	---
Green algae	*Closterium libellula*	1	---
Green algae	*Closterium moniliferum*	5	0.59
Green algae	*Closterium venus*	1	---

Table 27. Algal taxa and their maximum relative abundance in quantitative samples collected in the Santee River Basin and Coastal Drainages study unit (Continued)

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Algal group	Algal taxon name	Number of samples in which organism was identified	Maximum relative abundance (percent)
Green algae	*Cosmarium botrytes*	1	---
Green algae	*Cosmarium punctulatum*	2	---
Green algae	*Cosmarium pyramidatum*	1	---
Green algae	*Cosmarium reinschii*	1	0.32
Green algae	*Euastrum binale* var. *gutwinskii*	1	---
Green algae	*Euastrum inerme*	1	0.32
Green algae	*Eudorina elegans*	1	0.65
Green algae	*Gloeocystis* sp.	1	0.32
Green algae	*Kirchneriella lunaris*	1	0.32
Green algae	*Micrasterias crux-melitensis*	1	---
Green algae	*Mougeotia* sp.	2	0.98
Green algae	*Oedogonium* sp.	3	0.56
Green algae	*Pediastrum biradiatum*	1	0.32
Green algae	*Pediastrum boryanum*	1	0.97
Green algae	*Pleurotaenium trabecula* var. *trabecula*	1	---
Green algae	*Scenedesmus acuminatus*	1	0.64
Green algae	*Scenedesmus acutus*	2	0.65
Green algae	*Scenedesmus armatus*	1	0.97
Green algae	*Scenedesmus ecornis*	2	1.93
Green algae	*Scenedesmus quadricauda*	11	5.16
Green algae	*Scenedesmus* sp.	1	0.32
Green algae	*Spirogyra* sp.	1	---
Green algae	*Staurastrum alternans*	2	0.33
Green algae	*Staurastrum gladiosum*	1	---
Green algae	*Staurastrum* sp.	2	1.59
Green algae	*Tetraedron minimum*	2	0.64
Green algae	*Tetrastrum staurogeniaeforme*	1	0.59
Green algae	*Treubaria crassipina*	2	0.61
Green algae	*Undetermined green coccoid* (5-10 micron)	1	---
Red algae	*Audouinella* sp.	1	3.03
Red algae	*Audouinella violacea*	7	1.85
Red algae	*Batrachospermum* sp.	2	---
Unknown phylum	*Undetermined algal coccoid* (3-5 micron)	1	3.03
Unknown phylum	*Undetermined algal flagellate* (<10 micron)	30	33.2
Unknown phylum	*Undetermined algal flagellate* (>10 micron)	6	1.99
Unknown phylum	*Undetermined algal* sp.	2	5.17
Yellow-green algae	*Dinobryon* sp.	1	0.65
Yellow-green algae	*Undetermined chrysophyte* sp.	1	---
Yellow-green algae	*Vaucheria* sp.	1	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Blue-green algae	*Anabaena affinis*	---	---	---	---	---	---	---	51	73	---	---	---	---	---	---	36	---	---	11	---
Blue-green algae	*Calothrix parientina*	---	---	---	---	---	---	---	---	---	---	---	---	---	51	---	---	---	---	---	---
Blue-green algae	*Calothrix* sp.	---	---	21	---	---	---	---	---	---	67	---	---	---	---	---	---	---	---	---	---
Blue-green algae	*Hydrocoleum brebissonii*	---	---	36	---	113	---	---	---	---	---	---	---	---	---	---	124	---	---	---	---
Blue-green algae	*Hydrocoleum* sp.	---	---	---	3,055	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Blue-green algae	*Lyngbya aestuarii*	2,028	2,224	---	---	---	---	1,427	---	---	---	---	---	---	---	---	---	---	---	---	---
Blue-green algae	*Lyngbya contorta*	---	---	---	---	---	---	---	---	681	---	123	4.1	---	---	---	---	---	---	---	---
Blue-green algae	*Lyngbya limnetica*	---	---	88	---	66	---	---	---	---	---	---	---	---	---	---	---	---	---	---	190
Blue-green algae	*Lyngbya* sp.	729	362	---	68	136	186	403	1,333	1,112	1,868	14	16	51	---	485	---	138	1,505	---	324
Blue-green algae	*Merismopedia glauca*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1,552	---	---	---
Blue-green algae	*Microcoleus vaginatus*	---	---	311	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	807
Blue-green algae	*Microcystis* sp.	151	---	---	---	---	---	---	---	---	---	---	---	25	10	---	78	---	---	---	379
Blue-green algae	*Oscillatoria lutea*	---	---	---	289	---	---	121	---	---	---	---	---	---	---	---	---	---	---	---	---
Blue-green algae	*Oscillatoria princeps*	---	---	---	---	---	---	---	---	---	3,636	---	---	---	---	2,063	---	2,001	---	---	---
Blue-green algae	*Oscillatoria retzii*	---	---	---	---	---	---	---	---	---	---	---	---	27.7	---	---	---	---	---	---	---
Blue-green algae	*Oscillatoria* sp.	1,353	---	254	152	1,785	976	385	1,554	1,406	---	163	140	517	284	356	263	2,177	3,720	594	3,437
Blue-green algae	*Spirulina laxa*	---	---	---	---	---	---	---	---	14.6	---	---	---	---	---	---	---	---	---	---	---
Cryptophytes	*Cryptomonas* sp.	10.8	---	---	128	10	4.4	---	---	21	---	---	---	---	---	---	---	---	---	---	6.1
Diatoms	*Achnanthes bioreti*	---	---	0.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Achnanthes clevei*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.5	31	---	---	---
Diatoms	*Achnanthes clevei rostrata*	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Achnanthes deflexa*	303	248	7.4	173	1.5	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	10
Diatoms	*Achnanthes delicatula*	---	---	---	---	---	---	---	---	---	---	---	---	0.5	---	---	---	---	---	---	---
Diatoms	*Achnanthes exigua elliptica*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	---	---	---	---
Diatoms	*Achnanthes exigua*	---	---	---	---	---	---	---	---	3.7	---	---	---	---	---	---	---	11	---	---	---
Diatoms	*Achnanthes exigua heterovalva*	---	4.2	---	3.1	0.8	---	---	---	3.4	---	---	---	---	---	---	15	28	---	0.6	---
Diatoms	*Achnanthes grimmei*	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Achnanthes helvetica*	---	---	---	---	---	---	---	---	---	---	3.6	0.6	0.9	23	---	1.2	---	---	---	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Achnanthes hungarica*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	22	---	---
Diatoms	*Achnanthes lanceolata*	---	34	2	---	0.3	---	0.7	---	---	---	---	---	---	---	---	9.3	---	---	1.5	37.9
Diatoms	*Achnanthes lanceolata apiculata*	---	---	---	---	0.1	---	2.4	3.6	---	---	---	---	---	---	---	0.9	14.2	---	0.3	---
Diatoms	*Achnanthes lanceolata capitata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	16	---	---	---
Diatoms	*Achnanthes lanceolata dubia*	---	27	---	---	0.1	0.5	2.1	1.8	3.7	3.2	---	---	---	---	---	5.3	11	2.9	---	5.1
Diatoms	*Achnanthes linearis*	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Achnanthes linearis curta*	8.8	---	---	---	---	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Achnanthes marginulata*	---	---	---	---	---	---	---	---	---	---	0.1	0.2	---	---	---	---	---	---	---	---
Diatoms	*Achnanthes minutissima*	279	78	2.8	334	1.7	---	19	9.1	45	49	---	0.4	2.7	7.1	---	3.1	28	---	5	20
Diatoms	*Achnanthes peragalli*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	---	---	---	---
Diatoms	*Achnanthes pinnata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	---	---	---	5.1
Diatoms	*Achnanthes* sp.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Achnanthes subatomoides*	---	15	---	3.1	---	---	---	---	---	---	---	---	---	---	---	7.1	16	---	---	---
Diatoms	*Achnanthes subatomus*	---	---	---	---	---	---	---	---	---	3.2	---	---	---	---	---	---	---	---	---	---
Diatoms	*Achnanthes subhudsonis kraeuselii*	---	4.2	---	---	---	---	---	---	---	---	---	---	0.9	---	---	---	---	---	---	---
Diatoms	*Amphora ovalis affinis*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	11	---	---	---
Diatoms	*Amphora ovalis pediculus*	---	---	---	---	2	2.4	0.7	---	3.4	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Amphora perpusilla*	---	---	---	---	0	---	2.8	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Amphora veneta*	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Anomoeoneis serians brachysira*	---	---	---	---	---	---	---	1.8	---	---	---	2.8	2.3	16	206	---	---	---	---	---
Diatoms	*Anomoeoneis vitrea*	---	---	---	---	---	---	---	---	1.2	---	0.1	11	11	4.7	---	0.3	---	---	---	---
Diatoms	*Aulacosira ambigua*	---	---	---	---	---	---	---	---	111	---	0.1	0.6	3.6	2.4	---	---	---	5	---	81
Diatoms	*Aulacosira crassipunctata*	---	---	---	---	---	---	---	---	---	---	---	---	---	10	---	---	---	---	---	---
Diatoms	*Aulacosira distans*	---	---	---	---	---	---	---	3.6	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Aulacosira distans nivalis*	---	---	---	---	---	---	---	---	15.1	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Aulacosira granulata*	---	---	0.3	---	---	---	---	0.9	59	11.2	---	0.9	---	---	---	---	---	---	---	---
Diatoms	*Aulacosira granulata angustissima*	---	---	---	---	---	---	---	112	76	433	---	---	---	---	2.3	---	---	3.6	---	---
Diatoms	*Aulacosira italica*	---	---	---	---	---	---	---	---	---	---	---	---	---	7.9	---	---	---	---	---	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Aulacosira lirata*	---	---	---	---	---	---	---	---	8.7	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Aulacosira lirata lacustris*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	---	---
Diatoms	*Bacillaria paradoxa*	---	---	---	---	0.3	---	3.5	---	---	---	---	---	---	---	---	16	7.1	---	0.3	28
Diatoms	*Caloneis bacillum*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.9	---	1.4	0.6	---
Diatoms	*Caloneis bacillum fontinalis*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Caloneis hyalina*	---	---	---	---	0.1	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Caloneis* sp.	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Capartogramma crucicula*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	---	---	---	---
Diatoms	*Cocconeis fluviatilis*	---	---	---	---	---	0.5	0.7	---	---	---	---	---	---	---	---	1.2	1.4	---	0.6	---
Diatoms	*Cocconeis neodiminuta*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.9	---
Diatoms	*Cocconeis placentula lineata*	---	4.2	1.4	---	0.8	---	---	---	---	---	---	---	---	---	---	---	---	---	0.9	124
Diatoms	*Cyclotella atomus*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.1
Diatoms	*Cyclotella meneghiniana*	---	---	---	---	---	---	---	1.8	15.1	---	---	---	---	0.8	---	---	---	3.6	---	---
Diatoms	*Cyclotella pseudostelligera*	---	---	---	---	---	---	---	---	---	3.2	---	---	---	---	---	---	---	---	---	---
Diatoms	*Cyclotella stelligera*	---	---	---	4.6	---	---	---	11	13	48	---	---	---	---	---	0.9	---	---	0.3	---
Diatoms	*Cymbella aspera*	---	---	---	---	11	2.4	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Cymbella cuspidata*	---	---	---	---	---	---	---	---	---	---	---	0.4	---	---	---	---	---	---	---	---
Diatoms	*Cymbella lunata*	---	---	---	---	---	---	0.7	5.4	15	---	0	6.4	21	5.5	4.6	---	---	---	---	---
Diatoms	*Cymbella microcephala*	7.5	---	---	---	---	---	---	1.8	---	---	---	0.2	---	2.4	---	---	---	---	---	---
Diatoms	*Cymbella minuta*	10	51	11	72	0.3	1.4	4.5	3.6	11	---	0.2	---	3.2	0.8	---	---	---	11	0.9	35
Diatoms	*Cymbella minuta pseudogracilis*	---	---	---	---	---	1.4	---	1.8	1.2	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Cymbella minuta silesiaca*	49	---	---	18	12.1	---	0.7	---	3.4	---	---	---	---	---	---	---	---	1.4	---	5.1
Diatoms	*Cymbella naviculiformis*	---	---	---	3.1	---	---	---	1.8	---	---	---	---	0.9	---	---	0.3	---	---	---	---
Diatoms	*Cymbella tumida*	1.3	4.2	0.3	---	13.2	1	2.1	---	---	---	---	---	---	---	---	---	---	---	---	7.6
Diatoms	*Cymbella tumidula*	3.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Cymbella turgidula*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10
Diatoms	*Diploneis marginestriata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Diploneis ovalis*	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Diploneis pseudovalis*	---	---	---	---	0.3	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Diploneis smithii*	---	---	---	---	0.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Diploneis smithii pumila*	---	---	---	---	0.5	0.5	---	---	---	---	---	---	---	---	---	0.3	---	---	---	---
Diatoms	*Eunotia arcus*	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Eunotia bidentula*	---	---	---	---	---	---	---	3.6	---	---	---	1.1	0.5	0.8	---	---	---	---	---	---
Diatoms	*Eunotia carolina*	---	---	---	---	---	---	---	---	---	---	---	0.9	---	3.9	---	---	---	---	---	---
Diatoms	*Eunotia curvata*	---	---	---	---	0.4	---	---	---	---	---	0	0.6	3.6	2.4	---	---	---	1.4	0.6	---
Diatoms	*Eunotia curvata subarcuata*	---	---	---	---	---	---	---	---	1.7	---	---	---	7.3	14	---	---	---	73	---	---
Diatoms	*Eunotia elegans*	---	---	---	---	---	---	---	---	---	---	---	0.2	---	1.6	---	---	---	---	---	---
Diatoms	*Eunotia exigua*	---	---	0.6	---	---	---	---	---	---	---	---	0.6	---	0.8	---	---	---	---	0.3	---
Diatoms	*Eunotia flexuosa*	---	---	---	---	---	---	---	---	---	---	0.3	9.4	5	10	3.4	---	---	---	---	---
Diatoms	*Eunotia formica*	---	---	---	---	14	---	0.7	---	---	---	0.1	---	0.9	0.8	---	---	---	5.8	---	---
Diatoms	*Eunotia iatriaensis*	---	---	---	---	---	---	---	---	---	---	---	---	---	7.1	---	---	---	---	---	---
Diatoms	*Eunotia incisa*	---	---	---	---	---	---	---	---	---	---	0.5	3.2	1.4	13	---	---	---	---	0.9	---
Diatoms	*Eunotia intermedia*	---	---	---	---	---	---	---	4.5	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Eunotia meisteri*	---	---	---	---	---	---	---	---	---	---	2	0.9	6.8	23	---	---	---	---	---	---
Diatoms	*Eunotia microcephala*	---	---	---	---	---	---	---	---	---	---	0.1	---	---	1.6	---	---	---	---	---	---
Diatoms	*Eunotia monodon*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Eunotia monodon major*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---
Diatoms	*Eunotia naegelii*	---	---	---	---	---	---	---	---	---	---	0.4	4.5	0.5	3.9	---	---	---	---	0.3	---
Diatoms	*Eunotia pectinalis*	---	---	---	---	7.3	---	---	---	---	---	1.1	1.3	7.8	52	---	---	---	---	0.9	---
Diatoms	*Eunotia pectinalis minor*	5	4.2	---	---	1	---	1.4	4.5	10	---	1.4	3.2	6.4	7.1	---	2.5	---	23	0.6	---
Diatoms	*Eunotia pectinalis undulata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.7	---	---	---	---	---
Diatoms	*Eunotia perpusilla*	---	---	---	---	---	---	---	---	1.7	---	4.9	0.2	2.7	5.5	---	0.9	---	---	---	---
Diatoms	*Eunotia polydentula*	---	---	---	3.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Eunotia praerupta*	---	---	---	---	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---
Diatoms	*Eunotia rhomboidea*	---	---	---	---	---	---	---	23	8.1	13	2.6	11	42	114	151	---	---	45	---	---
Diatoms	*Eunotia robusta*	---	---	---	---	---	---	7	---	---	---	---	---	---	---	---	---	---	16	---	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Eunotia* sp.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---
Diatoms	*Eunotia sudetica*	---	---	---	---	---	---	---	---	---	---	0	---	---	---	---	---	---	---	---	---
Diatoms	*Eunotia tecta*	---	---	---	---	---	---	---	---	---	---	---	---	---	2.4	---	---	---	---	---	---
Diatoms	*Eunotia tenella*	---	---	---	3.1	---	---	---	---	---	---	0.1	0.2	0.9	2.4	---	---	---	---	---	---
Diatoms	*Eunotia tenella*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---
Diatoms	*Eunotia zasuminensis*	---	---	---	---	---	---	---	---	159	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Fragilaria brevistriata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	---	---	---	---
Diatoms	*Fragilaria capucina*	---	---	---	---	---	---	6.3	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Fragilaria capucina lanceolata*	16	---	0.4	---	---	---	---	---	4.3	18	---	---	---	---	---	---	---	---	---	---
Diatoms	*Fragilaria constricta*	---	---	---	---	---	---	---	0.9	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Fragilaria construens pumila*	---	---	---	---	---	---	---	---	---	---	---	---	---	0.8	---	---	---	---	---	---
Diatoms	*Fragilaria construens venter*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.2	---	---	---	---
Diatoms	*Fragilaria crotonensis*	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25
Diatoms	*Fragilaria gracillma*	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Fragilaria hungarica tumida*	---	---	---	---	---	---	---	---	---	---	---	---	---	0.8	---	---	---	---	---	---
Diatoms	*Fragilaria nanana*	---	---	---	---	---	---	---	0.9	101	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Fragilaria pinnata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.9	---	---	1.5	---
Diatoms	*Fragilaria* sp.	---	---	---	---	---	---	---	6.3	32	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Fragilaria vaucheriae*	15	---	3.1	3.1	---	---	---	---	22	---	---	---	0.5	---	---	---	---	4.3	---	15
Diatoms	*Fragilaria virescens exigua*	---	---	---	---	---	---	---	---	---	---	---	0.4	---	---	---	---	---	---	---	---
Diatoms	*Frustulia rhomboides*	---	---	---	15	0.5	---	---	3.6	15	16	1.8	13	20	5.5	13	0.3	---	1.4	0.3	---
Diatoms	*Frustulia rhomboides capitata*	---	---	---	---	---	---	---	---	15	---	---	---	---	22	---	---	---	---	---	---
Diatoms	*Frustulia rhomboides crassinervia*	1.3	---	---	67	---	0.5	0.7	4.5	22	26	1.9	15	13	23	---	---	9.9	2.9	1.5	2.5
Diatoms	*Frustulia rhomboides saxonica*	---	---	---	---	---	---	4.9	16	---	3.2	0.4	8.6	7.3	2.4	276	0.3	---	---	---	---
Diatoms	*Frustulia rhomboides undulata*	---	---	---	---	---	---	6.3	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Frustulia vulgaris*	1.3	4.2	0.1	---	0.3	---	4.2	1.8	1.2	---	---	---	---	---	---	---	2.8	---	---	10
Diatoms	*Frustulia weinholdii*	---	---	---	6.1	1.1	1	2.8	---	1.7	---	---	---	0.9	---	---	---	---	---	1.2	---
Diatoms	*Gomphonema affine*	---	---	0.3	---	---	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	5.1

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Gomphonema angustatum*	---	---	0.4	9.2	1.2	---	0.7	3.6	12	---	0.3	1.1	7.3	4.7	2.3	0.3	5.7	---	2.7	---
Diatoms	*Gomphonema angustatum obtusatum*	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Gomphonema angustatum productum*	---	---	---	15	---	1.9	7	---	14	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Gomphonema carolinense*	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Gomphonema clevei*	2.5	---	---	---	0.8	58	7.7	---	---	---	---	---	0.5	---	---	---	---	---	---	---
Diatoms	*Gomphonema consector*	---	---	---	3.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Gomphonema gracile*	---	---	---	3.1	---	0.7	---	---	2.5	---	---	---	---	---	---	---	---	5	---	---
Diatoms	*Gomphonema grunowii*	---	---	---	---	0.3	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Gomphonema lanceolatum insignia*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.6	---	---
Diatoms	*Gomphonema parvulum*	1.3	11	1.3	3.1	0.5	1	---	36	16	9.6	0.3	1.3	0.5	2.4	10	---	7.1	11	---	---
Diatoms	*Gomphonema pumilum*	---	---	9	---	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20
Diatoms	*Gomphonema* sp.	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	5.7	7.2	---	---
Diatoms	*Gomphonema sphaerophorum*	---	---	---	---	0.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Gomphonema subclavatum mexicanum*	3.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Gomphonema tenellum*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Gyrosigma acuminatum*	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Gyrosigma exilis*	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	5.1
Diatoms	*Gyrosigma eximium*	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Gyrosigma obscurum*	---	8.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Gyrosigma obtusatum*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Gyrosigma scalproides*	---	---	---	---	0.1	---	---	---	---	---	---	---	0.9	---	---	---	---	---	---	---
Diatoms	*Gyrosigma spencerii*	---	---	0.3	---	0.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20.2
Diatoms	*Hantzschia amphioxys*	---	---	---	---	0.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Melosira herzogii*	---	---	---	---	---	---	0.7	---	133	---	---	0.2	---	0.8	---	---	---	---	---	---
Diatoms	*Melosira islandica helvetica*	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Melosira* sp.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.2	---	---
Diatoms	*Melosira varians*	---	11	0.6	---	1.2	1	0.7	---	15	30	---	---	---	---	---	0.9	11	---	2.4	38
Diatoms	*Meridion circulare*	---	---	---	---	0.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.1

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Meridion circulare constrictum*	---	4.2	---	---	---	0.5	---	---	---	---	0.2	---	0.9	---	---	---	---	---	1.2	---
Diatoms	*Navicula adversa*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	21	---	---	---
Diatoms	*Navicula aikenensis*	---	---	---	---	1.1	2.9	1.4	---	---	---	---	---	---	---	---	---	---	---	---	56
Diatoms	*Navicula anatis*	---	---	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula angusta*	---	---	---	---	0.1	---	---	---	---	---	---	1.1	1.4	---	9.2	---	---	---	---	---
Diatoms	*Navicula arvensis*	---	---	---	---	---	---	---	---	1.7	---	0.1	---	2.3	---	---	5.9	2.8	4.3	58	7.6
Diatoms	*Navicula atomus*	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	0.6	---
Diatoms	*Navicula auriculata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.1
Diatoms	*Navicula bicephala*	---	---	---	---	0.5	---	---	7.2	1.2	---	---	---	---	---	---	0.3	---	1.4	0.6	---
Diatoms	*Navicula biconica*	---	4.2	0.1	---	---	---	---	---	---	---	---	---	---	---	---	0.3	---	---	0.3	---
Diatoms	*Navicula bremensis*	---	---	---	---	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---
Diatoms	*Navicula capitata*	---	4.2	---	---	0.9	---	---	20	---	---	---	---	---	---	---	0.9	2.8	4.3	---	---
Diatoms	*Navicula capitata hungarica*	---	---	---	---	---	---	---	---	1.7	---	---	---	---	0.8	---	---	---	---	0.3	---
Diatoms	*Navicula clementis*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	---	---	---	---
Diatoms	*Navicula cohnii*	---	---	0.1	---	0.3	---	---	---	1.2	---	---	---	---	0.8	---	---	---	---	---	---
Diatoms	*Navicula confervacea*	---	---	---	---	---	---	---	---	3.4	---	---	0.2	0.9	---	---	5.3	---	---	---	---
Diatoms	*Navicula confervacea rostrata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---	---
Diatoms	*Navicula contenta biceps*	---	---	0.3	---	0.3	1	2.8	---	---	---	---	---	10	---	---	---	---	2.9	1.2	10.1
Diatoms	*Navicula contenta*	---	---	---	---	0.3	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula crucicula*	---	---	---	---	---	---	---	3.6	1.2	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula cryptocephala*	56	42	0.4	86	---	1	1.4	30	45	19	0.3	8.1	2.7	2.4	---	---	2.8	---	0.9	---
Diatoms	*Navicula cryptocephala veneta*	---	---	---	---	0.9	---	---	1.8	1.7	---	---	---	1.4	---	---	---	---	---	0.6	---
Diatoms	*Navicula cryptotenella*	---	25	0.1	---	0.1	---	2.1	---	3.4	---	---	---	---	---	---	---	---	---	---	10
Diatoms	*Navicula declivis*	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula decussis*	---	30	0.6	6.1	1.5	1.9	4.2	---	---	---	---	---	---	---	---	28	11	---	---	7.6
Diatoms	*Navicula difficillima*	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.8	---	---
Diatoms	*Navicula elginensis neglecta*	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula evanida*	---	---	---	---	---	---	---	---	---	---	---	---	---	0.8	---	---	---	---	0.3	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Navicula exigua capitata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	---
Diatoms	*Navicula festiva*	---	---	0.3	---	---	---	---	---	---	---	0.1	---	0.9	0.8	---	---	---	---	---	---
Diatoms	*Navicula gallica laevissima*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	---
Diatoms	*Navicula graciloides*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.2	---	---	---	---
Diatoms	*Navicula gregaria*	---	---	4	---	0.3	---	---	---	---	---	---	---	0.9	---	---	20	---	---	---	8
Diatoms	*Navicula halophila tenuirostris*	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula hambergii*	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula hassiaca*	---	---	---	---	---	---	---	---	---	---	---	2.4	1.8	0.8	---	0.6	---	---	---	---
Diatoms	*Navicula heufleri leptocephala*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	5.1
Diatoms	*Navicula hustedtii*	---	---	0.3	---	0.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula ignota acceptata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.9	---
Diatoms	*Navicula invicta*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.6	---	---	---	---
Diatoms	*Navicula krasskei*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Navicula laevissima*	---	---	---	---	---	---	---	---	---	---	---	---	0.5	0.8	---	---	---	---	---	---
Diatoms	*Navicula lanceolata*	---	---	---	---	0.4	---	2.8	---	2.5	---	---	---	---	---	---	---	---	---	---	5.1
Diatoms	*Navicula lateropunctata*	---	---	---	---	---	---	---	---	---	---	0.3	---	0.9	2.4	---	0.6	---	---	0.6	---
Diatoms	*Navicula leptostriata*	---	---	0.4	---	0.9	5	4.2	14	24	---	0.3	1.3	24	15	---	0.6	---	---	---	7.6
Diatoms	*Navicula lucens*	---	---	---	---	---	---	---	---	0	---	---	---	---	---	---	---	---	2.2	---	---
Diatoms	*Navicula luzonensis*	---	---	13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.8	---
Diatoms	*Navicula menisculus upsaliensis*	---	8.5	---	---	0.8	6	---	---	---	---	---	---	---	---	---	---	---	---	---	20
Diatoms	*Navicula minima*	---	4.2	0.9	---	3.7	2.6	21	9.1	---	---	---	---	---	---	---	4	68	---	5.9	66
Diatoms	*Navicula minuscula muralis*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	---	---	---	---
Diatoms	*Navicula mitigata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	---
Diatoms	*Navicula mobiliensis minor*	---	---	---	---	---	0.5	---	---	1.2	---	---	---	---	---	---	---	---	---	6.5	22
Diatoms	*Navicula modica*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.8	1.4	---	---
Diatoms	*Navicula molestiformis*	---	---	---	---	---	---	---	---	---	---	---	---	0.5	---	---	---	---	---	---	---
Diatoms	*Navicula mutica*	---	---	0.3	---	0.3	---	---	1.8	---	---	0	---	1.4	0.8	---	0.3	---	1.4	0.3	35
Diatoms	*Navicula mutica stigma*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	23	---	---	---	---	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Navicula mutica undulata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.5
Diatoms	*Navicula mutica ventricosa*	---	---	0.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula obsoleta*	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	2.8	---	---	---
Diatoms	*Navicula omissa*	---	---	---	---	---	---	---	---	---	---	---	0.6	0.9	---	---	---	---	---	0.3	5.1
Diatoms	*Navicula pelliculosa*	---	---	0.1	---	---	---	---	---	---	---	---	---	0.5	3.2	---	0.3	---	---	0.9	10.1
Diatoms	*Navicula pseudoreinhardtii*	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula pseudoventralis*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.8	---	---
Diatoms	*Navicula pupula capitata*	---	---	---	3.1	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Navicula pupula*	---	---	---	---	0.8	1.4	2.1	9.1	5	---	0	---	0.9	---	---	0.6	---	2.9	1.2	---
Diatoms	*Navicula pupula mutata*	---	---	---	3.1	---	---	---	---	---	---	---	---	0.5	---	---	---	---	---	1.2	---
Diatoms	*Navicula pupula rostrata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula pusilla*	---	---	---	---	0.1	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula radiosa*	1.3	---	---	---	---	0.5	---	2.7	---	8	---	---	---	---	---	0.3	---	---	---	---
Diatoms	*Navicula rhynchocephala germainii*	---	34	1.7	6.1	1.2	---	---	14	1.7	3.2	---	---	---	---	---	2.2	2.8	---	1.8	38
Diatoms	*Navicula rhynchocephala*	---	15	0.6	---	1.1	0.5	---	---	---	---	---	---	---	---	---	---	---	4.3	---	10
Diatoms	*Navicula salinarum*	---	---	---	3.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula schroeteri escambia*	---	11	1.6	58	---	1	7.3	---	---	---	---	---	---	---	---	0.9	28	---	0.9	30
Diatoms	*Navicula scutiformis*	---	---	---	---	---	---	---	---	---	---	---	---	---	1.6	---	---	---	---	---	---
Diatoms	*Navicula secreta apiculata*	1.3	277	0.1	---	1.6	2.4	3.5	---	---	---	---	---	---	---	---	---	9.9	---	---	5.1
Diatoms	*Navicula secura*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	---
Diatoms	*Navicula seminuloides*	---	---	0.9	---	---	---	---	---	---	---	---	---	---	---	---	2.2	28	---	1.8	20
Diatoms	*Navicula seminulum*	---	17	---	12	0.5	---	---	3.6	1.2	---	---	---	---	---	---	6.8	11	---	17	2.5
Diatoms	*Navicula seminulum intermedia*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	23.8	---	---
Diatoms	*Navicula* sp.	---	13	---	---	1.7	9.1	2.8	22	3.7	42	---	---	---	---	10	---	18	32	---	---
Diatoms	*Navicula subarvensis*	---	---	---	---	---	1.4	0.7	6.3	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula subrhyncocephala*	---	---	---	---	0.5	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---
Diatoms	*Navicula subrotundata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.9	---	---
Diatoms	*Navicula subtilissima okamurae*	---	---	---	3.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Navicula symmetrica*	---	---	2.4	---	0.8	19	---	6.3	---	3.2	---	---	---	---	---	---	---	---	---	13
Diatoms	*Navicula tantula*	---	---	---	---	2.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula tenelloides*	---	---	---	---	0.4	---	---	3.6	---	---	---	---	---	---	---	10	---	---	2.7	---
Diatoms	*Navicula tenera*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	---
Diatoms	*Navicula tripunctata*	---	---	---	---	---	2.9	2.1	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula tripunctata schizonemoides*	---	---	---	---	0.4	---	0.7	---	---	---	---	---	0.5	---	---	---	---	---	---	---
Diatoms	*Navicula trivialis*	---	---	---	---	---	---	---	---	---	16	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula utermoehlii*	---	---	---	---	---	---	---	---	---	---	---	---	---	3.2	---	---	---	---	---	---
Diatoms	*Navicula utermöhii*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Navicula ventosa*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4.3	---	---
Diatoms	*Navicula viridula*	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula viridula linearis*	---	---	---	---	---	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Navicula viridula rostellata*	---	---	---	---	---	---	---	5.4	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Neidium affine amphirhynchus*	---	---	---	---	0.1	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Neidium affine ceylonicum*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.3	---	---	---	---	---
Diatoms	*Neidium affine longiceps*	---	---	---	---	---	---	---	---	---	---	0.1	---	---	0.8	---	---	---	1.4	---	---
Diatoms	*Neidium alpinum*	---	---	---	---	---	---	---	---	1.7	---	0.1	0.6	---	11	---	---	---	---	12	---
Diatoms	*Neidium bisulcatum*	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Neidium dubium*	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Neidium hercynicum*	---	---	---	---	0.1	---	---	---	---	3.2	---	---	---	---	1.1	---	---	---	---	---
Diatoms	*Neidium hercynicum subrostratum*	---	---	---	---	---	---	1.4	1.8	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Neidium ladogense densestriatum*	---	---	---	---	---	---	---	---	---	---	---	---	0.5	1.6	---	---	---	---	---	---
Diatoms	*Nitzschia accommodata*	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.9	---	---
Diatoms	*Nitzschia acicularis*	---	---	0.3	---	---	---	---	---	10	37	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia aerophila*	---	---	---	---	---	---	---	8.2	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia agnita*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.1
Diatoms	*Nitzschia amphibia*	---	---	---	---	---	2.4	---	---	---	---	---	---	---	---	---	0.6	60	---	---	15
Diatoms	*Nitzschia bergii*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	7.1	---	---	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Nitzschia brevissima*	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	5.1
Diatoms	*Nitzschia calida*	---	---	0.3	---	0.3	---	---	---	---	---	---	---	---	---	---	0.3	---	---	---	---
Diatoms	*Nitzschia capitellata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	---	---	---	---
Diatoms	*Nitzschia clausii*	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.1	13
Diatoms	*Nitzschia constricta subconstricta*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25
Diatoms	*Nitzschia dissipata*	1.3	30	0.3	---	0.8	1.4	3.5	---	---	---	---	---	---	---	---	---	---	5	---	---
Diatoms	*Nitzschia dissipata media*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.1
Diatoms	*Nitzschia filiformis*	---	---	---	---	---	---	---	---	---	---	---	---	0.5	---	---	0.3	---	15	---	5.1
Diatoms	*Nitzschia flexa*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25
Diatoms	*Nitzschia fonticola*	---	---	---	---	---	1.9	4.2	7.2	3.7	---	---	---	---	---	---	0.6	---	---	---	---
Diatoms	*Nitzschia frustulum*	---	---	---	---	---	1	8	---	3.1	---	---	---	---	---	---	---	---	1.4	---	5.1
Diatoms	*Nitzschia frustulum perminuta*	---	---	0.3	---	0.3	---	1	---	---	6.4	---	0.2	1.4	---	---	---	---	---	2.4	5.1
Diatoms	*Nitzschia gracilis*	---	---	---	---	---	---	---	---	65	29	0.2	---	---	0.8	---	---	---	1.4	---	---
Diatoms	*Nitzschia intermedia*	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia linearis*	---	23	0.9	---	1.7	1.9	2.8	---	3.4	---	---	---	1.8	---	---	---	---	---	---	---
Diatoms	*Nitzschia microcephala*	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia nana*	---	---	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia obsidialis*	---	---	---	---	0.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia obtusa scalpelliformis*	---	---	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia palea*	---	53	2.8	7.7	0.3	---	1.4	28	81	54	0.4	0.2	12	3.2	---	2.8	7.1	1.4	14	233
Diatoms	*Nitzschia paleacea*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.8	2.9	---	---
Diatoms	*Nitzschia pusilla*	---	---	---	---	---	0.5	---	---	---	3.2	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia radicula rostrata*	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia recta*	---	---	0.6	---	---	---	---	---	---	---	0.3	---	4.1	---	---	---	---	---	0.9	---
Diatoms	*Nitzschia rostellata*	---	---	---	---	---	---	---	---	---	9.6	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia sigma*	---	---	0.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia sigmoidea*	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia silicula*	---	8.5	---	---	---	---	0.7	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Nitzschia* sp.	---	---	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia stagnorum*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Nitzschia subcommunis*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.6	---	---
Diatoms	*Nitzschia sublineais*	---	8.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia sundaensis*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.9	---	---
Diatoms	*Nitzschia tarda*	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.9	---	---
Diatoms	*Nitzschia terrestris*	---	---	---	---	---	---	---	---	---	---	---	---	---	2.4	---	---	---	---	---	---
Diatoms	*Nitzschia thermalis minor*	---	---	---	---	---	---	---	---	---	3.2	---	---	---	---	---	---	---	---	---	---
Diatoms	*Nitzschia tryblionella debilis*	---	---	---	---	0.1	0.5	---	---	---	---	---	---	---	---	---	---	---	1.4	---	33
Diatoms	*Nitzschia tryblionella levidensis*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10
Diatoms	*Nitzschia tryblionella victoriae*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.8	---	---	13
Diatoms	*Nitzschia tubicola*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.5
Diatoms	*Opephora martyi*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.8	---	---	---
Diatoms	*Opephora olsenii*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	---	---	---	---
Diatoms	*Pinnularia abaujensis*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Pinnularia abaujensis subundulata*	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Pinnularia acrosphaeria*	---	---	---	---	2.5	---	---	---	---	---	---	---	---	---	---	---	2.8	1.4	---	---
Diatoms	*Pinnularia appendiculata*	---	---	---	3.1	---	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Pinnularia biceps*	---	---	---	---	---	1	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---
Diatoms	*Pinnularia braunii amphicephala*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---
Diatoms	*Pinnularia latevittata*	---	---	---	---	4.3	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	---
Diatoms	*Pinnularia mesogongyla*	---	---	---	---	34	---	3.5	1.8	---	---	---	---	---	---	---	---	---	1.4	---	---
Diatoms	*Pinnularia microstauron*	---	---	---	---	0.3	---	---	---	---	---	---	---	0.9	---	---	---	---	---	---	---
Diatoms	*Pinnularia obscura*	---	---	0.1	---	0.1	---	---	---	---	---	0.1	---	0.5	---	---	---	---	---	---	---
Diatoms	*Pinnularia rivularis*	---	---	---	---	---	---	---	1.8	1.2	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Pinnularia ruttneri*	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Pinnularia subcapitata*	---	---	---	---	1.3	---	---	12	---	16	---	0.2	2.7	---	2.3	3.1	---	---	1.2	---
Diatoms	*Pinnularia subcapitata paucistriata*	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Pinnularia substomatophora*	---	---	---	3.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Pinnularia termitina*	---	---	---	---	---	---	9	---	---	---	---	---	---	---	---	---	2.8	1.4	---	---
Diatoms	*Pinnularia sinuata*	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Rhoicosphenia curvata*	---	8.5	5.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10
Diatoms	*Rhopalodia gibberula*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.6	---
Diatoms	*Rhopalodia gibberula vanheurckii*	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Stauroneis anceps*	---	---	---	---	---	---	---	---	---	---	---	---	1.4	0.8	---	---	---	---	0.3	---
Diatoms	*Stauroneis anceps gracilis*	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Stauroneis ignorata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.9	---	---
Diatoms	*Stauroneis ignorata rupestris*	---	---	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Stauroneis kriegeri*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.9	---	4.3	---	---
Diatoms	*Stauroneis phoenicenteron*	---	---	---	---	---	---	---	---	---	---	---	0.2	0.5	---	---	---	---	---	---	---
Diatoms	*Stauroneis smithii*	---	4.2	0.3	---	---	---	---	---	---	---	---	---	---	---	---	0.9	8.5	---	---	5.1
Diatoms	*Stauroneis smithii incisa*	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Stauroneis thermicola*	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Stauroneis thermicola*	---	---	---	3.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Stenopterobia densestriata*	---	---	---	---	---	---	---	---	---	---	---	1.5	1.4	---	---	---	---	---	---	5.1
Diatoms	*Stephanodiscus agassizensis*	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Surirella angusta*	---	57	0.3	---	0.1	1	0.7	8.2	0.6	---	---	0.2	0.9	---	---	---	---	5.8	1.2	23
Diatoms	*Surirella delicatissima Lewis*	---	---	---	---	---	---	---	---	5	---	0.6	1.1	2.7	1.6	---	---	---	---	---	---
Diatoms	*Surirella elegans*	---	---	---	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	1.4	---	5.1
Diatoms	*Surirella linearis constricta*	---	---	---	---	---	---	---	0.9	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Surirella ovata africana*	---	---	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Surirella ovata pinnata*	---	---	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Surirella stalagma*	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Surirella tenera*	---	---	---	---	---	0.5	0.7	3.6	---	---	---	---	0.5	---	---	---	---	---	0.3	---
Diatoms	*Synedra acus*	7.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Synedra amphicephala austriaca*	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---

Table 28. Algal cell densities in selected stream reaches in the Santee River and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Diatoms	*Synedra amphicephala*	---	---	---	---	---	---	---	---	---	4.8	---	---	---	---	---	---	---	---	---	---
Diatoms	*Synedra famelica*	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Synedra goulardi*	2.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Synedra minuscula*	---	---	---	---	---	---	---	---	---	---	---	0.9	---	2.4	---	---	---	---	---	---
Diatoms	*Synedra pulchella lacerata*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10
Diatoms	*Synedra rumpens familiaris*	---	---	0.3	3.1	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Synedra rumpens*	---	32	0.7	---	---	---	---	3.6	12	6.4	---	0.9	---	---	---	---	---	---	1.5	---
Diatoms	*Synedra rumpens meneghiniana*	---	---	0.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.3	15
Diatoms	*Synedra sp*	---	---	---	---	---	---	---	---	21	169	---	---	---	---	---	---	---	---	---	---
Diatoms	*Synedra ulna*	---	---	1.1	3.1	15	---	0.7	---	---	---	---	---	0.9	---	---	1.9	---	5.8	1.8	15
Diatoms	*Synedra ulna danica*	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---
Diatoms	*Tabellaria fenestrata*	---	---	---	---	---	---	---	5.4	2.5	---	---	4.1	---	2.4	21	---	---	---	---	7.6
Diatoms	*Tabellaria flocculosa*	---	---	---	---	---	---	---	---	8.1	---	---	3.2	1.4	3.2	3.4	---	---	---	---	18
Diatoms	*Thalassiosira weissflogii*	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---	---	1.6	---	---	---	---
Dinoflagellates	*Peridinium* sp.	---	---	---	---	---	---	---	---	---	---	---	3.6	1.2	---	---	---	---	---	---	---
Euglenoids	*Euglena* sp.	---	---	---	---	---	---	---	---	15	---	0.6	---	---	---	---	2.3	---	---	---	---
Euglenoids	*Phacus* sp.	3.6	---	---	---	---	---	---	---	3.5	---	---	---	---	---	---	---	---	7	---	---
Euglenoids	*Trachelomonas cylindrica*	---	---	---	---	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---
Euglenoids	*Trachelomonas hispida*	---	---	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Euglenoids	*Trachelomonas* sp.	---	---	---	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---	---
Euglenoids	*Trachelomonas volvocina*	---	---	---	---	---	---	---	---	20.1	---	---	---	2.4	---	---	---	2.9	14.1	---	---
Green algae	*Ankistrodesmus falcatus*	---	---	---	---	---	---	---	---	14	25	---	---	---	---	3.7	---	2.9	7	1.5	---
Green algae	*Chlamydomonas* sp.	---	---	---	---	---	---	---	---	19	---	---	0.5	2.4	1.8	---	2.3	---	---	---	---
Green algae	*Cladophora glomerata*	---	---	---	---	---	---	---	---	---	58	---	---	---	---	15	---	---	---	---	---
Green algae	*Closterium moniliferum*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	---
Green algae	*Euastrum inerme*	---	---	---	---	---	---	---	---	---	---	---	0.5	---	---	---	---	---	---	---	---
Green algae	*Eudorina elegans*	43	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Green algae	*Kirchneriella lunaris*	---	---	---	---	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---

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[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040 (reach 1); INN, Indian Creek near Laboratory, N.C., USGS 02143500 (reach 2); CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112 (reach 3); BRU, Brushy Creek near Pelham, S.C., USGS 021603257 (reach 4); INS, Indian Creek above Newberry, S.C., USGS 021607224 (reaches 5, 6, and 7); GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8), and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660 (reach 11); CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670 (reach 12); CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672 (reach 13); TOM, Toms Creek near Gadsden, S.C., USGS 021696966 (reach 14); MCT, McTier Creek near Monetta, S.C., USGS 02172300 (reach 15); COW, Cow Castle Creek near Bowman, S.C., USGS 02174250 (reaches 16 and 18); COO, Coosawhatchie River near Grays, S.C., USGS 02176518 (reach 19); EDI, Edisto River near Cottageville, S.C., USGS 02174175 (reach 22); CON, Congaree River at Columbia, S.C., USGS 02169500 (reach 23); ---, not collected] Note: There is no data for COW (reach 17); Wateree River near Camden, S.C., USGS 02148000 (reach 20); or the Saluda River near Columbia, S.C., USGS 02169000 (reach 21).

Algal Group	Taxon	Stream																			
		JAC	INN	CAT	BRU	INS	INS	INS	GIL	GIL	GIL	MYE	CE1	CE2	TOM	MCT	COW	COW	COO	EDI	CON
		Reach number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	23
		Cell density (x 1,000) in cells per square centimeter																			
Green algae	*Mougeotia* sp.	---	---	---	---	---	---	---	---	---	---	2.1	---	---	---	---	---	---	---	---	---
Green algae	*Oedogonium* sp.	---	---	---	---	6.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Green algae	*Pediastrum biradiatum*	---	---	---	---	---	---	---	---	19	---	---	---	---	---	---	---	---	---	---	---
Green algae	*Pediastrum boryanum*	---	---	---	---	---	---	---	---	55	---	---	---	---	---	---	---	---	---	---	---
Green algae	*Scenedesmus acuminatus*	---	---	---	---	---	---	---	---	39	---	---	---	---	---	---	---	---	---	---	---
Green algae	*Scenedesmus acutus*	---	---	---	---	---	---	---	---	---	---	---	---	9.6	7	---	---	---	---	---	---
Green algae	*Scenedesmus ecornis*	---	---	---	---	---	---	---	---	58	---	---	---	---	---	---	---	---	---	---	---
Green algae	*Scenedesmus quadricauda*	---	---	---	---	---	---	---	---	292	33	1.8	---	---	---	---	6.2	---	---	6.1	---
Green algae	*Scenedesmus* sp.	---	---	---	---	---	---	---	---	19	---	---	---	---	---	---	---	---	---	---	---
Green algae	*Staurastrum alternans*	---	---	0.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Green algae	*Staurastrum* sp.	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Green algae	*Tetraedron minimum*	---	---	---	---	---	---	---	---	39	---	---	---	---	---	---	---	---	---	---	---
Green algae	*Tetrastrum staurogeniaeforme*	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.1	---
Green algae	*Treubaria crassipina*	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Red algae	*Audouinella violacea*	---	---	---	---	10	---	---	---	---	350	---	4.1	---	---	143	---	---	---	---	---
Unknown phyla	*Undetermined algal flagellate* (<10 micron)	87	104	3.2	40	6.2	21	52	63	4	359	2.1	---	13	---	51	---	---	225	---	12.2
Unknown phyla	*Undetermined algal* sp.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.8	---	---	---	---
Yellow-green algae	*Dinobryon* sp.	7.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Benthic Invertebrate Data

Table 29. Benthic invertebrate density and diversity in the Santee River Basin and Coastal Drainages study unit

Reach	Stream	Organisms per square meter of substrate	Total number of benthic invertebrate taxa
1	Jacob Fork near Ramsey, N.C., USGS 02143040	1,363	107
2	Indian Creek near Laboratory, N.C., USGS 02143500	1,919	80
3	South Fork Catawba River at McAdenville, N.C., USGS 02145112	922	51
4	Brushy Creek near Pelham, S.C., USGS 021603257	1,252	67
5	Indian Creek above Newberry, S.C., USGS 021607224	1,106	82
6	Indian Creek above Newberry, S.C., USGS 021607224	834	72
7	Indian Creek above Newberry, S.C., USGS 021607224	2,123	67
8	Gills Creek near Hopkins, S.C., USGS 02169595	6,404	77
9	Gills Creek at Columbia, S.C., USGS 02149570	21,560	50
10	Gills Creek at Columbia, S.C., USGS 02149570	9,802	67
11	Myers Creek near Hopkins, S.C., USGS 02169660	11,327	84
12	Cedar Creek below Myers Creek near Hopkins, S.C. USGS 02169670	4,916	81
13	Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672	12,311	90
14	Toms Creek near Gadsden, S.C., USGS 021696966	3,363	87
15	McTier Creek near Monetta, S.C., USGS 02172300	1,498	73
16	Cow Castle Creek near Bowman, S.C., USGS 02174250	1,422	68
17	Cow Castle Creek near Bowman, S.C., USGS 02174250	784	58
18	Cow Castle Creek near Bowman, S.C., USGS 02174250	4,946	58
19	Coosawhatchie River near Grays, S.C., USGS 02176518	12,104	85
20	Wateree River near Camden, S.C., USGS 02148000	4,255	23
21	Saluda River near Columbia, S.C., USGS 02169000	3,745	17
22	Edisto River near Cottageville, S.C., USGS 02174175	2,096	69
23	Congaree River at Columbia, S.C., USGS 02169500	2,969	89

Table 30. Benthic invertebrate species and density in streams in the Santee River Basin and Coastal Drainages study unit

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040; INN, Indian Creek near Laboratory, N.C., USGS 02143500; CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112; BRU, Brushy Creek near Pelham, S.C., USGS 021603257; INS, Indian Creek above Newberry, S.C., USGS 021607224; GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8) and Gills Creek at Columbia, S.C. USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660; CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670; CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672; TOM, Toms Creek near Gadsden, S.C., USGS 021696966; MCT, McTier Creek near Monetta, S.C., USGS 02172300; COW, Cow Castle Creek near Bowman, S.C., USGS 02174250; COO, Coosawhatchie River near Grays, S.C., USGS 02176518; WAT, Wateree River near Camden, S.C., USGS 02148000; SAL, Saluda River near Columbia, S.C., USGS 02169000; EDI, Edisto River near Cottageville, S.C., USGS 02174175; CON, Congaree River at Columbia, S.C., USGS 02169500]

Taxon	Stream and reach number																
	JAC	INN	CAT	BRU	INS	GIL	MYE	CE1	CE2	TOM	MCT	COW	COO	WAT	SAL	EDI	CON
	1	2	3	4	5, 6, 7	8, 9, 10	11	12	13	14	15	16, 17, 18	19	20	21	22	23
	Substrate																
	Rocks	Rocks	Rocks	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Rocks	Woody snags	Rocks
Acari	2.1	---	2.1	20	5.1	4.4	1	1.9	0.9	2.1	2	28	2.5	---	4.8	4.4	---
Annelida – Hirudinea	---	---	---	---	---	0.4	---	---	0.2	---	---	---	11	---	---	---	---
Annelida – Oligochaeta	2.1	3.9	30	7.4	5.1	1.6	5	17	7	9.2	---	1.9	0.5	11.2	27	5.9	35
Collembola	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---	---
Insecta - Coleoptera - Dryopidae	---	---	---	---	0.1	---	---	---	---	---	---	---	---	---	---	---	---
Insecta - Coleoptera - Elmidae	6.5	15	0.2	0.9	14	53	1	3.6	0.1	13	4	12	3.6	---	---	20	1.8
Insecta - Coleoptera - Gyrinidae	---	---	---	---	0.1	---	0.8	2.2	---	0.1	---	0.9	0.3	---	---	0.1	---
Insecta - Coleoptera - Dytiscidae	---	---	---	---	---	---	---	---	---	---	---	---	0.1	---	---	---	---
Insecta - Coleoptera - Hydrophilidae	---	0.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Insecta - Coleoptera (unclassified)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4.5	---
Insecta - Diptera - Athericidae	---	---	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---	---
Insecta - Diptera - Ceratipogonidae	0.8	---	---	---	---	---	0.2	---	0.9	0.5	---	2.7	0.1	---	0.1	2.8	0.4
Insecta - Diptera - Chironomidae	33	21	36	42	64	80	36	44	64	38	31	55	49	21	26	37	40
Insecta - Diptera - Dolichopodidae	---	---	---	---	---	---	---	---	---	---	---	0.6	---	---	---	---	---
Insecta - Diptera - Empididae	2.5	1.7	0.4	1.9	5.4	2.8	2.3	1.6	---	2.8	3.4	3.1	1.1	4.7	---	---	1.8
Insecta - Diptera - Simulidae	2.1	1.1	7.7	1.8	2.6	---	0.9	6.6	---	1.3	---	1.9	---	---	---	1	0.4
Insecta - Diptera – Tipulidae	0.1	2.8	4.2	1.8	0.1	---	---	---	---	---	0.1	2.4	---	---	1	---	1.1
Insecta - Diptera (unclassified)	---	---	---	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---
Insecta – Ephemeroptera	24	12	2.9	0.9	6.4	3.9	8.3	6.4		4.5	4.2	1.3	6	26	0.5	5.5	2.1
Insecta – Hemiptera	---	---	---	---	0.1	---	---	---	2.6	---	---	---	0.1	---	---	---	---
Insecta – Lepidoptera	---	---	---	---	---	0.4	---	---	---	0.1	---	---	---	---	---	---	---
Insecta – Megaloptera	1.3	0.1	---	---	0.3	---	---	---	0.2	0.1	0.1	---	---	---	---	0.5	---
Insecta – Neuroptera	---	---	---	---	---	---	---	---	---	---	---	---	2.9	---	---	---	---
Insecta - Odonata - Anisoptera	---	---	---	1.9	2.9	0.5	---	0.6	0.5	---	---	1.7	0.6	---	0.1	---	---
Insecta - Odonata - Zygoptera	---	---	---	---	2.5	0.2	---	0.1	---	0.2	---	1.7	0.1	---	---	0.1	---
Insecta – Plecoptera	9.4	2.3	0.6	---	0.5	---	1.1	1.4	---	2.3	10	---	0.6	0.4	---	1.9	---
Insecta – Trichoptera	16	37	18	17	13	24	40	0.2	2.4	24	5.9	17	11	36	3.3	11	13
Malacostraca - Amphipoda	---	---	---	---	---	---	---	---	---	---	---	---	1	---	20	0.9	---
Malacostraca - Isopoda	---	0.6	---	---	0.5	0.5	1	---	6.6	---	---	---	1.4	0.1	12	---	---

Table 30. Benthic invertebrate species and density in streams in the Santee River Basin and Coastal Drainages study unit (Continued)

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040; INN, Indian Creek near Laboratory, N.C., USGS 02143500; CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112; BRU, Brushy Creek near Pelham, S.C., USGS 021603257; INS, Indian Creek above Newberry, S.C., USGS 021607224; GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8) and Gills Creek at Columbia, S.C. USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660; CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670; CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672; TOM, Toms Creek near Gadsden, S.C., USGS 021696966; MCT, McTier Creek near Monetta, S.C., USGS 02172300; COW, Cow Castle Creek near Bowman, S.C., USGS 02174250; COO, Coosawhatchie River near Grays, S.C., USGS 02176518; WAT, Wateree River near Camden, S.C., USGS 02148000; SAL, Saluda River near Columbia, S.C., USGS 02169000; EDI, Edisto River near Cottageville, S.C., USGS 02174175; CON, Congaree River at Columbia, S.C., USGS 02169500]

Taxon	Stream and reach number																
	JAC	INN	CAT	BRU	INS	GIL	MYE	CE1	CE2	TOM	MCT	COW	COO	WAT	SAL	EDI	CON
	1	2	3	4	5, 6, 7	8, 9, 10	11	12	13	14	15	16, 17, 18	19	20	21	22	23
	Substrate																
	Rocks	Rocks	Rocks	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Woody snags	Rocks	Woody snags	Rocks
Malacostraca - Decapoda	---	---	---	---	---	---	---	---	---	---	---	---	0.1	---	---	---	---
Mollusca - Gastropoda	0.4	---	---	---	2.5	0.5	---	---	4.7	---	---	5.2	2.5	---	1.2		1.6
Mollusca – Bivalvia	0.4	0.1	---	---	0.1	---	---	0.4	4.6	---	---	2.7	0.1	---	0.1		
Nematoda	---	1.7	---	---	1.2	0.5	2.7	0.7	3.5	---	---	1.8	4.5	---	0.1	2.9	2.1
Nemertia	---	---	---	---	0.6	---	---	---	0.2	---	---	---	---	---	---	0.5	0.7
Platyhelminthes - Turbellaria	---	---	---	---	---	---	---	0.9	1.5	0.3	---	---	1.5	---	3.8		
Porifera	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.1	---

Fish Data

Table 31. Fish species collected in streams of the Santee River Basin and Coastal Drainages study unit

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040; INN, Indian Creek near Laboratory, N.C., USGS 02143500; CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112; BRU, Brushy Creek near Pelham, S.C., USGS 021603257; INS, Indian Creek above Newberry, S.C., USGS 021607224; GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8) and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660; CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670; CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672; TOM, Toms Creek near Gadsden, S.C., USGS 021696966; MCT, McTier Creek near Monetta, S.C., USGS 02172300; COW, Cow Castle Creek near Bowman, S.C., USGS 02174250; COO, Coosawhatchie River near Grays, S.C., USGS 02176518; WAT, Wateree River near Camden, S.C., USGS 02148000; SAL, Saluda River near Columbia, S.C., USGS 02169000; EDI, Edisto River near Cottageville, S.C., USGS 02174175; CON, Congaree River at Columbia, S.C., USGS 02169500; ---, not collected; X, identified species. Both reaches in Cedar Creek are shown because they differ in character and have different fish communities]

Scientific name	Common name	Stream/site																
		JAC	INN	CAT	BRU	INS	GIL	MYE	CE1	CE2	TOM	MCT	COW	COO	WAT	SAL	EDI	CON
		Transect																
		1	2	3	4	5-7	8-10	11	12	13	14	15	16-18	19	20	21	22	23
Ameiurus brunneus	snail bullhead	---	---	X	---	---	---	---	---	---	---	X	X	---	---	---	---	---
Ameiurus catus	white catfish	---	---	---	---	---	X	---	---	---	---	---	---	---	---	---	---	---
Ameiurus natalis	yellow bullhead	---	X	---	---	X	X	X	X	---	X	X	X	---	---	X	---	---
Ameiurus nebulosus	brown bullhead	---	X	---	---	---	X	---	X	---	---	---	---	X	---	---	---	---
Ameiurus platycephalus	flat bullhead	---	---	---	X	X	X	---	---	---	---	---	X	---	---	---	---	---
Amia calva	bowfin	---	---	---	---	---	---	---	---	X	---	---	---	X	X	---	X	X
Anguilla rostrata	American eel	---	---	---	---	---	---	---	---	---	---	X	X	X	---	---	X	---
Aphredoderus sayanus	pirate perch	---	---	---	---	---	X	X	---	X	---	X	X	X	---	X	X	---
Carassius auratus	goldfish	---	---	---	---	---	---	---	---	---	---	---	---	---	---	X	---	---
Carpiodes cyprinus	quillback	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	X
Carpiodes velifer	highfin carpsucker	---	---	---	---	---	---	---	---	---	---	---	---	---	X	---	---	---
Catostomus commersoni	white sucker	---	---	X	X	---	---	---	---	---	---	---	---	---	---	---	---	---
Centrarchus macropterus	flier	---	---	---	---	---	---	---	---	---	---	---	X	---	---	---	---	---
Clinostomus funduloides	roseyside dace	---	---	---	---	X	---	---	---	---	---	---	---	---	---	---	---	---
Ctenopharyngodon idella	grass carp	---	---	---	---	---	---	---	---	---	---	---	---	---	X	X	---	---
Cyprinella chlorista	greenfin shiner	---	---	X	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cyprinella idella	grass carp	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	X
Cyprinella leedsi	bannerfin shiner	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	X	---
Cyprinella nivea	whitefin shiner	---	X	X	---	X	X	---	---	---	---	---	---	---	X	---	---	X
Cyprinella pyrrhomelas	fieryblack shiner	X	X	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cyprinus carpio	common carp	---	---	X	---	---	X	---	---	---	---	---	---	---	X	X	X	X
Dorosoma cepedianum	gizzard shad	---	---	---	---	---	---	---	---	---	---	---	---	---	X	---	---	X
Dorosoma petenense	threadfin shad	---	---	---	---	---	X	---	---	---	---	---	---	---	X	---	---	X
Elassoma zonatum	banded pygmy sunfish	---	---	---	---	---	---	---	---	---	---	X	X	X	---	---	---	---
Elassoma evergladei	everglades pygmy sunfish	---	---	---	---	---	---	---	---	---	---	---	---	X	---	---	---	---
Enneacanthus chaetodon	blackbanded sunfish	---	---	---	---	---	---	X	X	---	---	---	---	---	---	---	---	---

Table 31. Fish species collected in streams of the Santee River Basin and Coastal Drainages study unit

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040; INN, Indian Creek near Laboratory , N.C., USGS 02143500; CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112; BRU, Brushy Creek near Pelham, S.C., USGS 021603257; INS, Indian Creek above Newberry, S.C., USGS 021607224; GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8) and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660; CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670; CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672; TOM, Toms Creek near Gadsden, S.C., USGS 021696966; MCT, McTier Creek near Monetta, S.C., USGS 02172300; COW, Cow Castle Creek near Bowman, S.C., USGS 02174250; COO, Coosawhatchie River near Grays, S.C., USGS 02176518; WAT, Wateree River near Camden, S.C., USGS 02148000; SAL, Saluda River near Columbia, S.C., USGS 02169000; EDI, Edisto River near Cottageville, S.C., USGS 02174175; CON, Congaree River at Columbia, S.C., USGS 02169500; ---, not collected; X, identified species. Both reaches in Cedar Creek are shown because they differ in character and have different fish communities]

Scientific name	Common name	Stream/site																
		JAC	INN	CAT	BRU	INS	GIL	MYE	CE1	CE2	TOM	MCT	COW	COO	WAT	SAL	EDI	CON
		Transect																
		1	2	3	4	5-7	8-10	11	12	13	14	15	16-18	19	20	21	22	23
Enneacanthus gloriosus	bluespotted sunfish	---	---	---	---	---	---	---	X	---	---	---	---	---	---	---	---	---
Erimyzon oblongus	creek chubsucker	---	---	---	---	X	---	---	---	---	X	---	X	X	---	X	---	---
Esox americanus	redfin pickerel	---	---	---	---	X	X	X	---	---	X	X	X	X	X	---	X	---
Esox niger	chain pickerel	---	---	---	---	---	---	---	X	X	X	---	---	X	---	---	X	---
Etheostoma fricksium	savannah darter	---	---	---	---	---	---	---	---	---	---	X	---	---	---	---	---	---
Etheostoma fusiforme	swamp darter	---	---	---	---	---	---	---	---	---	---	---	X	---	---	---	---	---
Etheostoma inscriptum	turquoise darter	---	---	---	---	---	---	---	---	---	---	X	---	---	---	---	---	---
Etheostoma olmstedi	tessellated darter	---	---	---	---	X	X	X	X	X	---	X	X	---	X	---	X	---
Etheostoma thalassinum	seagreen darter	X	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Gambusia holbrooki	eastern mosquitofish	---	---	X	X	---	X	X	X	---	X	---	X	X	X	---	X	---
Hybognathus regius	eastern silvery minnow	---	---	X	---	X	X	---	---	---	---	---	---	---	---	---	---	---
Hybopsis labrosa	thicklip chub	X	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hybopsis rubifrons	rosyface chub	---	---	---	---	X	---	---	---	---	---	---	---	---	---	---	---	---
Hybopsis zanema	Santee chub	X	---	---	---	X	---	---	---	---	---	---	---	---	---	---	---	---
Ictalurus furcatus	blue catfish	---	---	---	---	---	---	---	---	---	---	---	---	---	X	---	---	---
Ictalurus punctatus	channel catfish	---	---	X	---	---	X	---	---	---	---	---	---	---	X	---	---	X
Labidesthes sicculus	brook silverside	---	---	---	---	---	X	X	X	X	---	---	---	---	X	---	X	---
Lepisosteus osseus	longnose gar	---	---	---	---	---	X	---	---	---	---	---	---	---	X	---	X	X
Lepomis auritus	redbreast sunfish	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Lepomis cyanellus	green sunfish	X	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lepomis gibbosus	pumpkinseed	---	---	---	---	X	X	---	---	---	---	---	X	---	X	---	---	---
Lepomis gulosus	warmouth	---	---	---	---	---	X	X	X	X	X	X	X	X	X	---	X	---
Lepomis macrochirus	bluegill	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Lepomis marginatus	dollar sunfish	---	---	---	---	---	X	X	X	X	X	---	X	---	X	---	X	---
Lepomis megalotis	longear sunfish	---	---	X	---	---	---	---	---	---	---	---	---	---	X	---	---	---
Lepomis microlophus	redear sunfish	---	---	X	---	X	X	---	---	X	---	---	X	X	X	---	---	---
Lepomis punctatus	spotted sunfish	---	---	---	---	---	X	X	X	---	X	---	X	X	X	---	X	---

Table 31. Fish species collected in streams of the Santee River Basin and Coastal Drainages study unit

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040; INN, Indian Creek near Laboratory, N.C., USGS 02143500; CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112; BRU, Brushy Creek near Pelham, S.C., USGS 021603257; INS, Indian Creek above Newberry, S.C., USGS 021607224; GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8) and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660; CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670; CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672; TOM, Toms Creek near Gadsden, S.C., USGS 021696966; MCT, McTier Creek near Monetta, S.C., USGS 02172300; COW, Cow Castle Creek near Bowman, S.C., USGS 02174250; COO, Coosawhatchie River near Grays, S.C., USGS 02176518; WAT, Wateree River near Camden, S.C., USGS 02148000; SAL, Saluda River near Columbia, S.C., USGS 02169000; EDI, Edisto River near Cottageville, S.C., USGS 02174175; CON, Congaree River at Columbia, S.C., USGS 02169500; ---, not collected; X, identified species. Both reaches in Cedar Creek are shown because they differ in character and have different fish communities]

Scientific name	Common name	Stream/site																
		JAC	INN	CAT	BRU	INS	GIL	MYE	CE1	CE2	TOM	MCT	COW	COO	WAT	SAL	EDI	CON
		Transect																
		1	2	3	4	5-7	8-10	11	12	13	14	15	16-18	19	20	21	22	23
Luxilus coccogenis	warpaint shiner	X	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Micropterus salmoides	largemouth bass	---	---	X	X	X	X	---	X	X	---	X	X	X	X	X	X	X
Minytrema melanops	spotted sucker	---	---	X	---	---	X	X	X	X	X	---	---	X	X	X	X	X
Morone americana	white perch	---	---	---	---	---	---	---	---	---	---	---	---	---	X	X	---	X
Morone chrysops	white bass	---	---	---	---	---	---	---	---	---	---	---	---	---	X	X	---	---
Morone saxatilis	striped bass	---	---	---	---	---	---	---	---	---	---	---	---	---	X	X	---	X
Moxostoma anisurum	silver redhorse	X	---	---	---	---	X	---	---	---	---	---	---	---	---	X	---	X
Moxostoma macrolepidotum	shorthead redhorse	---	---	---	---	---	---	---	---	---	---	---	---	---	---	X	---	---
Mugil curema	white mullet	---	---	---	---	---	---	---	---	---	---	---	---	---	X	---	---	---
Nocomis leptocephalus	bluehead chub	X	X	X	X	X	X	---	---	---	---	X	X	---	---	---	---	---
Nocomis micropogon	river chub	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Notemigonus crysoleucas	golden shiner	X	X	---	---	---	X	---	---	---	---	---	X	---	---	---	---	---
Notropis alborus	whitemouth shiner	---	---	---	---	X	---	---	---	---	---	---	---	---	---	---	---	---
Notropis chalybaeus	ironcolor shiner	---	---	---	---	---	---	---	---	---	---	---	---	X	---	---	---	---
Notropis cummingsae	dusky shiner	---	---	---	---	X	---	---	X	---	X	---	X	---	---	---	X	---
Notropis hudsonius	spottail shiner	X	---	X	---	X	---	---	---	---	---	---	---	X	---	X	---	---
Notropis lutipinnis	yellowfin shiner	---	---	---	X	X	---	---	---	---	---	X	---	---	---	---	---	---
Notropis maculatus	taillight shiner	---	---	---	---	---	---	---	---	---	---	---	---	X	---	---	---	---
Notropis petersoni	coastal shiner	---	---	---	---	X	X	X	X	X	---	---	X	X	---	X	X	---
Notropis procne	swallowtail shiner	---	X	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Notropis scepticus	sandbar shiner	---	---	X	---	X	---	---	---	---	---	---	---	---	---	---	---	---
Noturus gyrinus	tadpole madtom	---	---	---	---	---	---	---	X	---	---	---	X	X	---	---	---	---
Noturus insignis	margined madtom	X	---	---	---	X	---	---	X	X	---	X	X	X	---	---	---	---
Noturus leptacanthus	speckled madtom	---	---	---	---	---	---	---	X	---	---	X	---	---	---	---	---	---
Oncorhynchus mykiss	rainbow trout	---	---	---	---	---	---	---	---	---	---	---	---	---	---	X	---	---
Perca flavescens	yellow perch	---	---	---	---	---	X	X	X	X	X	---	---	---	---	X	---	X
Percina crassa	piedmont darter	---	---	X	---	X	---	---	X	---	---	---	---	---	---	---	---	---

Table 31. Fish species collected in streams of the Santee River Basin and Coastal Drainages study unit

[JAC, Jacob Fork near Ramsey, N.C., USGS 02143040; INN, Indian Creek near Laboratory, N.C., USGS 02143500; CAT, South Fork Catawba River at McAdenville, N.C., USGS 02145112; BRU, Brushy Creek near Pelham, S.C., USGS 021603257; INS, Indian Creek above Newberry, S.C., USGS 021607224; GIL, Gills Creek near Hopkins, S.C., USGS 02169595 (reach 8) and Gills Creek at Columbia, S.C., USGS 02169570 (reaches 9 and 10); MYE, Myers Creek near Hopkins, S.C., USGS 02169660; CE1, Cedar Creek below Myers Creek near Hopkins, S.C., USGS 02169670; CE2, Cedar Creek at Cedar Creek Hunt Club near Gadsden, S.C., USGS 02169672; TOM, Toms Creek near Gadsden, S.C., USGS 021696966; MCT, McTier Creek near Monetta, S.C., USGS 02172300; COW, Cow Castle Creek near Bowman, S.C., USGS 02174250; COO, Coosawhatchie River near Grays, S.C., USGS 02176518; WAT, Wateree River near Camden, S.C., USGS 02148000; SAL, Saluda River near Columbia, S.C., USGS 02169000; EDI, Edisto River near Cottageville, S.C., USGS 02174175; CON, Congaree River at Columbia, S.C., USGS 02169500; ---, not collected; X, identified species. Both reaches in Cedar Creek are shown because they differ in character and have different fish communities]

Scientific name	Common name	Stream/site																
		JAC	INN	CAT	BRU	INS	GIL	MYE	CE1	CE2	TOM	MCT	COW	COO	WAT	SAL	EDI	CON
		Transect																
		1	2	3	4	5-7	8-10	11	12	13	14	15	16-18	19	20	21	22	23
Percina nigrofasciata	blackbanded darter	---	---	---	---	---	---	---	---	---	---	X	---	---	---	---	X	---
Pomoxis annularis	white crappie	---	---	---	---	---	X	---	---	---	---	---	---	---	---	---	X	X
Pomoxis nigromaculatus	black crappie	---	---	X	---	---	---	---	---	X	---	---	---	---	X	---	---	---
Pteronotropis hypselopterus	sailfin shiner	---	---	---	---	---	---	---	X	---	X	---	X	---	---	---	---	---
Pylodictis olivaris	flathead catfish	---	---	---	---	---	X	---	---	---	---	---	---	---	X	---	X	---
Scartomyzon rupiscartes	striped jumprock	X	X	---	---	X	---	---	---	---	---	---	---	---	---	---	---	---
Semotilus atromaculatus	creek chubsucker	---	---	---	---	X	---	---	---	---	---	---	---	---	---	---	---	---
Trinectes maculatus	hogchoker	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	X	---
Number of fish species identified:		**14**	**10**	**19**	**8**	**26**	**31**	**15**	**23**	**16**	**14**	**18**	**27**	**23**	**30**	**19**	**24**	**18**

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