SURFACE WATER QUALITY SCREENING ASSESSMENT OF THE ESCTAWPA RIVER, MOBILE BAY, AND UPPER AND LOWER TOMBIGBEE RIVER BASINS—2001

REPORT DATE: SEPT. 5, 2003

Aquatic Assessment Unit—Environmental Indicators Section

Field Operations Division--Alabama Department of Environmental Management

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AQUATIC ASSESSMENT UNIT ✦ FIELD OPERATIONS DIVISION
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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ADDRESS COMMENTS AND QUESTIONS TO :

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EXECUTIVE SUMMARY

Background: In 1996, the Alabama Department of Environmental Management (ADEM) adopted a basinwide approach to nonpoint source monitoring and management using a repeating 5-year management cycle. Because of the 5-year rotation, basins are placed into groups so that all basins receive equal focus. Concentrating planning and implementation efforts within one basin group allows a focused review of available data and provides coordinated water quality monitoring and assessment efforts, efficient implementation of control activities on a geographic basis, and consistent and integrated decision-making for awarding CWA §319 funds.

During 2001, the Aquatic Assessment Unit (AAU) of the Field Operations Division completed basinwide screening assessments of the Escatawpa River – Mississippi Coastal, Mobile Bay - Lower Tombigbee, and Upper Tombigbee (EMT) River basins. This document provides an overview of the results from this project. Landuse information and assessment data available from each of the 114 sub-watersheds in the EMT River basins are summarized.

Landuse: Landuse percentages and estimates of animal populations and sedimentation rates were obtained from information provided to ADEM by the Alabama Soil and Water Conservation Committee (ASWCC) and local Soil and Water Conservation Districts (SWCD). This information was provided on Conservation Assessment Worksheets completed in 1998 (FY97 CWA § 319 Workplan Project #4) and entered into an ACCESS database by ADEM.

Estimates of percent land cover differed among each of Basins (Table 1). Percent forest was highest in the Lower Tombigbee, but was also relatively high in the Upper Tombigbee and Escatawpa River basins. The Mobile Bay and Mississippi Coastal Basins had the highest percentages of open water. Percent urban area was highest in the Mobile Bay area. Percent pasture was generally higher in the Upper Tombigbee while percent row crop was higher in the Escatawpa River basin.

Table 1. Estimates of percent land cover within the Upper and Lower Tombigbee River, Mobile Bay and Escatawpa River Basins (ASWCC 1998).

Cataloging Unit	Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
Upper Tombigbee	71	6	15	0	3	1	3
Lower Tombigbee	84	2	10	0	1	1	2
Mobile Bay	51	8	3	0	15	21	3
Escatawpa	71	13	8	0	6	1	1
Mississippi Coastal	22	7	4	0	6	56	4

Nonpoint source (NPS) impairment potential: The potential for NPS impairment was estimated for each sub-watershed in the EMT Basin Group using data compiled by the local Soil and Water Conservation Districts (SWCD) (1998) and information on the number of current construction stormwater authorizations (Tables 2a and 2b).

Based on this information, 30 of 42 (71%) sub-watersheds were at risk to NPS impairment in the Upper Tombigbee River basin. Concerns within the basin included sedimentation, and runoff from pasture and crop lands. NPS concerns within the Lower Tombigbee River basin included pasture, forestry, and sedimentation. Cropland runoff, forest harvesting, and sedimentation were the main concerns within the Mobile Bay area. Three of the 6 sub-watersheds within the Mississippi Coastal basin were primarily open water. Sedimentation and runoff from pasture and crop lands were NPS concerns within the remaining 3 sub-watersheds. Animal husbandry was a concern within sub-watersheds of the Upper and Lower Tombigbee and Escatawpa River basins. Aquaculture was concentrated in the Blackbelt region of the Upper and Lower Tombigbee River basins. Mining was concentrated in a limited number of sub-watersheds in the Upper Tombigbee and Mobile Bay area.

A majority of the sub-watersheds within the Mobile Bay area, Escatawpa River and Mississippi Coastal basins were at risk to impairment from urban and point sources.

Table 2a. Number of sub-watersheds with moderate or high ratings for each NPS category

Cataloging Unit	Total # sub-watersheds	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry Impaired (Reported)	Sediment
Upper Tombigbee	42	30	7	11	22	26	14	5 (29)	40
Lower Tombigbee	43	15	4	6	6	12	3	18 (23)	28
Mobile Bay Area	13	5	0	0	6	1	5	4	6
Escatawpa	10	4	4	0	5	3	0	3 (9)	5
Mississippi Coastal	3	2	0	0	2	2	0	0 (5)	2

Table 2b. Number of sub-watersheds with moderate or high ratings for each point source or urban category

Category	Total # sub-watersheds	% Urban	Development	Septic tank failure
Upper Tombigbee	42	9	11	15
Lower Tombigbee	43	2	16	8
Mobile Bay Area	13	11	12	0
Escatawpa	10	6	6	0
Mississippi Coastal	6	3	1	0

Historical data/studies: The majority of assessments conducted within the EMT Basin Group and presented in this report were from 21 monitoring projects and programs conducted by ADEM, U.S. Environmental Protection Agency (USEPA), the Geological Survey of Alabama (GSA), U.S. Geological Survey (USGS), and University of Alabama.

These data include both monitored and evaluated assessments. Monitored assessments are based on chemical, physical, and/or biological data collected using commonly accepted and well-documented methods. Evaluated assessments are based on observed conditions, limited water quality data, water quality data older than 5 years, or estimated impacts from observed or suspected activities.

Results of monitored assessments were used in this report to assess habitat, biological, and chemical conditions within a sub-watershed. Monitored assessments were conducted during 8 projects and programs (Table 3). Evaluated assessments were conducted in conjunction with ADEM's ALAMAP Program (Appendix F-7), Ambient Trend Monitoring Program (data 5 years or older) (Appendix F-8), several special studies conducted by ADEM 5 or more years ago (Appendix F-6), and Clean Water Strategy Project (Appendix F-9). A summary of each project, including lead agency, project objectives, data collected, and applicable quality assurance manuals, is provided in the appendices.

Table 3. Projects that have generated monitored assessment information.

Project	Appendix/ Reference
ADEM's Ecoregional Reference Reach Program	F-1
ADEM's §303(d) Waterbody Monitoring Program	F-2
ADEM's Reservoir Monitoring Program	F-3
University Tributary Nutrient Project	F-4
GSA's Longterm Watershed Assessment of Weeks Bay	F-5
ADEM's Ambient Monitoring Program	F-8
USEPA's Mobile Bay Intensive Water Quality Surveys, July 2000/May 2001	EPA 2001a
USGS's Assessment of Water-Quality Conditions in the J.B. Converse Lake Watershed	Journey and Gill 2001

Assessments conducted during the 2001 NPS Screening Assessment: Sub-watersheds were selected for assessment during the screening assessment if recent monitoring data were not available, potential impacts from point sources or urban areas were minimal, and the potential for impairment from nonpoint sources was estimated as *moderate* or *high*. Because of the number of sub-watersheds located within the EMT basin group, some sub-watersheds meeting these criteria could not be monitored. Of these sub-watersjeds. assessments were conducted in the 28 sub-watersheds with the highest potential for NPS impairment in the EMT basin group.

Sub-watershed summaries: Current and historical monitoring data were combined to provide a comprehensive assessment. A summary of information available for each of the 114 sub-watersheds is provided. The summaries are organized into 3 sections by basin. Each summary discusses landuse, NPS impairment potential, assessments conducted within the sub-watershed, and the NPS priority rating based on available data. ADEM's assessment of habitat, biological and chemical conditions are generally based on long-term data from ADEM's Ecoregional Reference Reach Program. Assessment information obtained from GSA are based on longterm data collected within the Weeks Bay Watershed (O'Neil et al. 2003). Tables referenced in the summaries are located at the end of each basin summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Habitat and biological indicators of water quality have been assessed in 27 sub-watersheds since 1990. These data are summarized for the Upper Tombigbee River (Table 18a), Mobile Bay-Lower Tombigbee (Table 18b), and Escatawpa River-Mississippi Coastal (Table 18c) basins. Habitat and macroinvertebrate assessments were conducted at 100 and 98 stations, respectively. Fish Community Index of Biotic Integrity (IBI) assessments were conducted at 29 of these stations. The overall condition for each station was rated as the lowest biological assessment result obtained. Thirty-four (35%) stations were assessed as *excellent*, *good*, or *good/fair*. Thirty-seven (38%) stations were assessed as *fair* or *fair/poor* and 21 (21%) stations were assessed as *poor* or *very poor*.

Priority sub-watersheds**:** Twenty priority sub-watersheds were identified within the EMT Basin Group(Table 4). Thirteen (65%) priority sub-watersheds were located within the Upper Tombigbee River basin. Six (30%) priority sub-watersheds were located in the Mobile Bay-Lower Tombigbee River basin. One (5%) priority sub-watershed was located within the Escatawpa River-Mississippi Coastal basin.

Table 4. Sub-watersheds recommended for NPS priority status.

Sub-watershed		Lowest Station Assessment	Suspected Cause(s)	Suspected nonpoint source(s)
Buttahatchee R (0316-0103)				
010	Upper Buttahatchee R.	Fair	Nutrient enrichment, sedimentation	Runoff from pasture and croplands, Mining
020	Buttahatchee R.	Fair	Pathogens, sedimentation	Mining, Crop land runoff
030	Beaver Cr.	Fair	Sedimentation	Mining
050	U. Sipsey Cr.	Fair	Sedimentation	Runoff from pasture and crop lands
Luxapallila R (0316-0105)				
010	U. Luxapallila R.	Fair	DO/OE, Nutrient enrichment, Sedimentation, Pathogens	Runoff from crop and pasture land, Mining
030	L. Luxapallila R.	Fair	Nutrient enrichment, Sedimentation, Pathogens	Cattle, Roadbank erosion, Pasture grazing, Mining
Middle Tombigbee—Lubbub R. (0316-0106)				
060	Coal Fire Cr.	Fair	Nutrient enrichment, Sedimentation	Forestry, Aquaculture
160	Trussells Cr.	Fair	Nutrient enrichment, Sedimentation	Crop land runoff
170	Factory Cr.	Poor	Nutrient enrichment, Sedimentation, Habitat degradation	Aquaculture, Crop and pasture land runoff, Animal husbandry
Sipsey R. (0316-0107)				
040	Sipsey R.	Fair	Sedimentation	Runoff from pasture and crop land, Mining
080	Sipsey R.	Fair/Poor	Nutrient enrichment	Runoff from crop and pasture lands
Noxubee R. (0316-0108)				
110	Woodward Cr.	Fair/Poor	Sedimentation	Runoff from pasture and crop lands, Aquaculture, Animal husbandry
140	Bodka Cr.	Poor	Sedimentation	Runoff from pasture and crop lands
Middle Tombigbee R.—Chickasaw Cr (0316-0201)				
040	Dry Cr.	Fair/Poor	Nutrient enrichment, Sedimentation	Pasture runoff, Animal husbandry
050	Powell Cr.	Fair/Poor	Nutrient enrichment, Sedimentation	Animal husbandry, Aquaculture, Pasture runoff
060	U. Chickasaw Bogue	Poor	Nutrient enrichment, Sedimentation, Pathogens	Aquaculture, Pasture runoff
Sucarnoochee R. (0316-0202)				
080	L. Sucarnoochee R.	Fair	Sedimentation, Nutrient enrichment, Habitat degradation	Pasture and crop land runoff, Aquaculture, Animal husbandry
100	Alamuchee Cr.	Fair	Nutrient enrichment, Sedimentation	Crop land runoff, Forestry, Mining
L. Tombigbee R. (0316-0203)				
090	E. Bassetts Cr.	Fair/Poor	Nutrient enrichment, Sedimentation	Forestry, Pasture runoff
Escatawpa R. (0317-0008)				
090	U. Big Cr.	Fair	Sedimentation, Nutrient enrichment, Pathogens	Cattle, Pasture, Agriculture, Roadbank erosion

Upper Buttahatchee River (0103-010): Macroinvertebrate bioassessments indicated biological impairment at Barn Creek and Hobson Creek. Nutrient concentrations were elevated at both stations. Bioassessment results did not indicate impairment at Camp Creek; however, nutrient concentrations were elevated at several stations. Based on SWCD sub-watershed assessments, the main NPS concerns were runoff from crop and pasturelands, mining, and sedimentation.

Buttahatchee River (0103-020): Macroinvertebrate and fish assessments indicated biological impairment at Cantrell Mill Creek and Buttahatchee River. Water quality data collected at both stations indicated high concentrations of fecal coliform and total suspended solids. The SWCD sub-watershed assessment identified sedimentation and runoff from crop and mining lands as the main NPS concerns. Watershed reconnaissance also indicated historical forest harvesting to be a potential source of sediment.

Beaver Creek (0316-0103-030): SWCD landuse estimates indicated potential impairment from urban and point sources within the sub-watershed. However, results of bioassessments conducted upstream of urban sources showed biological impairment on Beaver Creek. SWCD estimates indicated mining and sedimentation to be potential sources of NPS impairment within the sub-watershed. Habitat quality of Beaver Creek at the assessment site was affected by sediment deposition.

Upper Sipsey Creek (0316-0103-050): Biological conditions were assessed as impaired at one location on Hurricane Creek, a tributary of Upper Sipsey Creek. The primary nonpoint source concerns within the sub-watershed were sedimentation and runoff from pasture and croplands.

Upper Luxapallila River (0316-0105-010): Bioassessment results indicated impairment from rural nonpoint sources in the upper portion of the sub-watershed. High conductivity and periodically low dissolved oxygen concentrations were measured at one location on the East Branch of Luxapallila Creek. Nutrient concentrations and fecal coliform counts were elevated at one location on Luxapallila Creek.

Lower Luxapallila River (0316-0105-030): Impairment to both the macroinvertebrate and fish communities was detected at one location on Luxapallila Creek. Intensive water quality sampling indicated nutrient enrichment, sedimentation, and pathogens to be potential causes of imairment. SWCD landuse estimates indicated mining to be a potential source of NPS impairment.

Coal Fire Creek (0106-060): An assessment conducted at one location on Coal Fire Creek assessed the fish community as *fai*. Intensive chemical sampling at a 2nd site suggested sedimentation and nutrient enrichment to be potential causes of biological impairment. NPS concerns within the sub-watershed included aquaculture and sedimentation. Watershed reconnaissance indicated forest harvesting activities to be a potential source of impairment.

Trussells Creek (0316-0106-160): Fish assessments indicated impaired biological conditions at Brush Creek and Trussells. Intensive water quality monitoring near the mouth of Brush Creek showed the tributary to be a potential source of nutrient loading to Demopolis Reservoir. Impaired biological conditions were also detected in Trussells Creek at TRSG-2. Water quality data suggest nutrient enrichment as a potential source of impairment. Runoff from pasture and crop lands and aquaculture were concerns within the sub-watershed.

Factory Creek (0316-0106-170): Landuse within the sub-watershed indicated potential impairment from aquaculture and crop and pasture lands. Bioassessment results indicated impaired macroinvertebrate and fish communities at one location on Factory Creek (FCTS-41). Intensive water quality monitoring at the embayment Factory Creek has detected low dissolved oxygen concentrations during several sampling events. Macroinvertebrate assessments did not indicate impairment despite obvious habitat impacts at Jones Creek (JNS-1). An assessment of the fish community is recommended to fully evaluate biological conditions at this site.

Sispey River (0316-0107-040): Three macroinvertebrate assessments indicated biological impairment at Bear Creek, Boxes Creek, and Davis Creek. Although water quality sampling did not indicate a source of the impairment, runoff from pasture, crop, and mining lands was identified as an NPS concern within the sub-watershed during the SWCD assessment. Sedimentation was also prevalent.

Sipsey River (0316-0107-080): The fish communities were impaired at sites established on Hughes Creek and Shambley Creek. Runoff from crop and pasture lands was a concern within the sub-watershed. Sipsey River at SPYG-1 showed periodic nutrient enrichment.

Woodward Creek (0316-0108-110): The macroinvertebrate community was assessed as impaired at one location on Woodward Creek. Screening level water quality data suggested high total dissolved solids and chloride concentrations at the site. Sedimentation and runoff from pasture and crop lands, aquaculture, and animal husbandry were the main NPS concerns.

Bodka Creek (0108-140): The fish community was assessed as *poor* at one station on Bodka Creek. NPS concerns identified during the SWCD assessment included runoff from crop and pasture lands, aquaculture, and sedimentation.

Dry Creek (0316-0201-040): Biological conditions of Dry Creek were assessed as *fair*. SWCD landuse estimates indicated cattle and pasture to be potential sources of NPS impairment within the sub-watershed. Screening level water quality data collected after a storm event suggested sedimentation and nutrient loading to be sources of impairment at the site.

Powell Creek (0316-0201-050): The SWCD sub-watershed assessment identified animal husbandry, pasture runoff, and aquaculture as NPS concerns. Sedimentation, primarily from streambank erosion, was also a concern. Chemical sampling after a rainstorm event suggest nutrient and sediment loading at Powell and Rocky Creeks.

Upper Chickasaw Bogue (0201-060): The fish community was assessed as *poor* at one location on Chickasaw Bogue Creek. Habitat degradation was observed at Little Dry Creek. Access of livestock to streams was noted at Poplar Creek and cited as a concern by the local SWCD. Intensive water quality sampling suggested nutrient enrichment, sedimentation, and pathogens to be potential causes of impairment within the sub-watershed. SWCD landuse estimates indicated aquaculture and pasture runoff to be potential sources of NPS impairment.

Lower Sucarnoochee River (0316-0202-080): The macroinvertebrate community was assessed as *fair* at one location on Sicolocco Creek. Habitat condition was impaired at Sicolocco and Cedar Creeks. The presence of filamentous algae and high biochemical oxygen demand suggest some nutrient enrichment at both sites. Intensive water quality monitoring indicated nutrient enrichment at a downstream location as well. Runoff from pasture and crop lands, sedimentation, aquaculture, and animal husbandry (primarily cattle) were identified as NPS concerns during the SWCD sub-watershed assessment.

Alamuchee Creek (0202-100): Runoff from crops, mining, and forest harvesting were identified as NPS concerns during the SWCD sub-watershed assessment. An IBI survey indicated the fish community of one location on Toomsuba Creek to be in *fair* condition. Although macroinvertebrate assessment guidelines have not been developed for the subecoregion, only half as many EPT families were collected at this site in comparison to a similar site located on Alamuchee Creek. Intensive monitoring at Yellow Creek indicated nutrient enrichment.

East Bassett's Creek (0316-0203-090): Biological impairment was detected at Little Bassett Creek and James Creek. Water quality data indicated nutrient enrichment at James Creek. The fish community at one location on Bassett's Creek was assessed as *fair/poor*, but was affected by urban sources of pollution. Intensive chemical sampling indicated nutrient enrichment and high concentrations of fecal coliform at several locations on Bassett's Creek.

Upper Big Creek (0317-0008-090): Biological impairment was detected at one station on Collins Creek. Long-term water quality data indicated increased eutrophication of J.B. Converse Lake, significant phosphorus loading from nonpoint sources within the sub-watershed, and fecal coliform concentrations higher than existing criteria for swimmable waters within some tributaries.

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ESCATAWPA RIVER – MISSISSIPPI COASTAL BASIN

LIST OF ABBREVIATIONS

Abbreviation	Interpretation
§	Section
A&I	Agricultural and Industrial Water Use Classification
AAU	Aquatic Assessment Unit of ADEM's Field Operations Division
ADEM	Alabama Department of Environmental Management
ALAMAP	Alabama Monitoring and Assessment Program
AU	Animal Unit as defined by ADEM CAFO Rules
AWPCA	Alabama Water Pollution Control Act
BMP	Best Management Practices
Br	Branch
CAFO	Concentrated Animal Feeding Operation
cfs	Cubic Feet per Second
Chem.	Chemical/Physical Water Quality
Co.	County
Confl.	Confluence
Cr	Creek
CR	County Road
CU	Cataloging Unit
CWA	Clean Water Act
CWP	Clean Water Partnership
ds	Downstream
EIS	Environmental Indicators Section of ADEM’s Field Operations Division
EMT	Escatawpa, Mobile Bay, Tombigbee Basin Group
EPA	U.S. Environmental Protection Agency
EPT	Ephemeroptera, Plecoptera, and Trichoptera
F&W	Fish and Wildlife Water Use Classification
FOD	Field Operations Division
GPS	Global Positioning System
GSA	Geological Survey of Alabama
H	Shellfish Harvesting Water Use Classification
IBI	Index of Biotic Integrity (fish community)
LWF	Limited Warmwater Fishery
Macroinv.	Aquatic Macroinvertebrate
MB-EPT	Multihabitat Bioassessment for Ephemeroptera, Plecoptera and Trichoptera
mg/L	Milligrams per Liter
mgd	millions of gallons per day
mi^2	square miles
Mod.	Moderate
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source
nr	Near
NRCS	Natural Resources Conservation Service
OAW	Outstanding Alabama Water Water Use Classification
ONRW	Outstanding National Resource Waters Water Use Classification
OE/DO	Organic Enrichment/Dissolved Oxygen
PWS	Public Water Supply Water Use Classification
R	River
Rd	Road
RM	River Mile

S	Swimming and Other Whole Body Water-Contact Sports Water Use Classification
SSWCC	State Soil and Water Conservation Committee
SWCD	Soil and Water Conservation District
TMDL	Total Maximum Daily Load
TNTC	Too numerous to count
TVA	Tennessee Valley Authority
ug/g	Micrograms per Gram
ug/L	Micrograms per Liter
ur	Unreported
us	Upstream
WQDS	Water Quality Demonstration Study

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INTRODUCTION

The Alabama Department of Environmental Management (ADEM) is charged with monitoring the status of the state's water quality pursuant to the Clean Water Act (CWA) and the Alabama Water Pollution Control Act (AWPCA). Under the Clean Water Act of 1977, the United States Environmental Protection Agency (EPA) emphasized programs addressing the chemical contamination of the nation's waters (National Research Council 1992). State and federal programs initiated to meet these water quality guidelines have been largely successful in controlling and reducing certain kinds of chemical pollution from point source discharges (National Research Council 1992, ADEM 1996a). The detection, assessment, and control of impairment from point sources is well understood because the pollutants, their concentrations, and probable points of impact are known (National Research Council 1992, EPA 1997a).

Nonpoint source (NPS) pollution, defined as any unconfined or diffuse source of contamination, accounts for approximately two-thirds of the water quality impairment in Alabama's streams (ADEM 2001a). It is generated irregularly and often associated with storm water runoff or atmospheric deposition (EPA 1997a). NPS impairment is associated with landuse within a watershed, such as agriculture, silviculture, and mining. The pollutants, their concentrations, and/or their source(s) may not be known or well defined. Because of their transient nature, these pollutants may not be detected by periodic water quality measurements (National Research Council 1992).

The 1987 amendments to the Clean Water Act added Section 319, which established a national program to assess and control NPS pollution. Under this program, states are asked to assess their NPS pollution problems and submit these assessments to EPA. In 1996, ADEM adopted a basinwide approach to water quality monitoring using a 5-year rotating basin-group cycle. Concentrating monitoring efforts within one basin provides the Department with a framework for more centralized management and implementation of control efforts and provides consistent and integrated decision making for awarding CWA §319 NPS funds.

In 1997, the Aquatic Assessment Unit (AAU) of ADEM's Field Operations Division (FOD) developed methods that could be used to complete basinwide screening assessment projects. These methods have been refined as new information and techniques have become available. The projects are completed in 5 phases. During Phase I, landuse information, Departmental regulatory databases, available historical data, and other assessment information are used to identify data gaps and to prioritize sub-watersheds with the greatest potential for NPS impairment. Phase II includes reconnaissance and selection of assessment sites. During Phase III, sites are assessed using macroinvertebrate and fish community assessments, habitat assessments, and collection of physical/chemical water quality data. During Phase IV, data collected during Phase III, as well as existing data and assessment information, are analyzed to evaluate the level of impairment within each sub-watershed and determine the cause(s) and source(s) of impairment. A comprehensive report is completed during the final phase.

The Aquatic Assessment Unit (AAU) of ADEM's FOD has completed basinwide NPS screening assessments of the Black Warrior (1997), the Tennessee (1998), the southeast Alabama River basins (1999), and the Alabama, Coosa, and Tallapoosa River basins (2000). The results of these assessments have been reported in 8 separate documents (ADEM 1999a, ADEM 2000a, ADEM 2002a, ADEM 2002b, ADEM 2002c, ADEM 2002d, ADEM 2002e, ADEM 2002f). Copies can be obtained at www.adem.state.al.us

During 2001, the AAU completed basinwide NPS screening assessments of the Escatawpa, Mobile Bay-Lower Tombigbee, and the Upper Tombigbee (EMT) River Basins. This document summarizes the assessment information and results obtained within these basins.

METHODOLOGY

STUDY AREA

The EMT Basin Group contains portions of 3 major hydrologic accounting units: the Black Warrior-Tombigbee (0316-01), the Mobile Bay-Tombigbee (0316-02), and the Pascagoula (0317-00) (USDASCS 1995). For the purposes of this report, they are referred to as the Upper Tombigbee River Basin (0316-01), the Mobile Bay-Lower Tombigbee River Basin (0316-02), and the Escatawpa River-Mississippi Coastal Basin (0317-00). Collectively, they contain 15 cataloging units (CU), draining approximately 10,548 mi^2 (20.2%) of Alabama's land area (Fig. 1). They flow through parts of 15 counties in western Alabama. The headwaters of the Tombigbee River are located within Mississippi. Tables 5, 6, and 7 list the 114 sub-watersheds by CU and basin.

Ecoregions

Fig. 2 shows the Level III and IV Ecoregions located within the EMT Basin Group. Ecoregions are relatively homogeneous ecological areas defined by similarity of climate, landform, soil, natural vegetation, hydrology, or other ecologically relevant variables. Since 1991, ADEM has maintained a network of least-impaired ecoregional reference sites (ADEM 2001b). Intensive monitoring assessments, including chemical, physical, habitat, and biological data, are collected to develop baseline reference conditions for each of Alabama's 29 Level IV subecoregions (Griffith et al. 2001). The reference condition establishes the basis for making comparisons and detecting use impairment (Omernik and Griffith 1991, Omernik 1995).

The EMT Basin Group lies mainly below the Fall Line and drains 7 subecoregions of the *Southeastern Plains (65)* Ecoregion. A small section of the Upper Tombigbee River Basin drains the *Southwestern Appalachian (68)* Ecoregion. Sub-watersheds along the Gulf Coast and within Mobile Bay are located within the *Southern Coastal Plain (75)* Ecoregion.

The *Southeastern Plains (65)* Ecoregion is characterized by irregular plains with broad interstream areas. Natural vegetation is mostly oak-hickory-pine and southern mixed forest. The soils of the region are sands, silts, and clays. Elevations and relief are greater than the Southern Coastal Plain (75), but less than the Southwestern Appalachians (68).

The flat-to-undulating *Blackland Prairie (65a)* subecoregion is characterized by distinctive chalk, marl, and calcareous clay with poor drainage. Stream flows tend to vary with both season and rainfall. Elevations are generally 150-250 feet. The area's natural vegetation of sweetgum, post oak, red cedar, and bluegrass prairie has been transformed to cropland and pasture, with small patches of mixed hardwoods. Aquaculture, primarily pond-raised catfish, has increased in recent years.

The *Flatwoods/Blackland Prairie Margins (65b)* subecoregion combines two slightly different areas. The Flatwoods are comprised of a mostly-forested lowland area of little

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Fig. 1. Cataloging units located within each of the 3 major basins of the EMT Basin Group.

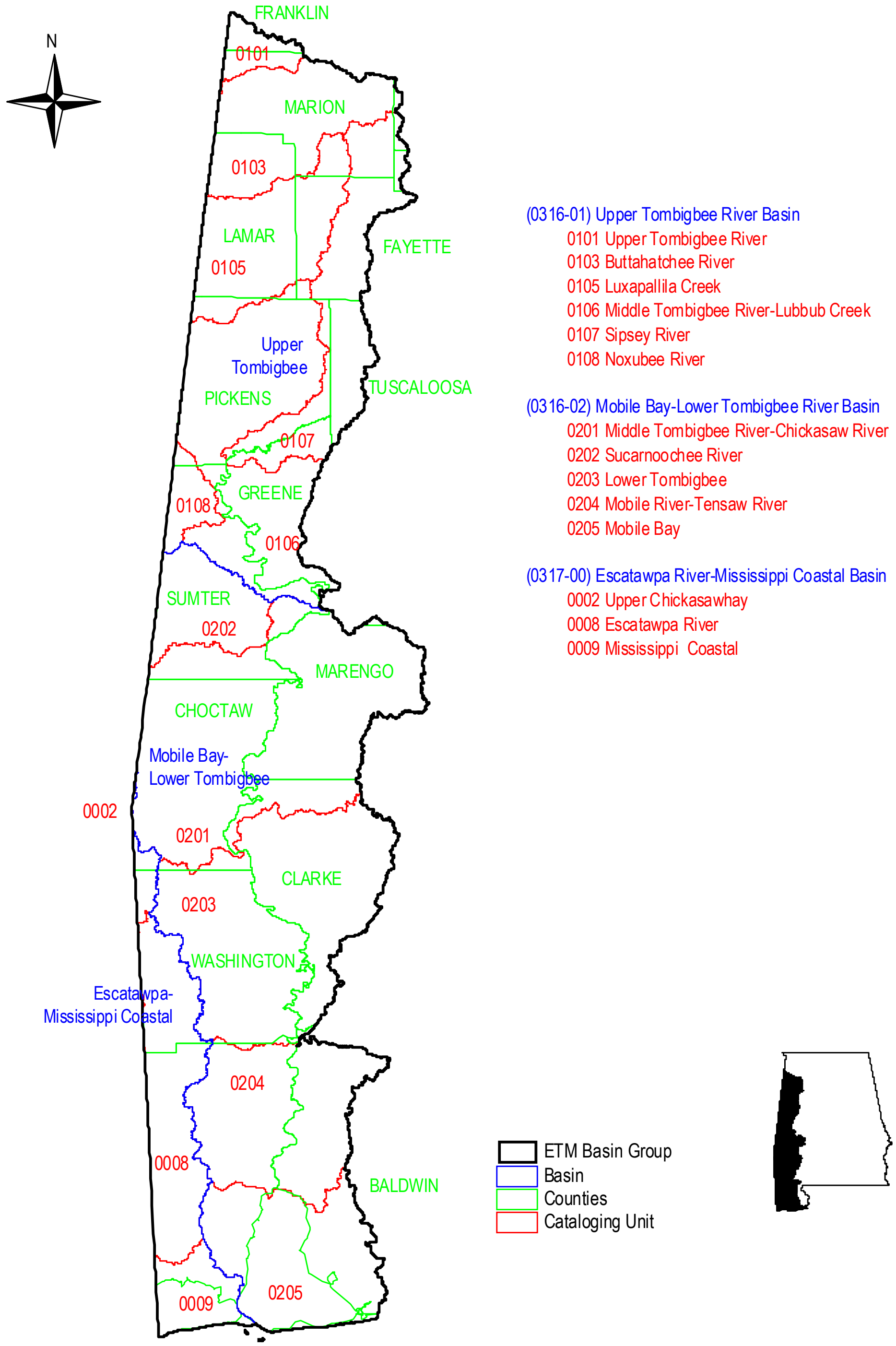

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Table 5. Sub-watersheds of the Upper Tombigbee River Basin discussed in Section 1 of this report.

Cataloging Unit	Sub-watershed	Cataloging Unit	Sub-watershed
0101	**Upper Tombigbee**	**0107**	**Sipsey**
060	Bull Mountain Creek	010	New River
070	Gum Creek	020	Little New River
0103	**Buttahatchee**	030	Studhorse Creek
010	Upper Buttahatchee River	040	Sipsey River
020	Buttahatchee River	050	Dunn Creek
030	Beaver Creek	060	Malone Mill Creek
040	Bogue Creek	070	Brush Creek
050	Upper Sipsey Creek	080	Sipsey River
070	Sipsey Creek	**0108**	**Noxubee**
0105	**Luxapallila**	090	Noxubee River
010	Upper Luxapallila Creek	110	Woodward Creek
020	Dodsen-Langston Creek	140	Bodka Creek
030	Lower Luxapallila Creek		
040	Hells Creek		
050	Yellow Creek		
060	Wilson Creek		
100	Magby Creek		
120	McCrary Creek		
0106	**Middle Tombigbee-Lubbub**		
020	Ellis Creek		
040	Kincaide Creek		
060	Coal Fire Creek		
070	Big Creek		
090	Boguechitto Creek		
100	Upper Lubbub Creek		
110	Bear Creek		
120	Lower Lubbub Creek		
130	Fenache Creek		
140	Wilkes Creek		
150	Cypress Swamp		
160	Trussells Creek		
170	Factory Creek		
180	Twelve Mile Bend Tributaries		
190	Taylor Creek		

Table 6. Sub-watersheds located within the Mobile Bay-Lower Tombigbee River Basin discussed in Section 2 of this report.

Cataloging Unit	Sub-watershed	Cataloging Unit	Sub-watershed
0201	**Middle Tombigbee-Chickasaw**	**0203**	**Lower Tombigbee**
010	Spring Creek	010	Ulcanush Creek
020	Cotohauga Creek	020	Seyouyah Creek
030	Double Creek	030	Santa Bogue Creek
040	Dry Creek	040	Satilpa Creek
050	Powell Creek	050	Tauler Creek
060	Upper Chickasaw Bogue	060	Salt Gut Creek
070	Lower Chickasaw Bogue	070	Jackson Creek
080	Tombigbee River	080	Stave Creek
100	Kinterbish Creek	090	East Bassett's Creek
110	Beaver Creek	100	West Bassett's Creek
130	Upper Tuckabum Creek	110	Salt Creek
150	Yantley Creek	120	Lewis Creek
160	Lower Tuckabum Creek	130	Bilbo Creek
170	Landrums Creek	140	Sand Hill Creek
180	Horse Creek	**0204**	**Mobile-Tensaw**
190	Wahalak Creek	010	Upper Tensaw River
200	Big Bunny Creek	020	Cedar Creek
210	Bashi Creek	030	Bayou Sara
220	Big Tallawampa Creek	040	Lower Tensaw River
230	Witch Creek	050	Chickasaw Creek
250	Upper Okatuppa Creek	060	Three Mile Creek
270	Puss Cuss Creek	**0205**	**Mobile Bay**
280	Lower Okatuppa Creek	010	Mobile Bay
290	Turkey Creek	020	Hall Mill Creek
0202	**Sucarnoochee**	030	Fowl River
040	Upper Sucarnoochee River	040	Fly Creek
060	Ponta Creek	050	Fish River
080	Lower Sucarnoochee River	060	Magnolia River
100	Alamuchee Creek	070	Bon Secour Bay
110	Ponkabia Creek		

Table 7. Sub-watersheds located within the Mississippi Coastal-Escatawpa River Basin discussed in Section 3 of this report.

Cataloging Unit	Sub-watershed	
0002	**Upper Chickasawhay**	
	080	Spring Creek
	100	Cotohauga Creek
0003	**Lower Chickasawhay**	
	040	Dry Creek
0008	**Escatawpa**	
	010	Upper Chickasaw Bogue
	030	Lower Chickasaw Bogue
	050	Tombigbee River
	070	Kinterbish Creek
	090	Beaver Creek
	100	Upper Tuckabum Creek
	120	Yantley Creek
0009	**Mississippi Coastal**	
	010	Pelican Bay
	020	Dauphin Island
	030	Mississippi Sound
	040	West Fowl River
	050	Bayou La Batre
	060	Little River

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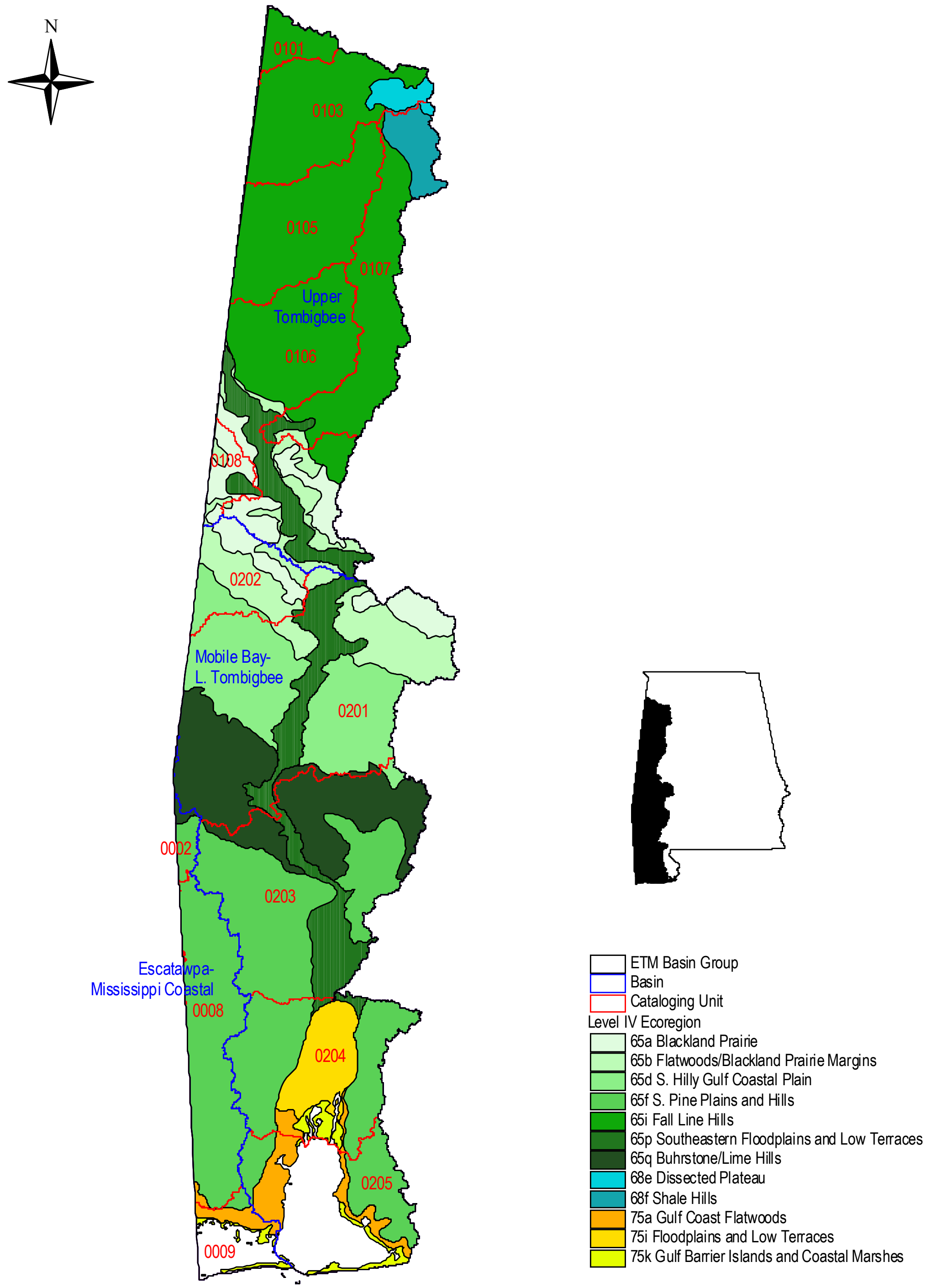
Fig. 2. Level III and IV Ecoregions of the EMT Basin Group.



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relief, formed primarily on dark, massive marine clay. Soils are deep, clayey, poorly drained, and acidic. The Blackland Prairie Margins are undulating, irregular plains, with slightly more relief than the Flatwoods, but also tend to have heavy clay soils that are either sticky when wet or hard and cracked when dry, with generally poor drainage.

The *Southern Hilly Gulf Coastal Plain (65d)* subecoregion is characterized by dissected irregular plains and gently rolling hills. It developed over diverse east-west trending bands of sand, clay, and marl formations. Broad cuestas with gentle southern slopes and steeper northern slopes are common. It has more rolling topography, higher elevations, higher-gradient streams, and more relief than subecoregions 65a, 65b, and 65f. The natural vegetation of oak-hickory-pine forest grades into southern mixed forest to the south. Land cover is mostly forest and woodland with some cropland and pasture.

Streams within the *Southern Pine Plains and Hills (65f)* subecoregion tend to be tea-colored and acidic. The oak-hickory-pine forest of the north in 65d grades into Southern mixed-forest and longleaf pine forest in this region. Loblolly and slash pine plantations now cover wide areas.

The Upper Tombigbee River Basin lies mainly within the *Fall Line Hills (65i)* subecoregion. This area is composed primarily of loamy and sandy sediments. It is mostly forested terrain of oak-hickory-pine on hills with 200-400 foot relief. Longleaf pine is being reintroduced in many areas.

The *Southeastern Floodplains and Low Terraces (65p)* comprise a riverine ecoregion of large sluggish rivers and backwaters with ponds, swamps, and oxbow lakes. River swamp forests of bald cypress, water tupelo, and oak-dominated bottomland hardwood forests provide important wildlife corridors and habitat. In Alabama, cropland is typical on the higher, better-drained terraces, while hardwoods cover the floodplains.

The *Buhrstone/Lime Hills (65q)* subecoregion has some of the most rugged terrain of the Alabama coastal plain. The rough, hilly topography is attributed to the hardened beds of claystone, sandstone, and resistant limestones. Many of the streams have relatively high gradients and hard-rock bottoms.

The southern terminous of the *Southwestern Appalachians (68)* Ecoregion is located within the northeastern corner of the Upper Tombigbee River Basin. The *Dissected Plateau (68e)* subecoregion contains strongly sloping land, some steep-sided gorges and sandstone cliffs, and relief of 300-400 feet. The *Shale Hills (68f)* subecoregion is characterized by impermeable silt loam soils and clay subsoils. The streams therefore do not have the base flow found in 65i. The topography is strongly sloping. The region is mainly forested, but coal mining is a major industry, and the extensive open-pit mines have altered the landscape, soils, and streams.

The *Southern Coastal Plain (75)* Ecoregion is a heterogeneous area containing barrier islands, coastal lagoons, marshes, and swamply lowlands along the Gulf and Atlantic Coast. The Mississippi Coastal and Mobile Bay Basins (Fig. 2) drain 3 subecoregions of the *Southern Coastal Plain (75)*. It is generally lower in elevation with less relief and wetter soils than the Southeastern Plains (65) Ecoregion. To date, ADEM has not developed assessment guidelines for this ecoregion.

The *Gulf Coast Flatwoods (75a)* subecoregion is a narrow region of nearly level terraces and delta deposits composed of sand and clays. Wet, sandy flats and broad depressions that are locally swampy are usually forested, while some of the better-drained land has been cleared for pasture or crops.

The Floodplains and Low Terraces (75i) subecoregion is a continuation of the riverine 65p subecoregion across the Southern Coastal Plain. It defines the broad floodplains and terraces of the Mobile-Tensaw Delta. It is composed of stream alluvium and terrace deposits of sand, silt, clay, and gravel, along with some organic muck and swamp deposits. Vegetation is characterized by river swamp forests of bald cypress and water tupelo and oak-dominated bottomland hardwood forests.

The *Gulf Barrier Islands and Coastal Marshes (75k)* subecoregion contain salt and brackish marshes, dunes, beaches, and barrier islands that enclose the Mississippi Sound and Mobile Bay.

Topography/Soils

The EMT Basin Group contains 4 distinct soil areas. The *Blackland Prairie* soils, derived from alkaline Selma Chalk or acid marine clays, generally delineate the Blackland Prairie (65a) and the Flatwoods/Blackland Prairie Margins (65b) subecoregions. Acid and alkaline soils are intermingled throughout the area. Sumter soils, which are typical of the alkaline soils, are clayey throughout, have a dark-colored surface layer, and a yellowish-colored sub-soil. Oktibbeha soils are acid and clayey throughout. They have red subsoil layers overlying chalk. The clayey Wilcox, Mayhew, and Vaiden soils are the dominant soils of the rolling pine woodlands along the southern edge of the Prairie. They are acidic and poorly drained.

Most of the soils in the *Coastal Plain* are derived from marine and fluvial sediments eroded from the Appalachian and Piedmont plateaus. The EMT basin drains both *Upper* and *Lower Coastal Plain* soils. Smithdale, Luverne and Savannah soils are extensive in the *Upper Coastal Plains*. They have either loamy or clayey sub-soils and sandy loam or loam surface layers. Within this basin, topography is generally level with cultivated terraces. Most of the area is forested, with elevations ranging from 200 to 500 feet. Smithdale and Ruston soils are very extensive in the western part of the *Lower Coastal Plain*. These soils have loamy subsoils and sandy loam surface layers. Most slopes are less than 10%. Elevations range from sea level to 500 feet.

The soils of the *Major Flood Plains and Terraces* are not extensive but important where they are found along the major streams and rivers throughout the EMT Basin Group. They are derived from alluvium deposited by the streams. The Cahaba, Annemaine, and Urbo series represent major soils of this area. A typical area consists of cultivated crops on the nearly level terraces and bottomland hardwood forests on the floodplain of streams.

The northeast corner of the EMT Basin Group is located within the *Appalachian Plateau*. The soils of the Appalachian Plateau mountains are primarily derived from sandstone or shale. The more level areas are dominated by Nauvoo, Hartsells, and Wynnville soils which were formed in residuum from sandstone. They have loamy subsoils and fine sandy loam surface layers. Most slopes are less than 10 percent. Elevation is about 1,300 ft. The more rugged portions of the Appalachian Plateau, generally delineated by the Shale Hills (68f) subecoregion, are dominated by soils formed in residuum from shale. These soils have either a loam or clayey subsoil and silt loam surface layers. Elevations range from 300 ft. to 700 ft.

REVIEW OF AVAILABLE DATA

The use of available data was an important component of the NPS screening assessment of the EMT Basin Group because it allowed ADEM to concentrate efforts in those areas where recent data were not available. Chemical, habitat, and biological data from other projects were used to supplement data collected during the NPS screening assessment. However, water quality data and information can range from casual observations to intensive water chemistry, biological, and physical characterization. To use existing data to accurately assess conditions within a sub-watershed, it is important to understand the objectives of these projects.

During 2000, ADEM identified two levels of waterbody assessments: monitored and evaluated (ADEM 2000b). When information such as observed conditions, limited water quality data, water quality data older than 5 years, or estimated impacts from observed or suspected activities are used as the basis for the assessment, the assessment is generally referred to as “evaluated”. Evaluated assessments usually require the use of some degree of professional judgement by the person making the assessment. Monitored assessments are based on chemical, physical, and/or biological data collected using commonly accepted and well-documented methods. There is a higher level of certainty associated with monitored assessments than with evaluated assessments.

Monitored assessments have been conducted in conjunction with ADEM’s Ecoregional Reference Reach Program (Appendix F-1), CWA §303(d) Waterbody Monitoring Program (Appendix F-2), ADEM’s Reservoir Monitoring Program (Appendix F-3), the University Reservoir Tributary Nutrient Project (Appendix F-4), GSA’s Longterm Monitoring of the Weeks Bay Watershed (Appendix F-5), and an assessment of water-quality conditions in the J.B. Converse Lake Watershed (Journey and Gill 2001). Evaluated assessments have been conducted in conjunction with ADEM’s ALAMAP Program (Appendix F-7), Ambient Trend Monitoring Program (Appendix F-8), and Clean Water Strategy Project (Appendix F-9). A summary of each project, including lead agency, project objectives, type of assessments conducted and data collected, and applicable quality assurance manuals is provided in the appendices.

Other data/information: ADEM’s municipal, industrial, mining, and CAFO databases were reviewed to eliminate sub-watersheds primarily impacted by point sources or monitored in conjunction with NPDES permits (ADEM 2002g, 2002h). Biological and chemical data were also reviewed to concentrate screening level assessments in areas that had not been recently assessed.

Landuse*:* To prioritize sub-watersheds for assessment and to identify potential sources of impairment, ADEM assigned each sub-watershed an NPS rating based on estimates of landuse percentages, animal populations, and sedimentation rates. These estimates were obtained from information provided to ADEM by the Alabama Soil and Water Conservation Committee (ASWCC) and local Soil and Water Conservation Districts (SWCD). This information was provided on Conservation Assessment Worksheets completed in 1998 (FY97 CWA § 319 Workplan Project #4). Sub-watershed assessment information is available at www.swcc.state.al.us.

Additional landuse information was obtained from estimates of percent land cover for the entire southeastern U.S. published by EPA (EPA 1997b). These estimates were based on leaves-off Landsat TM data acquired in 1988, 1990, 1991, 1992, and 1993. Recent ground-truthing of these estimates have indicated 58% accuracy due to a decrease in agricultural use and an increase in plantation pine in some areas of Alabama within the last 10 years (Pitt 2000). Use of these estimates to locate least-impaired ecoregional reference sites in Georgia has indicated an accuracy of 40-60% (Olson and Gore 2000). Therefore, only the conservation assessment worksheets were used to evaluate potential for impairment from nonpoint sources. A comparison of landuse estimates from the conservation assessment worksheets and the EPA Landsat data is provided in Tables 12a through 12c. The finer landuse categories defined by the EPA landuse dataset are provided in Appendices A-1a through A-1c. Descriptions of the Landsat TM data are provided in Appendix A-2.

***Animal population estimates**:* The potential NPS impairment from activities associated with animal husbandry was assessed. The impairment potential among the different animal types was standardized by converting animal populations into animal units (AU). Animal unit estimates were calculated for each of the animal types based on the current conversion factors found in ADEM Administrative Code Chapter 335-6-7 (Table 8). These values considered characteristics such as live weight equivalent waste quantity and constituent

composition (limiting nutrients, moisture, additive compounds, etc.) (ADEM 1999b). AU estimates for each animal type were further standardized by converting to animal unit densities (AU/acre of sub-watershed).

Table 8. Current conversion factors found in ADEM Administrative Code Chapter 335-6-7 (CAFO Program Rules).

Animal Type (CAFO Definition)	Numbers of Animals	Animal Units (AU)
Cattle (slaughter, feeder, dairy heifers)	1	1.0
Dairy (mature)	1	1.4
Swine (>55 lbs)	1	0.4
Poultry (Broiler & Layer)	125	1.0

***Forestry practices**:* Where the information was available, 3 categories were added to assess the potential for impairment from forestry practices: percent acres clear-cut, percent of acres harvested annually, and percent of forest needing improvement. This information was provided by the local SWCD and the Alabama Forestry Association.

Urban nonpoint sources: Percent urban land, number of current construction/stormwater authorizations, and estimated number of failing septic systems were used to identify sub-watersheds potentially impaired by urban landuses.

NPS Impairment Potential and Sub-watershed Ranking

For each sub-watershed and CU, potential for nonpoint source impairment was estimated for several categories: animal husbandry, row crops, pasture runoff, mining, forestry practices, and sedimentation. Each sub-watershed was assigned an impairment potential for each category. Table 9 shows the range of values used to define *low*, *moderate*, and *high* impairment potential for each category. These ranges were determined using the mean and standard deviation of EMT data for each parameter. A value of less-than-or-equal-to the calculated mean was assigned a *low* potential. Values greater than the mean, but equal-to-or-less-than two-standard deviations above the mean were assigned a *moderate* potential and values greater than two-standard deviations above the mean were assigned a *high* potential for NPS impairment. The potential for impairment from forestry activities was estimated by summing the percent of acres clear-cut, percent of acres harvested annually, and percent of forest in need of improvement.

For each sub-watershed and CU, the impairment potential for each category was converted from low, moderate, and high to scores of 1, 3, and 5, respectively. These values were summed to rate overall NPS impairment potential. Scores greater than or equal to the 90th percentile were rated as *high*; scores greater than the 50th percentile, but less than the 90th percentile were *moderate*; scores less than the 50th percentile were *low*.

High ranked sub-watersheds also having a *high* non-rural NPS potential were further evaluated to determine the probable source location in relation to potential assessment sites. The "non-rural" and "other" NPS categories listed in Table 10 were used as indicators of potential problems in the watersheds but were not addressed in this project. The 1998 SWCD Conservation Assessment information was used to compile the rural NPS categories.

Table 9. Range of values used to define "low", "moderate", and "high" potential for impairment for each nonpoint source category.

Category	**Impairment Potential**		
Rural NPS Categories	**Low**	**Moderate**	**High**
% Cropland	<5	5 to 16	>16
% Pastureland	<8	8 to 25	>25
% Mining	<0.1	0.1 to 0.5	>0.5
% Forestry Activities	<22	22 to 46	>46
Animal Units per Acre	<0.13	0.13 to 0.37	>0.37
% Aquaculture (Acres/Acre)	<0.08	0.08-0.28	>0.28
Sedimentation rate (tons/acre/yr)	<2.0	2.0 to 4.0	>4.0
Overall NPS Impairment (% maximum score)	<40%	40% to 60%	>60%
Score with 7 categories	<14	14 to 21	>21
Score with 6 categories	<12	12 to 16	>16

Table 10. Range of values used to define “low’, “moderate”, and “high” potential for impairment for each urban or point source category.

Category	Impairment Potential		
Urban NPS Categories	Low	Moderate	High
% Urban	<4	4 to 23	>23
Development (highest rating)			
# constr./strmwater author. (CSA)	<5	5 to 16	>16
# CSA/acre of sub-watershed	<0.0005	0.0005 to 0.0013	>0.0013
# of failing septic tanks	<0.003	0.003 to 0.012	>0.012

The values derived for the EMT Basin Group may not be applicable to water quality conditions and activities in other basins of Alabama. These categories and ranges are intended to be descriptive, but are open to differing interpretations considering alternative data analysis techniques and are subject to refinement as data availability and analysis warrants.

The local SWCDs also evaluated the streams for each of the sub-watersheds located in their respective counties. These evaluations were discussed during public meetings and were used to rank the sub-watersheds as to their perceived priority for conducting water quality improvement projects. The 1st priority was given to the sub-watershed with the greatest need. A single sub-watershed may have more than one priority if two or more of the counties containing the sub-watershed gave it a top-five priority ranking. This information was used to supplement the sub-watershed estimates of NPS impairment potential.

SITE SELECTION

NPS impairment potential estimates were used to rank the sub-watersheds within the EMT Basin Group. Additional review of municipal, industrial and mining permit tracking databases were used to identify those sub-watersheds most impaired by point sources. A total of 32 sub-watersheds were targeted to select candidate assessment sites and conduct field reconnaissance. Fifteen and 14 sub-watersheds were chosen from the Upper and Lower Tombigbee River Basins, respectively. Three sub-watersheds were targeted within the Escatawpa-Mississippi Coastal Basin. Where possible, assessment sites were located in relatively small drainages to relate water quality to specific nonpoint sources and to compare results to ADEM’s network of least-impacted reference sites.

HABITAT ASSESSMENT

In the absence of water quality impairment, biological condition of the fish and aquatic macroinvertebrate communities is generally correlated with the quality of available habitat. The presence of stable and diverse habitat generally supports a diverse and healthy aquatic fauna (Barbour and Stribling 1991, Barbour and Stribling 1994). Therefore, habitat quality was assessed at each site to evaluate stream condition and to assist in the interpretation of biological data. Primary, secondary, and tertiary habitat parameters were evaluated. Primary habitat parameters evaluate the availability and quality of substrate and instream cover. They include those characteristics that directly support aquatic communities, such as substrate type and stability, and availability. Secondary habitat parameters evaluate channel morphology, which is determined by flow regime, local geology, land surface form, soil, and human activities. Channel morphology indirectly affects the biological communities by affecting sediment movement through a stream (Barbour and Stribling 1991). Secondary habitat parameters include an evaluation of flow regime, sinuosity/ instream geomorphology, and sediment deposition and scouring. Tertiary habitat characteristics evaluate bank structure and riparian vegetation. Bank and riparian vegetation prevent bank erosion and protect the stream from stormwater runoff from impervious surfaces. The presence of overhanging riparian vegetation also determines the primary energy source for aquatic macroinvertebrate communities—the base of the fish food chain (Vannote et al. 1980). Tertiary parameters include bank condition, bank vegetative protection, and riparian zone width.

The EPA has published 2 versions of stream habitat assessment forms to evaluate primary, secondary, and tertiary habitat parameters (Plafkin et al. 1989, Barbour et al. 1999). ADEM used the original habitat assessment form from 1989 through 1996. The EPA published revised habitat assessment forms that evaluated riffle/run (Appendix B-1) and glide/pool (Appendix B-2) streams separately (EPA 1997b). The primary habitat parameters of the glide/pool habitat assessment emphasize characteristics important to this stream-type, primarily pool structure and variability. The ADEM began using the revised forms in 1996 because they assess habitat quality and degradation to the glide/pool streams of south Alabama more accurately (ADEM 1999b). In addition, because they measure impairment to habitat quality, the scores (converted into percent of maximum score) were comparable between stream types and can be used to evaluate streams throughout the basin. At each site, two field personnel completed a riffle/run or glide/pool habitat assessment. The scores were averaged to obtain a final habitat assessment score. One physical characterization sheet was filled out at each station (Appendix C).

AQUATIC MACROINVERTEBRATE ASSESSMENT: MULTI-HABITAT EPT METHOD (MB-EPT)

ADEM's Multihabitat EPT screening method was conducted at 55 sites within the 3 basins. An in-depth description of the procedures used during an MB-EPT assessment can be found in ADEM 1999b. At each station, basic field parameters were measured and a stream flow was estimated using an abbreviated cross-section flow measurement technique of 6-10 measurements (ADEM 2000c). A Global Positioning System (GPS) Unit was used to determine the latitude and longitude of each station (if possible).

The MB-EPT method is an aquatic macroinvertebrate assessment technique used in watershed screening assessment studies, which entail assessments at multiple sites over a large area. The MB-EPT decreases collection effort and analysis time by processing the samples in the field and focusing on the collection of the pollution-sensitive Ephemeroptera, Plecoptera, and Trichoptera (EPT) taxa. This method was used to prioritize sub-watersheds most impaired by NPS pollution. Once priority sub-watersheds are identified, more extensive monitoring efforts are needed to document and assess trends in water quality after BMP implementation.

Collect samples from multiple habitats: The productive habitats at a site will differ naturally between streams above and below the Fall Line. Coastal Plain streams, located below the Fall Line, are usually low gradient, "glide-pool" streams, characterized by sandy substrates, a lack of riffle habitat, and meandering flows. Streams located above the Fall Line are generally moderate-to-high gradient, "riffle-run" streams. All available habitats were sampled at each site. Habitats routinely sampled using this method include riffles, leaf packs, rootbanks, snags/logs and rocks, and sand.

Process samples in the field: After each habitat was sampled, the organic material was elutriated from the inorganic material. The inorganic material was visually inspected for organisms (esp. Trichoptera in stone cases). The organic matter was washed down, and large debris was visually inspected and removed.

***Collect pollution-sensitive taxa*:** Representative "EPT" organisms were removed from the sample and preserved in a pre-labeled vial by habitat. The vials for each station were returned to the lab in a Nalgene container labeled with the station number, date and time collected, the names of the habitats collected at the station, and the initials of the team member who processed the sample. The organisms were identified to family level in the laboratory.

Field QA/QC procedures: At 10% of the field-picked stations, the debris remaining from each habitat was preserved in wide-mouth containers and returned to the laboratory to verify the removal of all EPT taxa and calculate the accuracy of the field-pick method.

Laboratory QA/QC procedures: Laboratory identifications for 10% of macroinvertebrate samples were verified by a second qualified biologist. All data entered in the aquatic macroinvertebrate mainframe Pace database are verified for accuracy.

Data analysis: The total number of pollution-sensitive EPT families collected from each station was compared to EPT Index data collected from least-impaired ecoregional reference sites to evaluate the health of each stream reach (ADEM 2001b). Each site was assessed as *excellent*, *good*, *fair*, or *poor* based on the number of pollution-sensitive EPT families collected (ADEM 1999c).

FISH IBI MULTI-HABITAT ASSESSMENT

Site selection: Personnel from the AAU completed fish community Index of Biotic Integrity (IBI) assessments at 27 stations throughout the EMT Basin Group. Fish IBI assessments were conducted at study stations if impairment from sedimentation or habitat degradation was suspected or if the aquatic macroinvertebrate assessment bordered between two impairment categories.

Sample collection: The fish IBI assessment methods summarized here are described in more detail in O'Neil and Shepard (1998). They have been incorporated into the ADEM's Fish Community Assessment standard operating procedures manual. Additional information pertaining to metrics testing and criteria development is included in these sources.

At each station, one three-person team conducted a timed, multi-habitat assessment of the fish community, sampling all available habitats, including riffles, pools, runs, snags, and undercut banks. Small streams were sampled for 30 minutes while larger streams were sampled for 1 hour. Nylon minnow seines (1/8 to 3/16-inch mesh) and a portable backpack shocking unit were used to sample all habitat areas.

In the field, collected specimens were fixed in 10 to 20% formalin and preserved in 70% ethanol. A field sheet was completed at each site. In the laboratory, specimens were identified to species, measured, and weighed to the nearest gram. Results were converted into the number of fish collected per hour to calculate indices of biotic integrity.

Fish IBI metrics: Twelve metrics are used to evaluate species richness and composition, trophic composition, and fish abundance and condition (O'Neil and Shepard 1998). Assessment criteria for each metric, developed specifically for upland and coastal streams within the Black Warrior and Cahaba River basins, have been applied statewide because data from other basins were insufficient to refine scoring criteria. As the available dataset increases in size, the evaluation method will be refined for each of the State's basins.

CHEMICAL ASSESSMENT

Table 11 lists the analysis method and detection limits for parameters analyzed by ADEM in conjunction with its monitoring programs. During the screening assessment of the EMT Basin Group, chemical parameters were used as indicators of NPS impairment including sedimentation (total suspended solids, total dissolved solids), nutrient enrichment (total phosphorus, nitrate/nitrite-nitrogen, CBOD-5), and mining impacts (total iron, total manganese).

Stream flow estimates, routine field parameters, and water quality samples were collected at each of the stations in late July through September 2000. Chemical analyses of water samples were conducted by ADEM's Central Laboratory in Montgomery. Water quality samples for laboratory analysis were collected, preserved, and transported to ADEM's Laboratory as described in ADEM Field Operations Standard Operating Procedures and Quality Control Assurance Manual, Volume I - Physical/Chemical (2000c). Laboratory analyses were conducted in accordance with ADEM's Quality Assurance Manual for the Alabama Department of Environmental Management Central Laboratory (ADEM 1999d).

Duplicate field parameters were collected during 10% of the sampling events. Duplicate water quality samples were collected during 5% of the sampling events.

Water quality samples and routine field parameters were collected in conjunction with several other projects conducted or funded by ADEM. These data and a description of each of the projects are provided in Appendix F.

Water quality parameters were assessed as *exceeding* or *not exceeding* background levels as defined by the 95th percentile of ADEM's current database of least-impaired ecoregional reference sites.

CHAIN OF CUSTODY

Sample handling and chain-of-custody procedures were used for all biological and chemical samples as outlined in ADEM Field Operations Standard Operating Procedures and Quality Control Assurance Manual, Volumes I and II to ensure the integrity of all samples collected (1999b, 2000c).

FINAL ASSESSMENT AND RANKING OF SUB-WATERSHEDS

Although the phases of this project resulted in a fully integrated assessment of the EMT basins, biological, habitat, and chemical assessments were weighted differently in ranking and prioritizing sub-watersheds. Monitoring changes in biological communities, which respond to stresses of various degrees over time, can detect impairment caused by infrequent or low-level NPS pollution. The results of fish and aquatic macroinvertebrate assessments were therefore used to identify priority sub-watersheds. Landuse patterns, habitat condition, chemical water quality measurements, and Conservation Assessment Worksheet data were used to evaluate the cause(s) of impairment.

Macroinvertebrate or fish community assessments of *fair* or *poor* identified priority sub-watersheds. Sub-watersheds meeting these criteria but impaired primarily by point sources or urban runoff were not recommended as priority sub-watersheds for implementation of NPS controls.

Table 11. List of parameters analyzed by ADEM. Analysis method, reference, and detection limit are also listed.

Parameter	***Method***	***Reference***	***Detection Limit***
Air Temperature	Thermometer	ADEM SOP Vol. 1	1^{o}C
Water Temperature	Thermometer/Thermistor	ADEM SOP Vol. 1	1^{o}C
Dissolved Oxygen	Modified Winkler Membrane Electrode	ADEM SOP Vol. 1	0.1 mg/L
pH	Glass Electrode	ADEM SOP Vol. 1	0.1 su
Specific Conductance	Wheatstone Bridge	ADEM SOP Vol. 1	10 µmhos/cm @ 25^{o}C
Turbidity	Nephelometer	APHA et al. 1998	0.1 NTU
Stream Flow	Modified Cross Sectional	ADEM SOP Vol. 1	0.1 cfs
5-day Biochemical Oxygen Demand (BOD-5)	EPA 405.1	EPA/600/4-79/020	0.1 mg/L
Alkalinity (Alk)	EPA 310.1	EPA/600/4-79/020	1 mg/L
Aluminum, Total (Al)	EPA 200.7	EPA/600/R-94/111	0.2 mg/L
Ammonia-nitrogen (NH_3-N)	EPA 350.1	EPA/600/R-93/100	0.015 mg/L
Arsenic, Total (As)	EPA 206.2	EPA/600/4-79/020	10 ug/L
Cadmium, Total (Cd)	EPA 200.7	EPA/600/R-94/111	0.003 mg/L
Carbonaceous BOD-5 (CBOD-5)	EPA 405.1	EPA/600/4-79/020	0.1 mg/L
Chloride (Cl)	EPA 300.A EPA 325.1	EPA/600/R-93/100 EPA/600/4-79/020	0.5 mg/L
Chlorophyll a (Chlor a)	SM 10200H	APHA et al. 1992	0.1 mg/m^3
Chromium, Total (Cr-T)	EPA 200.7	EPA/600/R-94/111	0.015 mg/L
Copper, Total (Cu)	EPA 200.7	EPA/600/R-94/111	0.02 mg/L
Fecal Coliform	Membrane Filter	ADEM SOP Vol. 6	---
Hardness	EPA 130.2 / SM2340B	EPA/600/4-79/020	1 mg/L
Hexavalent Chromium (Cr^{+6})	SM 3500CrB	APHA et al. 1998	0.02 mg/L
Iron, Total (Fe)	EPA 200.7	EPA/600/R-94/111	0.02 mg/L
Lead, Total (Pb)	EPA 239.2	EPA/600/4-79/020	2 ug/L
Magnesium, Total (Mg)	EPA 200.7 EPA 242.1	EPA/600/R-94/111 EPA/600/4-79/020	0.05 mg/L
Manganese, Total (Mn)	EPA 200.7	EPA/600/R-94/111	0.02 mg/L
Mercury, Total (Hg)	EPA 245.2 EPA 245.5	EPA/600/4-79/020 EPA/600/4-91/010	0.3 ug/L
Nickel, Total (Ni)	EPA 200.7	EPA/600/R-94/111	0.03 mg/L
Nitrate/nitrite-nitrogen (NO_3+NO_2-N)	EPA 353.2	EPA/600/R-93/100	0.003 mg/L
Organochlorine Pesticides	SW 8081A	EPA 1994	---
Organophosphorus Pesticides	SW 8141	EPA 1994	---
Ortho-Phosphorus (Ortho-P)	EPA 365.3	EPA/600/4-79/020	0.004 mg/L
Selenium, Total (Se)	EPA 270.2	EPA/600/4-79/020	10 ug/L
Silver, Total (Ag)	EPA 200.7	EPA/600/R-94/111	0.01 mg/L
Total Dissolved Solids (TDS)	EPA 160.1	EPA/600/4-79/020	1 mg/L
Total Kjeldahl Nitrogen (TKN)	EPA 351.2	EPA/600/R-93/100	0.15 mg/L
Total Organic Carbon (TOC)	EPA 415.2		0.5 mg/L
Total Organic Nitrogen (TON)	TKN+NH_3	EPA 1994	Calculated value
Total Phosphorus (Total P)	EPA 365.4	EPA/600/4-79/020	0.004 mg/L
Total Suspended Solids (TSS)	EPA 160.2	EPA/600/4-79/020	1 mg/L
Zinc, Total (Zn)	EPA 200.7	EPA/600/R-94/111	0.03 mg/L
Zinc, Dissolved (Dis-Zn)	EPA 289.2	EPA/600/4-79/020	0.03 mg/L

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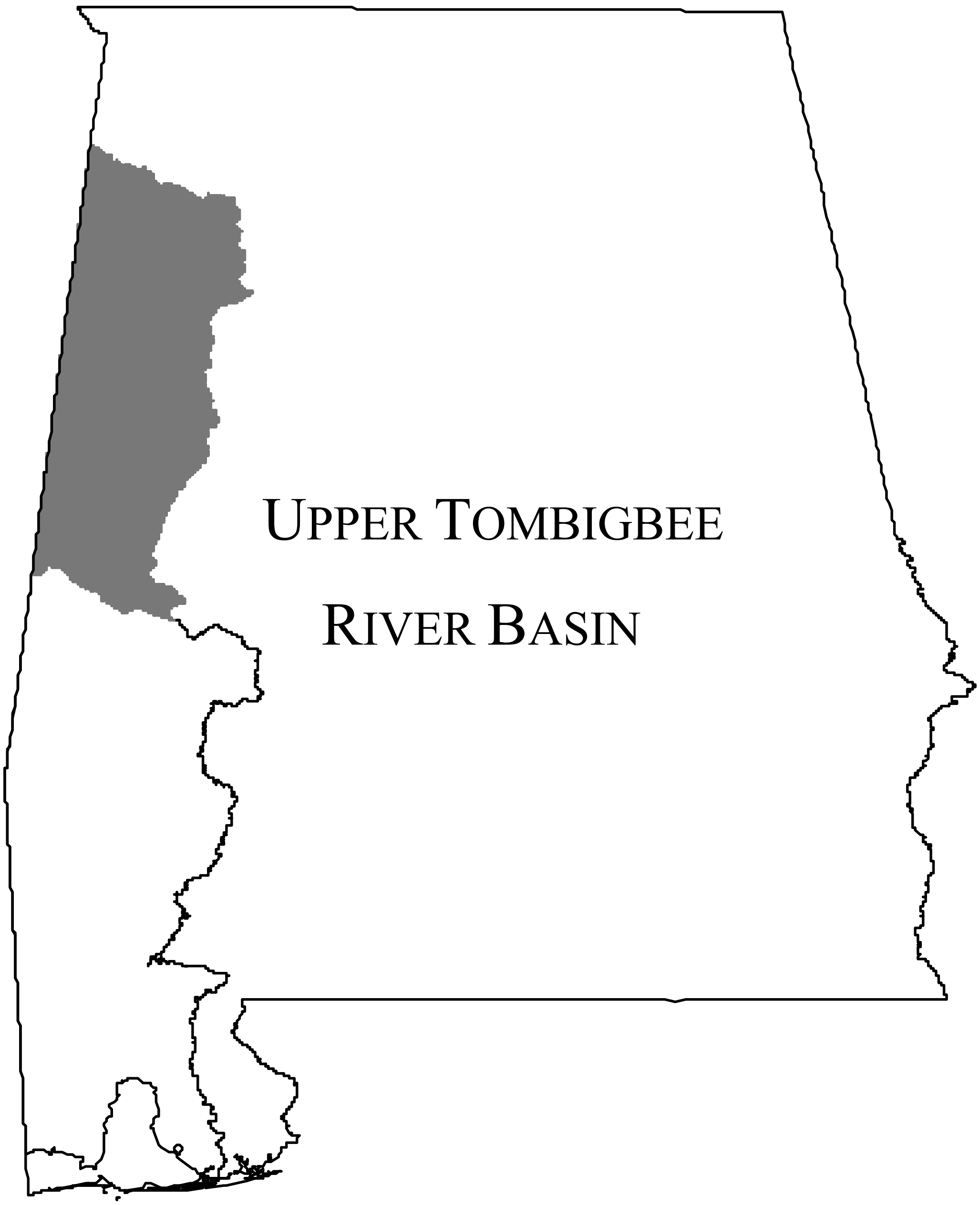
UPPER TOMBIGBEE
RIVER BASIN

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UPPER TOMBIGBEE RIVER BASIN (0316-01)

The Upper Tombigbee River Basin drains approximately 6,000 mi^2 in northeast Mississippi and 3,650 mi^2 in northwest Alabama. The headwaters of the river are in the northeastern corner of Mississippi. The main headwater streams are Big Brown and Mackeys Creeks which converge to form the east fork of the Tombigbee River. The river curves in a southeasterly direction, flowing 130 mi. before entering Alabama. The Tennessee –Tombigbee Waterway, located within this section of the river and completed in 1985, uses a series of 21 dams and man-made canals, as well as runs of the original Tombigbee River, to connect the Tennessee River to Mobile Bay. The waterway is used primarily for commercial and recreational purposes. Within Mississippi, most of the basin is located within the Blackbelt Region. Streams have little baseflow because these regions have chalk outcrops and heavy surface clays.

Within Alabama, the Upper Tombigbee Basin contains portions of 6 CUs and 42 sub-watersheds (Fig. 3). The streams located within the Upper Tombigbee River (0101), Buttahatchee River (0103), and Luxapallila Creek (0105) CUs flow west into Mississippi before joining the Tombigbee River which flows back into Alabama downstream. Most of the basin is located within the Fall Line Hills (65i) subecoregion (Fig. 4). The northeastern corner is located within the Dissected Plateau (68e) and Shale Hills (68f) subecoregions of the Southwestern Appalachians. The southern border of the basin drains the Blackland Prairie (65a), Flatwoods/Blackland Prairie Margins (65b), and Southeastern Floodplains and Low Terraces (65p) subecoregions of the Southeastern Plains Ecoregion (Fig. 4) (Griffith et al. 2001).

Landuse: Livestock production and row crop farming are major land uses in the Mississippi portion of the basin. About 57% of the basin is forested, and about 39% is agricultural land. Use of surface water in the Tombigbee River basin is relatively large in Mississippi. Approximately 2.8 mgd are used for irrigation, 2.7 mgd are used for livestock, and 8.3 mgd are used for municipal drinking-water supply (MDEQ 1998). In the western part of the basin, turbidity resulting from nonpoint sources can be high, resulting in poor water quality in some areas (USGS 2003a).

Within Alabama, land cover within the Upper Tombigbee River Basin is primarily forest mixed with pasture and cropland. An estimated total of 92,550 acres of crop and pastureland (4% of total area) have been treated with pesticides and/or herbicides. Four waterbodies in 3 sub-watersheds are currently on Alabama's 2000 §303(d) list of impaired waterbodies due to metals, pH, and organic enrichment/dissolved oxygen impacts (Table 14a). Suspected sources of the impairment include abandoned surface mines, dam construction, and urban runoff.

Percent land cover within Alabama as estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
71%	6%	15%	0%	3%	1%	3%

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Fig. 3. Sub-watersheds located within the Upper Tombigbee River Basin.

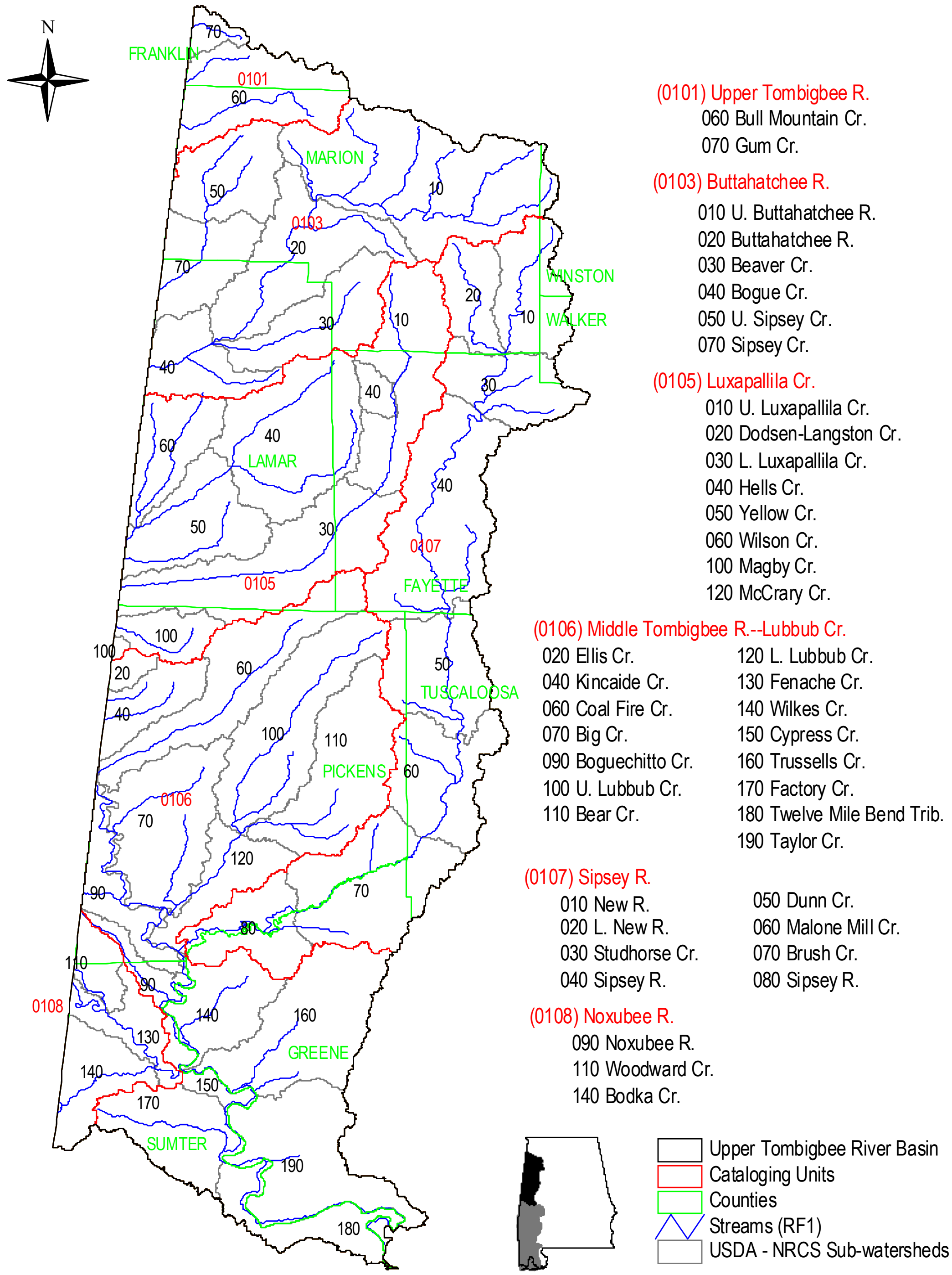

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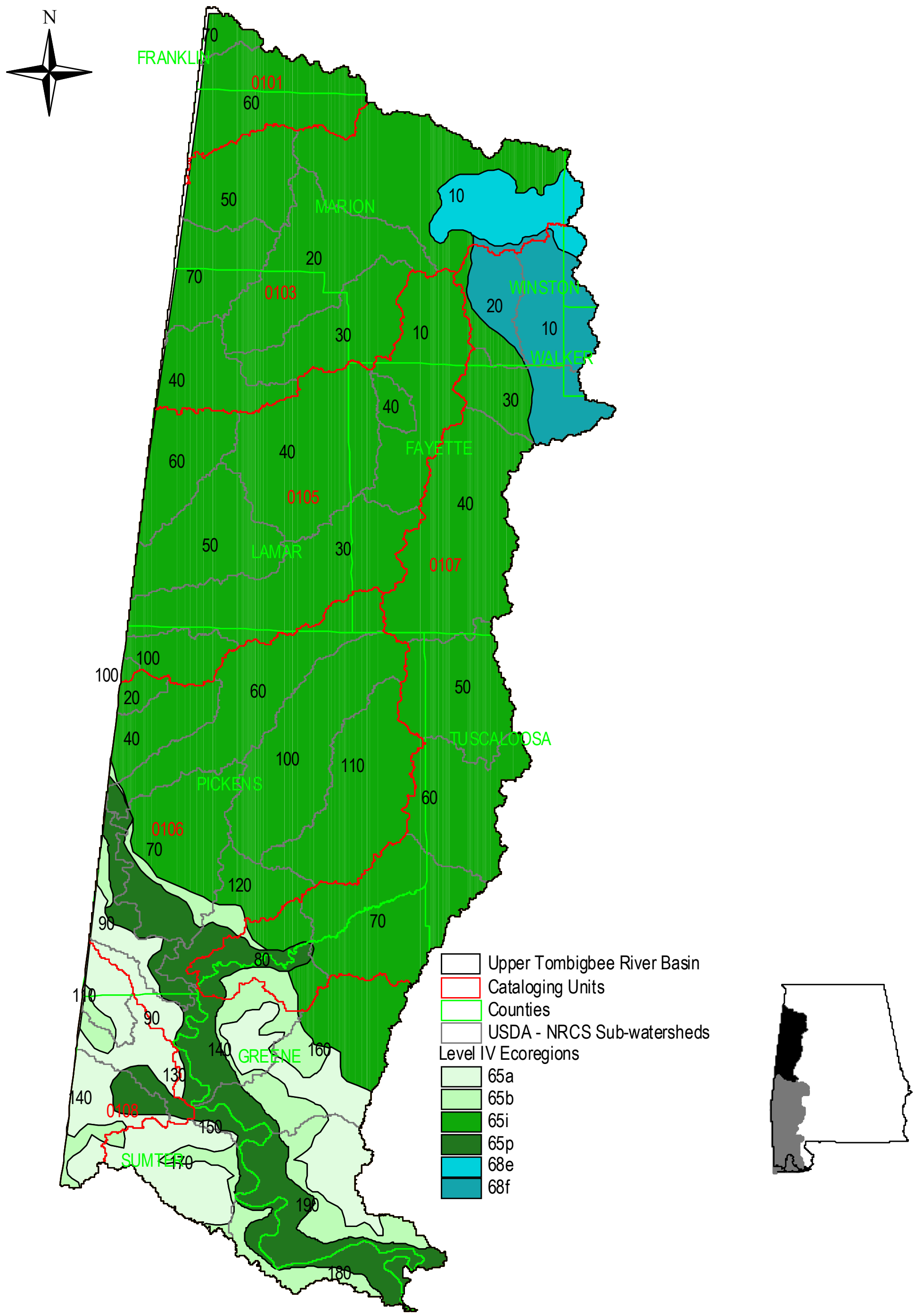
Fig. 4. Level IV Ecoregions located within the Upper Tombigbee River Basin.



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NPS impairment potential: A total of 31 sub-watersheds were estimated to have a *moderate* or *high* potential for impairment from nonpoint sources (Fig. 5). However, 19 of these sub-watersheds also had a *moderate* or *high* potential for impairment from urban and point sources (Table 14a). The primary nonpoint source concerns within the Upper Tombigbee Basin were pasture (Fig. 5), row crops (Fig. 7), and sedimentation (Fig. 8). Aquaculture was concentrated within the Blackbelt region of the basin (Fig. 9). Forest harvesting estimates were only available for 29 of 42 sub-watersheds (Table 15a). Four sub-watersheds had *low* potentials for impairment from both point and nonpoint sources (Table 15a).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15a).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry (29 Reported)	Sediment
Moderate	28	4	8	18	20	5	3	17
High	3	2	3	4	6	9	2	19

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15a).

Category	% Urban	Development	Septic tank failure
Moderate	9	11	11
High	0	0	4

Historical data/studies: Table 16a lists the sub-watersheds and water bodies in which data has been previously collected in conjunction with other monitoring programs. The Appendices where the data are provided in this report are also listed. Assessment information has been collected from 26 of the 42 sub-watersheds (Fig. 10). Nineteen of these sub-watersheds were estimated to have a *moderate* or *high* potential for impairment from nonpoint sources (Table 15a).

2001 NPS screening assessment stations: Fifteen sub-watersheds in the Upper Tombigbee Basin were targeted for assessment because they had a *moderate* or *high* potential for impairment from nonpoint sources, *low* potential for impairment from urban or point sources, and relatively little recent assessment data (Fig. 11). These sub-watersheds are listed in Table 17a.

Sub-watershed summaries: Current and historical monitoring data were combined to provide a comprehensive assessment. A summary of the information available for each of the 42 sub-watersheds is provided. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority rating based on available data. The summaries point out significant data and reference appropriate tables and appendices. Assessment of habitat, biological, and chemical conditions is based on long-term data from ADEM's Ecoregional Reference

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Fig. 5. NPS impairment potential estimated for the Upper Tombigbee River Basin.

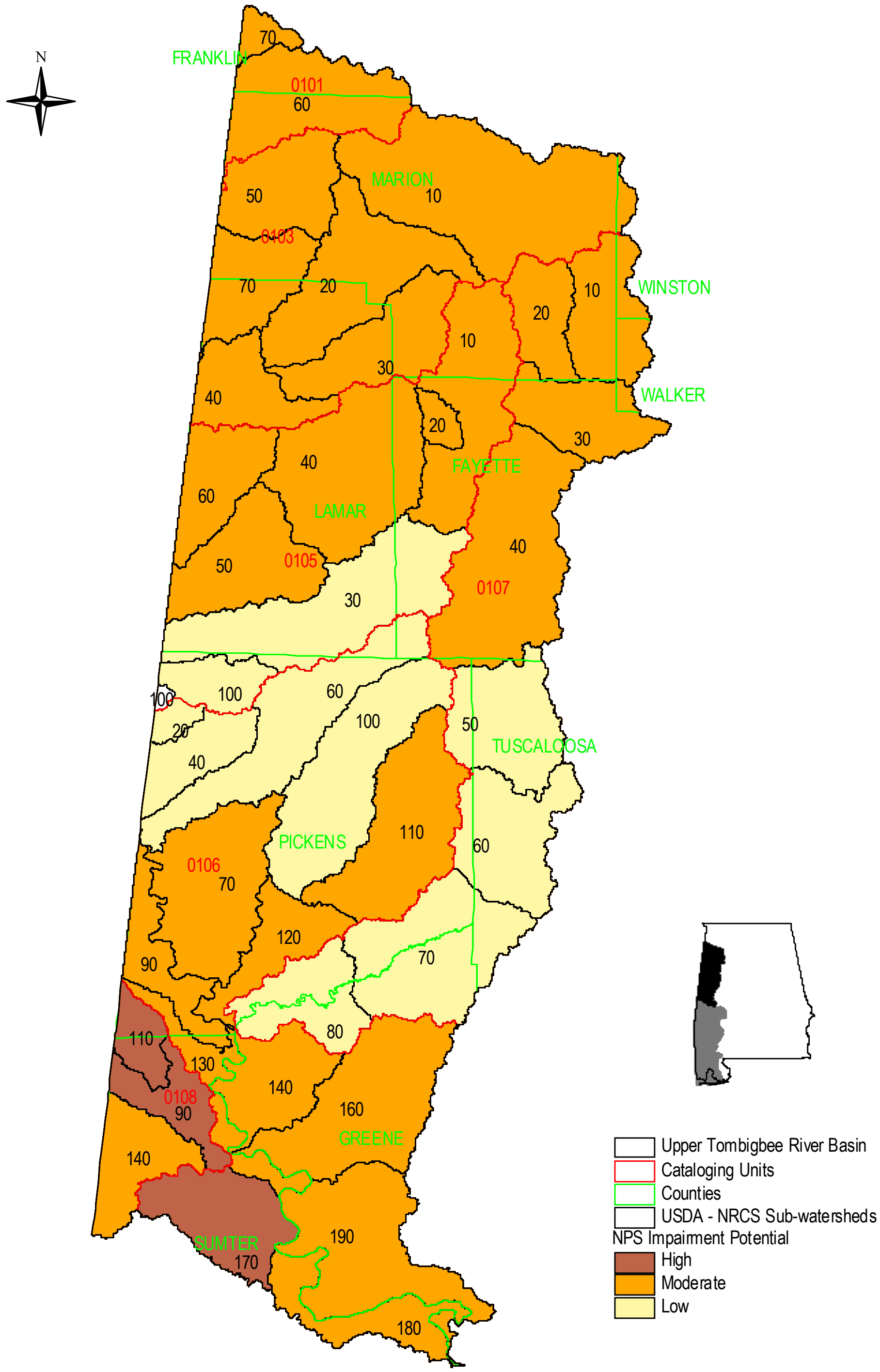

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Fig. 6. Estimated NPS impairment potential from pasture runoff.

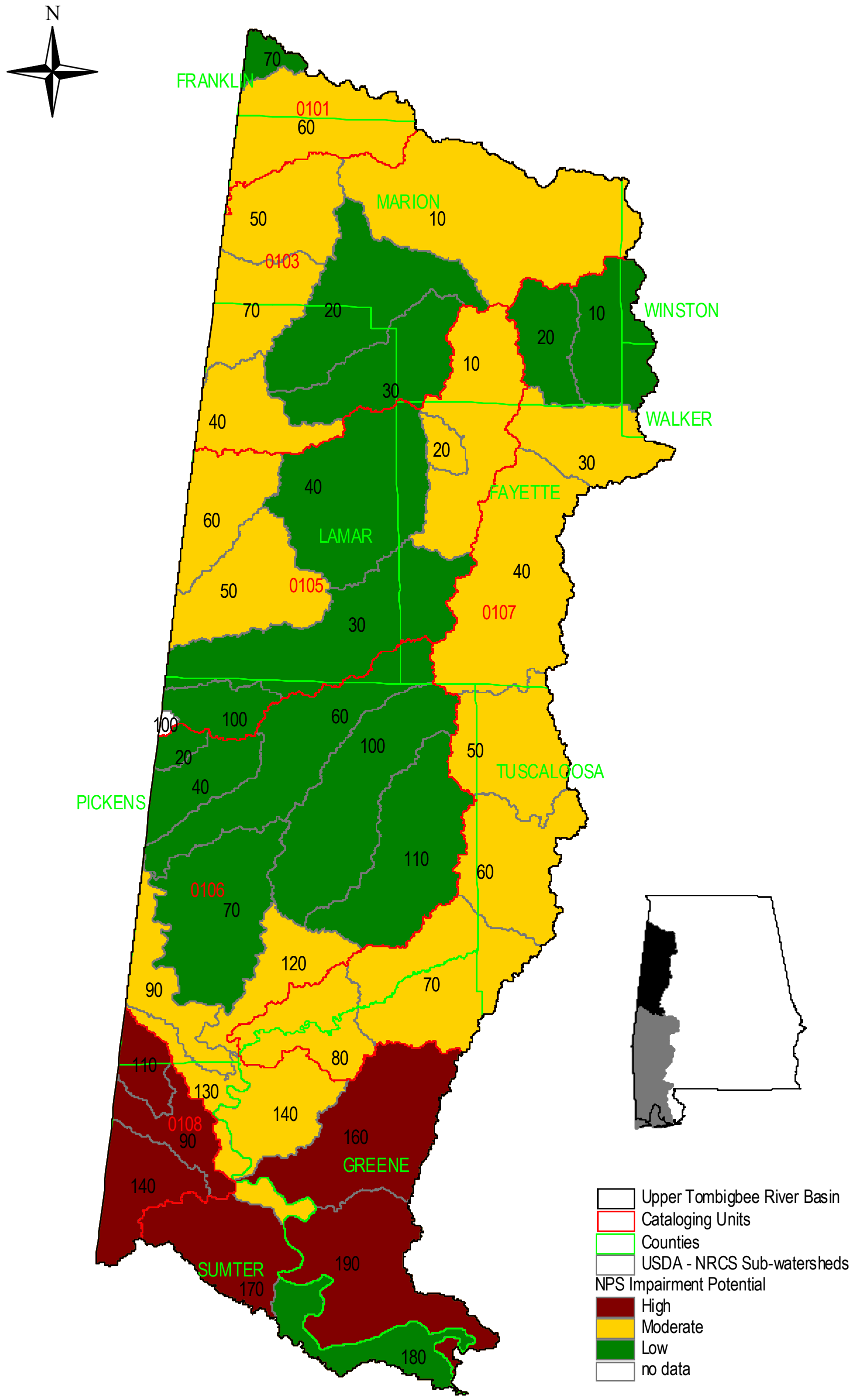

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Fig. 7. Estimated NPS impairment potential from crop land runoff.

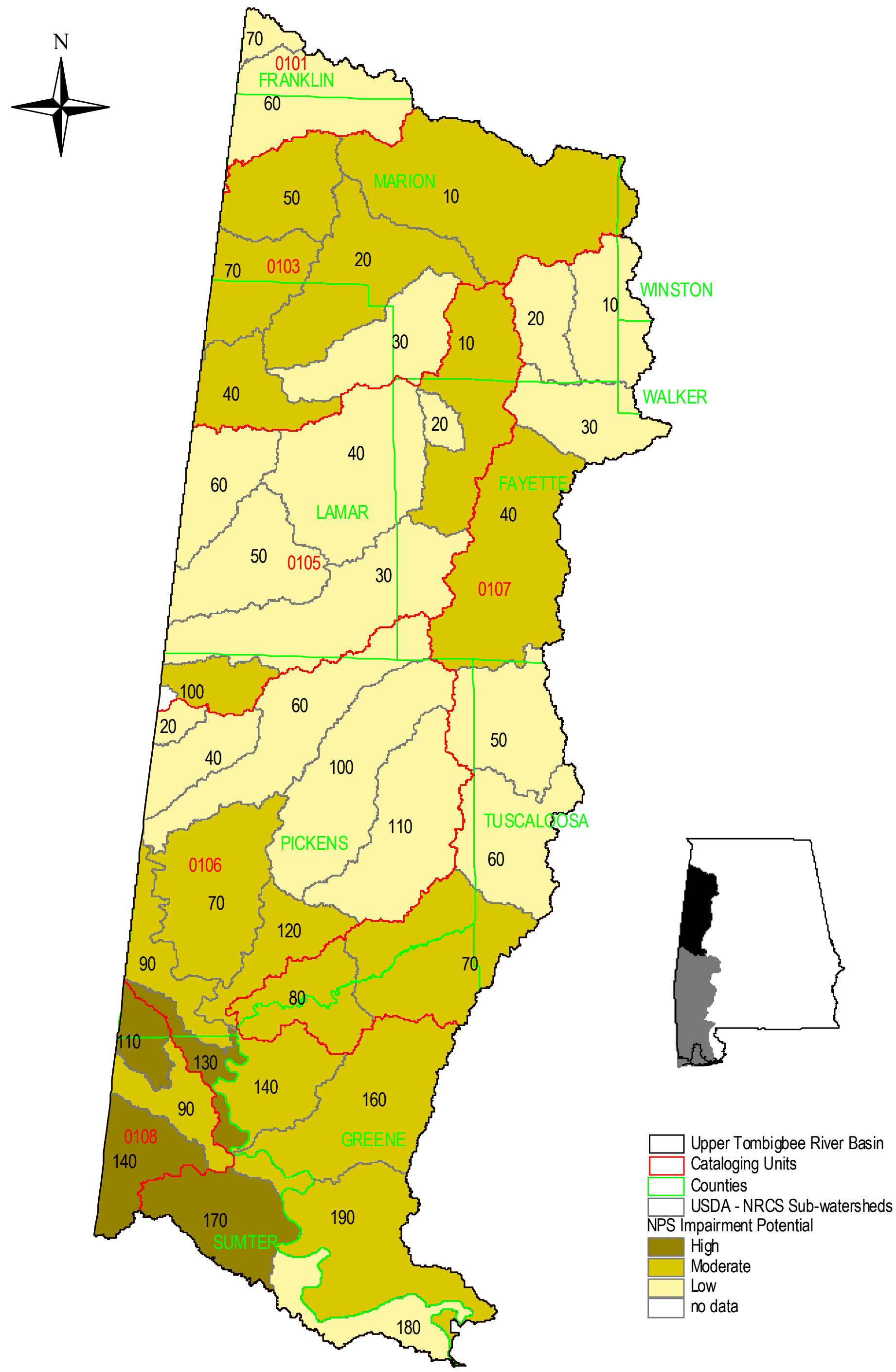

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Fig. 8. Estimated NPS impairment potential from sedimentation.

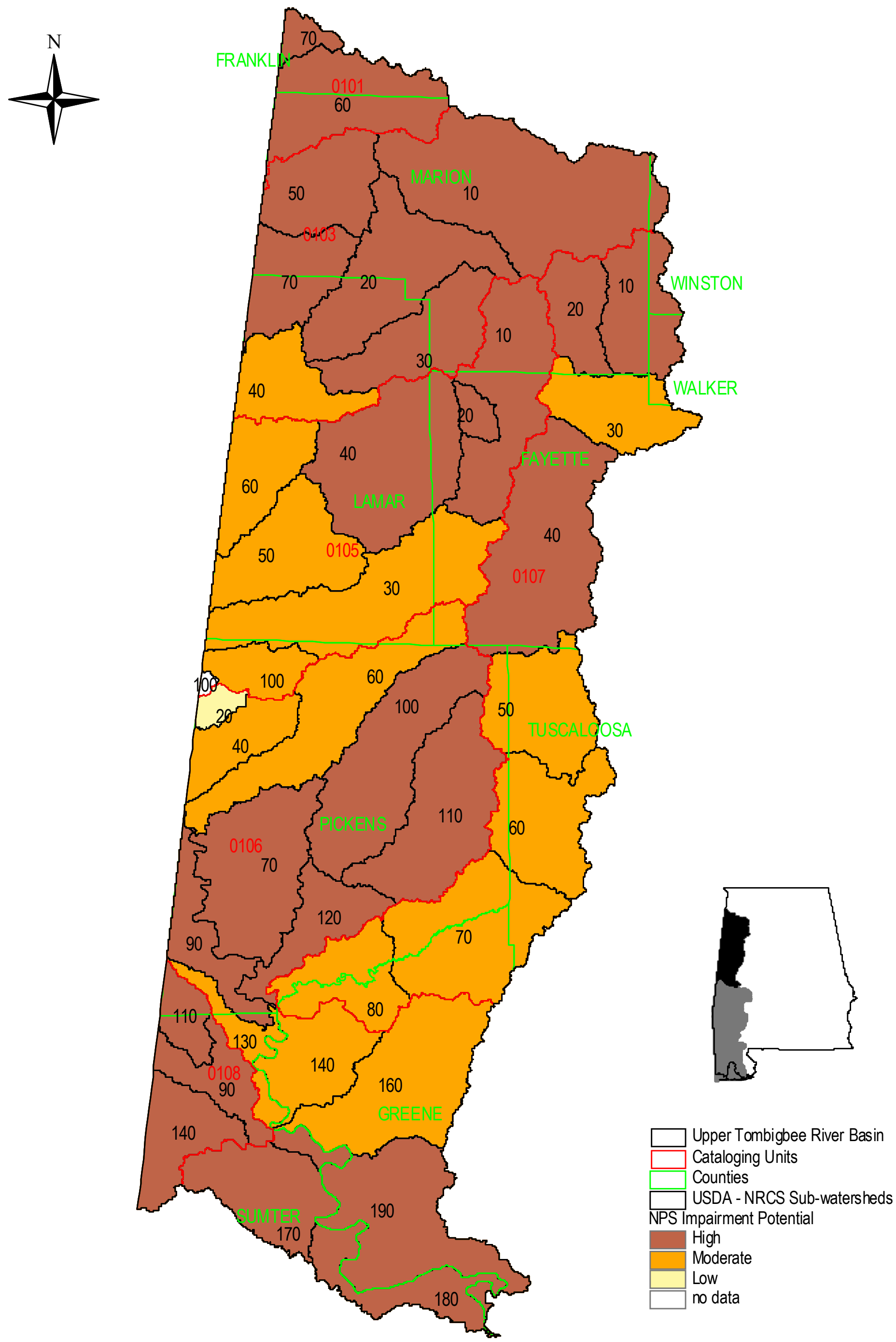

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Fig. 9. Estimated NPS impairment potential from aquaculture.

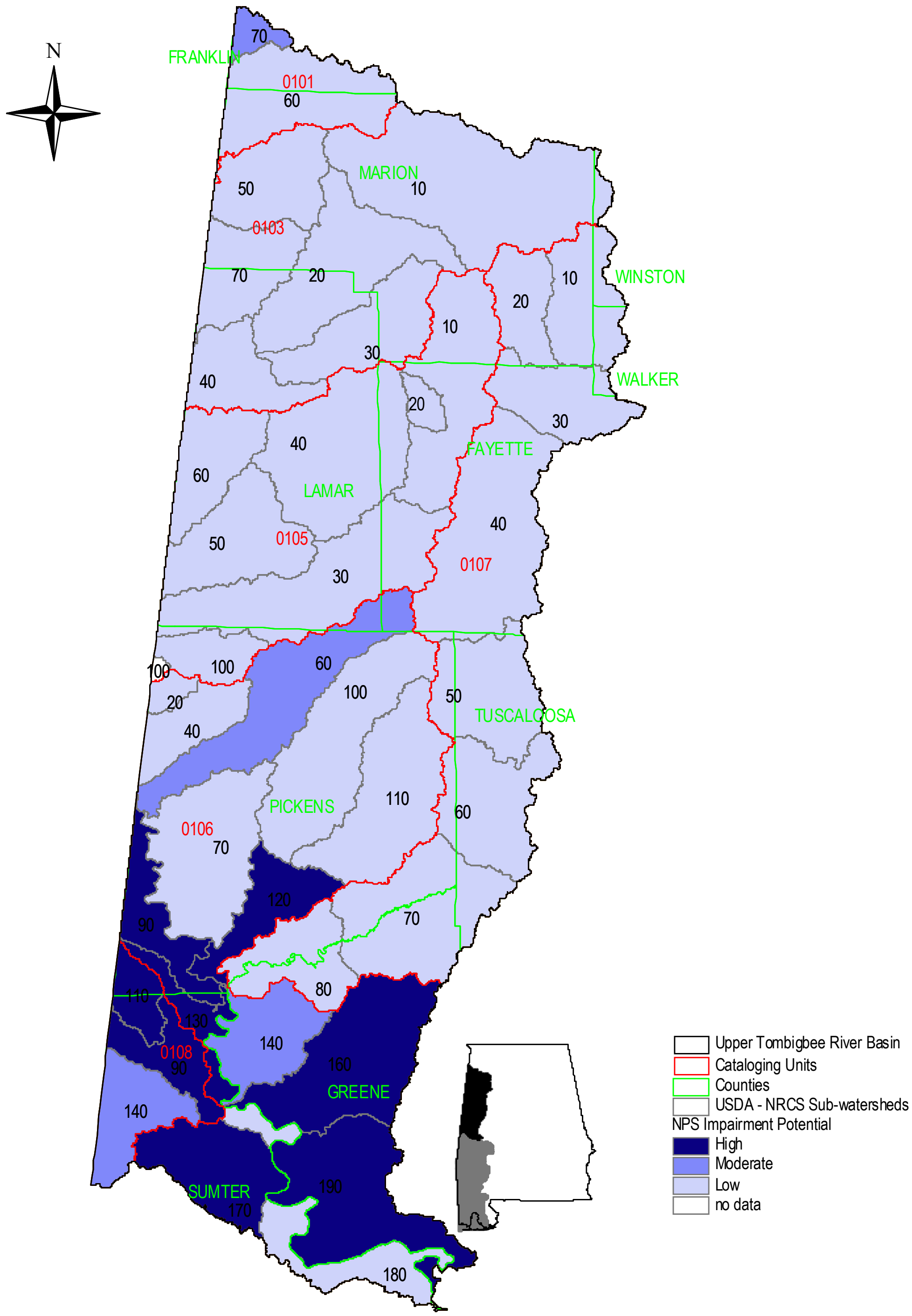

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Fig. 10. Location of stations assessed during other projects within the Upper Tombigbee River Basin.

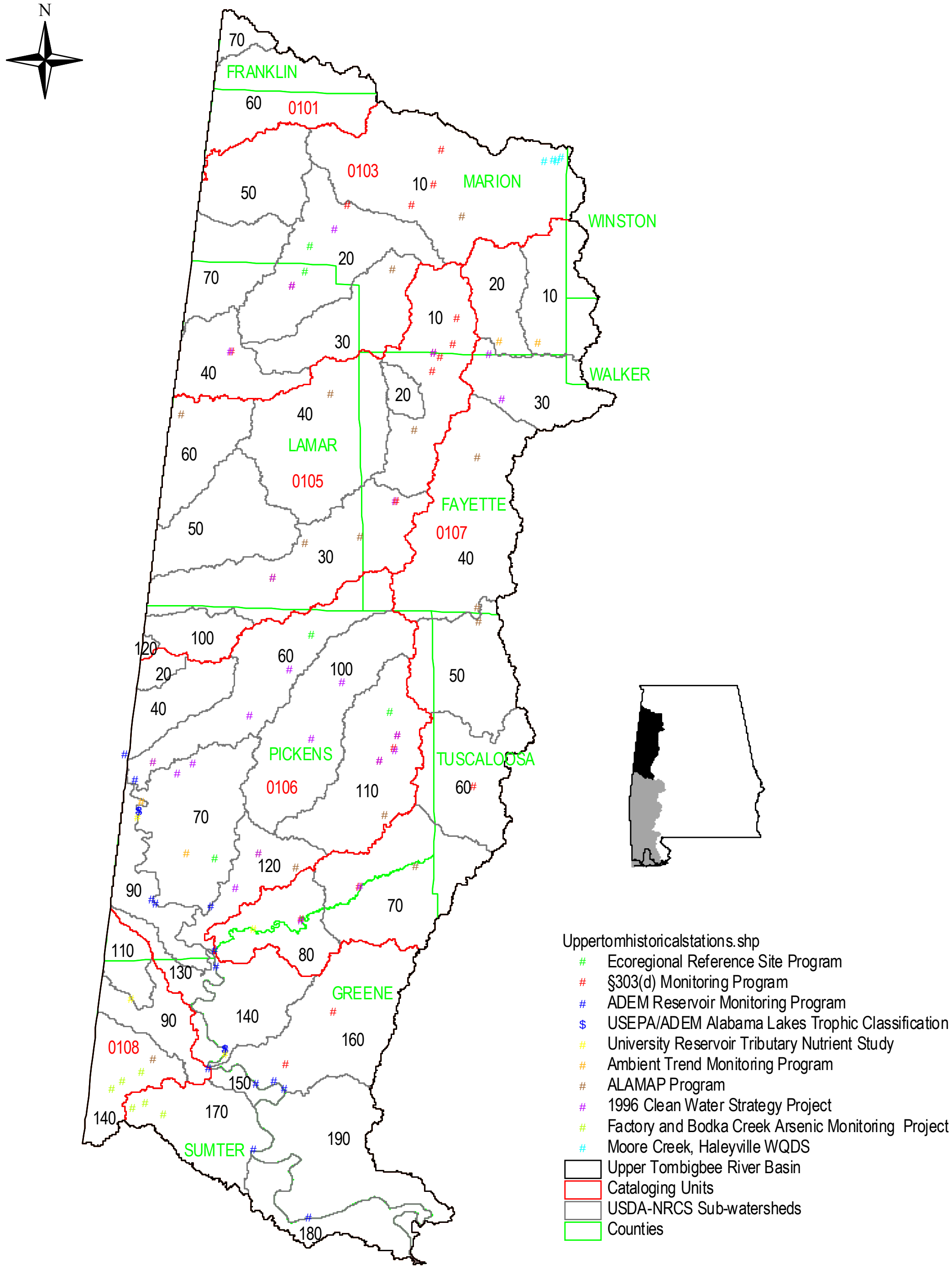

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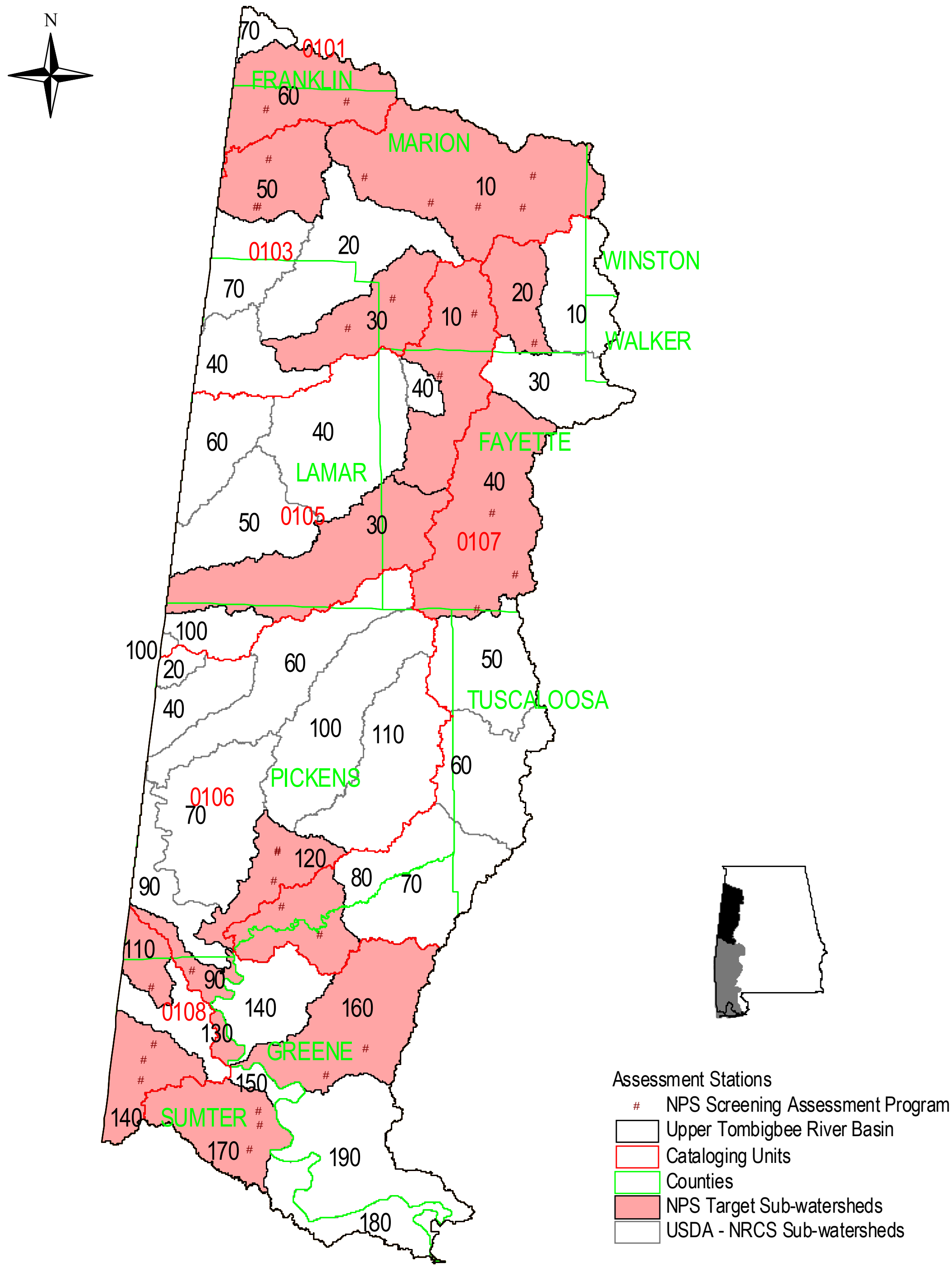
Fig. 11. Location of target sub-watersheds and assessment stations established during the 2001 NPS Screening Assessment of the EMT Basin Group.



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Reach Program. Tables referenced in the summaries are located at the end of each basin section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Table 18a summarizes the results of habitat, chemical/physical, and biological assessments conducted within 20 sub-watersheds. Habitat quality was assessed as *fair* at 1 station, but was generally assessed as *excellent* or *good* throughout the basin. Macroinvertebrate assessments were conducted at 43 stations. Results of these assessments indicated the macroinvertebrate community to be in *excellent* condition at 5 (12%) stations, *good* condition at 15 (35%) stations,and *fair* condition at 20 (46%) stations. The macroinvertebrate community was assessed as *poor* at 3 (7%) stations. Results of fish IBI assessments conducted at 16 sites indicated the fish community as *good* or *good/fair* at 6 (38%) stations, *fair* or *fair/poor* condition at 8 (50%), and *poor* condition at 2 (12%) stations.

Overall condition for each station was rated as the lowest assessment result obtained (Fig. 12). Four (9%) and 15 (35%) stations were assessed as *excellent* and *good* or *good/fair*, respectively. Nineteen (44%) stations were assessed as *fair* or *fair/poor* and 5 (12%) were assessed as *poor*. Of the 24 stations assessed as *fair* or *poor*, 6 were primarily impacted by urban sources (Table 18a). The remaining 18 stations were located in 13 sub-watersheds.

NPS priority sub-watersheds: Fig. 12 shows the location of the 13 sub-watersheds recommended as priority sub-watersheds.

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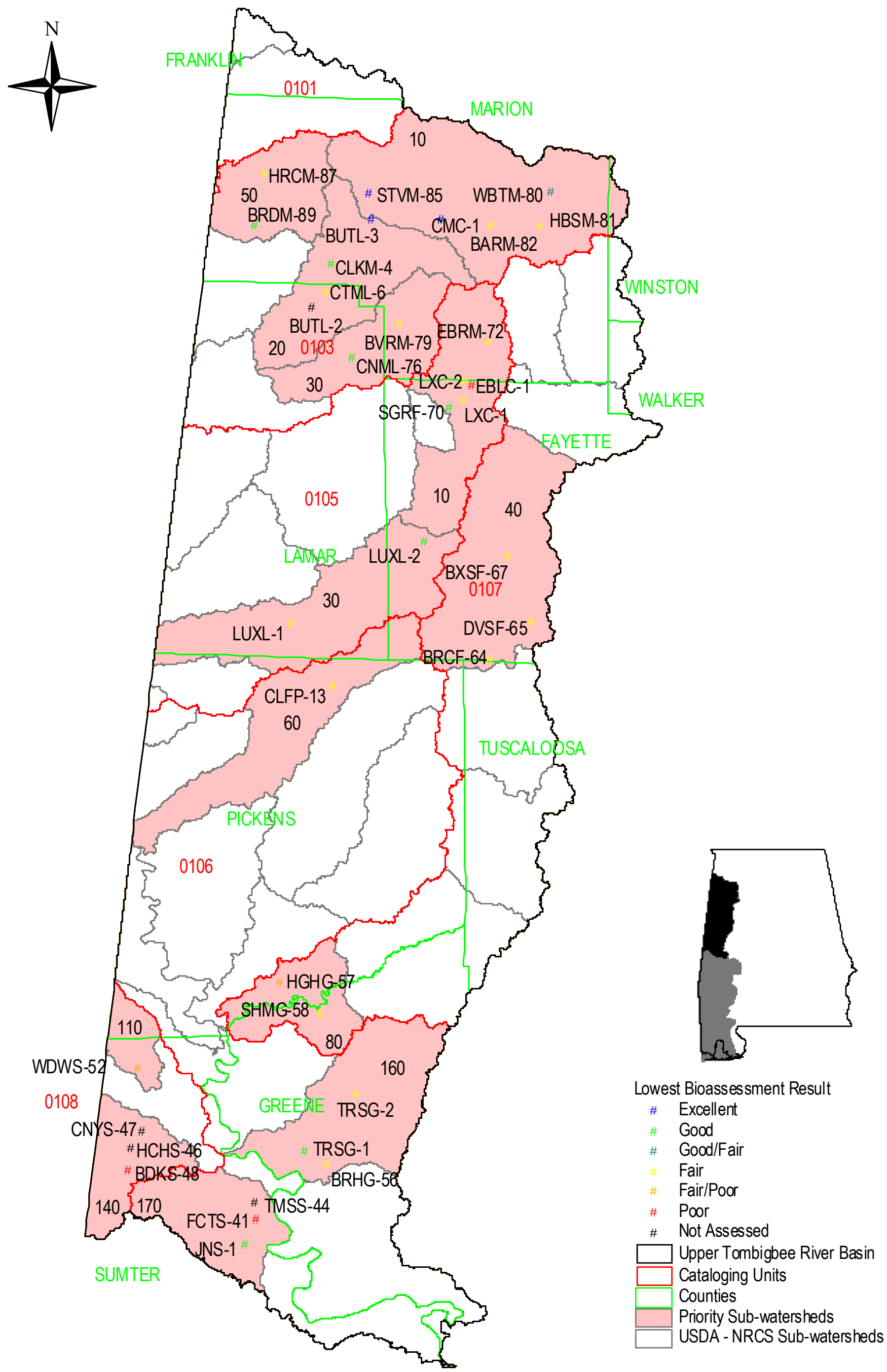
Fig. 12. Location of priority sub-watersheds identified within the Upper Tombigbee River Basin. The lowest assessment obtained by stations within each priority sub-watershed is also shown.



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Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed Number	Sub-watershed Name	Lowest Station Assessment	Suspected Cause(s)	Suspected nonpoint source(s)
0103-010	Upper Buttahatchee River	Fair	Nutrient enrichment, Sedimentation	Runoff from pasture and croplands, Mining
0103-020	Buttahatchee River	Fair	Pathogens, Sedimentation	Mining, Crop land runoff
0103-030	Beaver Creek	Fair	Sedimentation	Mining, Sedimentation
0103-050	U. Sipsey Creek	Fair	Sedimentation	Runoff from pasture and crop lands
0105-010	Upper Luxapallila Creek	Fair	DO/OE, Nutrient enrichment, Sedimentation, Pathogens	Runoff from crop and pasture lands, Mining
0105-030	Lower Luxapallila Creek	Fair	Nutrient enrichment, Sedimentaion, Pathogens	Mining
0106-060	Coal Fire Creek	Fair	Sedimentation	Forestry activities
0106-160	Trussells Creek	Fair	Nutrient enrichment, Sedimentation	Aquaculture, Runoff from crop and pasture lands
0106-170	Factory Creek	Poor	DO/OE, Sedimentation	Aquaculture, Runoff from crop and pasture lands
0107-040	Sipsey River	Fair	Sedimentation	Runoff from pasture and crop lands, Mining
0107-080	Sipsey River	Fair/Poor	Nutrient enrichment	Runoff from pasture and crop lands
0108-110	Woodward Creek	Fair/Poor	Sedimentation	Runoff from pasture and crop lands, Aquaculture, Animal husbandry
0108-140	Bodka Creek	Poor	Sedimentation	Runoff from pasture and crop lands

Upper Buttahatchee River (0103-010): Macroinvertebrate bioassessments indicated biological impairment at Barn Creek and Hobson Creek. Nutrient concentrations were elevated at both stations. Bioassessment results did not indicate impairment at Camp Creek; however, nutrient concentrations were elevated at several stations. The main nonpoint source concerns were runoff from crop and pasturelands, mining, and sedimentation.

Buttahatchee River (0103-020): Macroinvertebrate and fish assessments indicated biological impairment at Cantrell Mill Creek and Buttahatchee River. Water quality data collected at both stations indicated high concentrations of fecal coliform and total suspended solids. The main NPS concerns within the sub-watershed were cropland runoff, mining, and sedimentation. Watershed reconnaissance also indicated historical forest harvesting to be a potential source of sediment.

Beaver Creek (0103-030): SWCD landuse estimates indicated potential impairment from urban and point sources within the sub-watershed. However, results of bioassessments conducted upstream of urban sources indicated biological impairment on Beaver Creek. SWCD estimates indicated mining and sedimentation to be potential sources of NPS impairment within the sub-watershed. Habitat quality of Beaver Creek at the assessment site was affected by sediment deposition.

Upper Sipsey Creek (0103-050): Biological conditions were impaired at one location on Hurricane Creek, a tributary of Upper Sipsey Creek. The primary nonpoint source concerns within the sub-watershed were sedimentation and runoff from pasture and croplands.

Upper Luxapallila Creek (0105-010): The upper portion of the sub-watershed is recommended for NPS priority status. Bioassessments conducted within the sub-watershed have indicated impairment from both urban and rural sources. Biological impairment was detected at one location on East Branch of Luxapallila Creek and Luxapallila Creek, upstream of urban sources of impairment. Water quality data suggested high conductivity and low dissolved oxygen concentrations and periodically high nutrient and fecal coliform concentrations. The main nonpoint source concerns within the sub-watershed were mining, sedimentation, and runoff from pasture and crop lands.

Lower Luxapallila Creek (0105-030): Impairment to both the macroinvertebrate and fish communities was detected at one station on Luxapallila Creek. Intensive water quality samples indicated nutrient enrichment, sedimentation, and pathogens to be potential causes of impairment. Mining and sedimentation were NPS concerns within the sub-watershed.

Coal Fire Creek (0106-060): An assessment conducted on Coal Fire Creek at CLFP-13 indicated the fish community to be in *fair* condition. Intensive chemical sampling at a 2^{nd} site suggested sedimentation and nutrient enrichment to be potential causes of biological impairment. NPS concerns within the sub-watershed included aquaculture and sedimentation. Watershed reconnaissance indicated forest harvesting activities to be a potential source of impairment.

Trussells Creek (0106-160): Macroinvertebrate and fish assessments indicated impaired biological conditions at both Brush Creek and Trussells Creek. Water quality data suggested nutrient enrichment to be a potential cause of the impairment at both streams. Intensive water quality sampling near the mouth of Brush Creek showed the tributary to be a potential source of nutrient loading to Demopolis Reservoir. Aquaculture, pasture, and crop land runoff were concerns within the sub-watershed.

Factory Creek (0106-170): Landuse within the sub-watershed indicates potential impairment from aquaculture and runoff from crop and pasture lands. Bioassessment results indicated impaired macroinvertebrate and fish communities at one location on Factory Creek. Intensive water quality monitoring at the embayment of Factory Creek measured dissolved oxygen concentrations <5.0 mg/L during several sampling events. Macroinvertebrate assessments did not indicate impairment at Jones Creek, a tributary of

Factory Creek, despite obvious habitat impacts caused by livestock. An assessment of the fish community of Jones Creek is recommended to fully evaluate biological conditions at the site.

Sipsey River (0107-040): Three macroinvertebrate assessments indicated biological impairment at Bear Creek, Boxes Creek, and Davis Creek. Although water quality sampling did not indicate a source of the impairment, runoff from pasture, crop, and mining lands was identified as an NPS concern within the sub-watershed during the SWCD assessment. Sedimentation was also prevalent.

Sipsey River (0107-080): The fish communities were impaired at sites established on Hughes Creek and Shambley Creek. Runoff from crop and pasture lands was a concern within the sub-watershed.

Woodward Creek (0108-110): Results of a macroinvertebrate bioassessment indicated biological impairment at one site on Woodward Creek. Screening level water quality data suggested high total dissolved solids and chloride concentrations at the site. Runoff from pasture and crop lands, aquaculture, animal husbandry, and sedimentation were the main NPS concerns.

Bodka Creek (0108-140): The fish community was assessed as *poor* at one station on Bodka Creek. Nonpoint source concerns within the sub-watershed included runoff from crop and pasture lands, aquaculture, and sedimentation.

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Upper Tombigbee CU (0316-0101)

The Upper Tombigbee River CU contains 2 sub-watersheds located within Franklin and Marion Counties (Fig. 3). The CU drains approximately 124 mi^2 of the Coastal Plain soil area (ACES 1997) and is located in the Fall Line Hills subecoregion (65i) of the Southeastern Plains Ecoregion (Fig. 4) (Griffith et al. 2001).

Landuse: Land cover within the Upper Tombigbee CU was primarily forest mixed with pasture and crop lands.

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
86%	3%	8%	0%	1%	0%	1%

NPS impairment potential: The primary nonpoint source concerns within the Upper Tombigbee River CU were sedimentation, animal husbandry, pasture, and aquaculture. Both sub-watersheds were estimated to have a *moderate* potential for impairment from nonpoint sources. However, they were also estimated to have a *moderate* potential for impairment from urban and point sources (Table 15a).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15a).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	2	2	1	0	1	0	ur	0
High	0	0	0	0	0	0	ur	2

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15a).

Category	% Urban	Development	Septic tank failure
Moderate	1	1	1
High	0	0	0

Historical data/studies: Recent assessment information has not been collected within the Upper Tombigbee River CU (Table 16a).

2001 NPS screening assessments: The Bull Mountain Creek sub-watershed (060) was targeted for assessment during 2001 because it had a *moderate* potential for impairment from nonpoint sources, *low* potential for impairment from urban or point sources, and no recent assessment data (Table 16a).

Sub-watershed summaries: A summary of the information available for the 2 sub-watersheds is provided. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority rating based on available data. The summaries point out significant data and reference appropriate tables and appendices. Assessment of habitat, biological, and chemical conditions is based on long-term data from ADEM's Ecoregional Reference Reach Program. Tables referenced in the summaries are located at the end of the Upper Tombigbee River Basin summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Habitat, chemical/physical, and biological indicators of water quality were monitored at 2 stations within the Bull Mountain sub-watershed (Table 18a). Habitat quality was assessed as *excellent* at both stations (Table 18a). Macroinvertebrate assessments indicated the community to be in *excellent* or *good* condition at both stations.

Overall condition for each station was rated as the lowest assessment result obtained (Table 18a). Both stations were assessed as *excellent* or *good*.

***NPS priority status*:** A priority sub-watershed was not identified within the Upper Tombigbee River CU.

Sub-Watershed: Bull Mountain Creek NRCS Sub-Watershed Number 060

Landuse: The Bull Mountain Creek sub-watershed drains approximately 109 mi^2 in Franklin and Marion Counties. Land cover within the sub-watershed was primarily forest mixed with pasture and row crops. Three current construction/stormwater and 5 non-coal mining/stormwater authorizations (<5 acre) and 1 industrial process wastewater NPDES permit have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
86%	3%	9%	0%	1%	<1%	1%

NPS impairment potential: The potential for NPS impairment from animal husbandry and pasture runoff was *moderate*. There was a *high* potential for impairment from sedimentation. However, woodlands contributed 78% of the total sediment load estimated for the sub-watershed (Table 20a). Overall potential for nonpoint source impairment was *moderate*. The NPS impairment potential from urban development was also *moderate* (Table 15a).

NPS ratings for each NPS category based on values estimated estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	14	0.14 AU/ac	0.05%	3%	9%	0%	ur	8.6 tons/ac/yr
NPS Potential	M	M	L	L	M	L	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Assessments were conducted at stations established on Blue Gut Creek and Bull Mountain Creek during the 2001 NPS screening assessment.

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BLGM-93	Chemical, Habitat, Biological	2001	Blue Gut Cr. at Marion CR 89	8	F&W
BLMM-95a	Chemical, Habitat, Biological	2001	Blue Mountain Cr. at unnamed Marion CR	3	F&W

<u>Blue Gut Creek</u>: At BLGM-93, Blue Cut Creek is a sand and gravel bottomed stream located in the Fall Line Hills (65i) subecoregion (Table 21a). Habitat condition was assessed as *excellent* for this stream type. Twelve EPT families were collected at the site, indicating the macroinvertebrate community to be in *good* condition (Table 22a).

In situ water quality parameters collected in June and August and chemical sampling conducted in August did not indicate impairment at the site (Appendix D-1).

Bull Mountain Creek: At BLMM-95a, Bull Mountain Creek was characterized by cobble, gravel, and sand substrates (Table 21a). The site is located in the Fall Line Hills (65i) subecoregion. Habitat condition was assessed as *excellent*. However, large gravel point bars were noted at the reach. Thirteen EPT families were collected at the site, indicating the macroinvertebrate community to be in *excellent* condition (Table 22a).

Fecal coliform concentrations were >700 colonies/100 ml in August (Appendix D-1). Other water quality parameters did not indicate impairment.

NPS priority rating: The potential for impairment from urban and nonpoint sources was estimated as *moderate*. However, the results of 2 macroinvertebrate bioassessments did not indicate impairment.

Sub-Watershed: Gum Creek NRCS Sub-Watershed Number 070

Landuse: The Gum Creek sub-watershed drains approximately 15 mi^2 in Franklin County. Land cover within the sub-watershed was primarily forest mixed with pasture, crops, and urban areas. One construction/stormwater authorization and 1 industrial process wastewater NPDES permit have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
84%	4%	6%	0%	5%	1%	1%

NPS impairment potential: There was a *moderate* potential for impairment associated with animal husbandry and aquaculture. The potential for impairment from sedimentation was *high*. Woodlands contributed 91% of the total sediment load estimated for the sub-watershed (Table 20a). Overall potential for impairment was estimated as *moderate*. The potential for impairment from urban areas (Table 12a) and estimates of septic tank failures (Table 20a) was *moderate* (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	14	0.23 AU/ac	0.11%	4%	6%	0%	ur	4.4 tons/ac/yr
NPS Potential	M	M	M	L	L	L	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment has not been conducted within the Gum Creek sub-watershed.

NPS priority status: The Gum Creek sub-watershed was not assessed. The potential for impairment from both urban and nonpoint sources was estimated as *moderate*.

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Buttahatchee River CU (0316-0103)

The Buttahatchee River CU contains 6 sub-watersheds draining approximately 665 square miles of the Coastal Plain and Major Floodplains and Terraces soil areas (ACES 1997) and is located in the Fall Line Hills (65i) and Dissected Plateau (68e) subecoregions of the Southeastern Plains and Southwestern Appalachian Ecoregions (Fig. 2) (Griffith et al. 2001).

Landuse: Land cover within the Buttahatchee River CU was primarily forest mixed with pasture and crop lands. A 3.0 mile segment of Purgatory Creek, a tributary of Beaver Creek, is currently on Alabama's 2002 CWA §303(d) list of impaired waters for not meeting pH criteria of its Public Water Supply Use Classification (Table 14a).

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
75%	7%	10%	0%	4%	0%	4%

NPS impairment potential: The primary nonpoint source concerns within the Buttahatchee River CU were row crops, pasture, mining, and sedimentation. All 6 sub-watersheds were estimated to have a *moderate* potential for impairment from nonpoint sources. However, 3 of these sub-watersheds also had a *moderate* or *high* potential for impairment from urban and point sources (Table 15a).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15a).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	6	0	0	5	4	2	ur	5
High	0	0	0	0	0	2	ur	1

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15a).

Category	% Urban	Development	Septic tank failure
Moderate	2	3	0
High	0	0	0

Historical data/studies: Table 16a lists the sub-watersheds and waterbodies in which data have been previously collected in conjunction with other monitoring programs. The Appendices where the data are provided in this report are also listed. Recent assessment information has been collected from 4 of the 6 sub-watersheds estimated to have a *moderate* or *high* potential for impairment from nonpoint sources (Table 16a).

2001 NPS screening assessments: Three sub-watersheds in the Buttahatchee River CU were targeted for assessment during the 2001 NPS screening assessment because they had a *moderate* or *high* potential for impairment from nonpoint sources, *low* potential for impairment from urban or point sources, and relatively little recent assessment data. These included the Upper Buttahatchee River (010), Beaver Creek (030), and Upper Sipsey Creek (050) sub-watersheds.

Sub-watershed summaries: Current and historical monitoring data were combined to provide a comprehensive assessment. A summary of the information available for each of the 6 sub-watersheds is provided. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority rating based on available data. The summaries point out significant data and reference appropriate tables and appendices. Assessment of habitat, biological and chemical conditions is based on long-term data from ADEM's Ecoregional Reference Reach Program. Tables referenced in the summaries are located at the end of the Basin summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Table 18a summarizes the results of habitat, chemical/physical, and biological assessments conducted within 5 sub-watersheds. Habitat quality at 18 stations was assessed as *excellent* or *good.* Macroinvertebrate assessments were conducted at 17 stations. Results of these assessments indicated the macroinvertebrate community to be in *excellent* or *good* condition at 9 (53%) stations and *fair* condition at 6 (35%) stations. The macroinvertebrate community was assessed as *poor* at 2 (12%) stations. Fig. 13 shows the results of habitat and macroinvertebrate assessments conducted within the CU. Results of fish IBI assessments conducted at 4 stations indicated the fish community as *good* or *good/fair* at 3 (75%) stations and *fair* condition at 1 (25%) stations (Fig. 14).

Overall condition for each station was rated as the lowest assessment result obtained (Table 18a). Three (18%) and 5 (29%) stations were assessed as *excellent* and *good* or *good/fair*, respectively. Seven (41%) stations were assessed as *fair* and 2 (12%) were assessed as *poor*. Of the 9 stations assessed as *fair* or *poor*, 4 were primarily impacted by urban sources.

NPS priority sub-watersheds: Upper Buttahatchee River (010), Buttahatchee River (020), Beaver Creek (030), and Upper Sipsey Creek (050) were identified as NPS priority sub-watersheds. Fig. 15 shows the location of the 4 priority sub-watersheds.

Fig. 13. Results of habitat and macroinvertebrate assessments conducted in the Buttahatchee River CU. Assessment results from CMC-1 were not included on this map because they overlapped with more results from a more recent assessment conducted at CMPM-84.

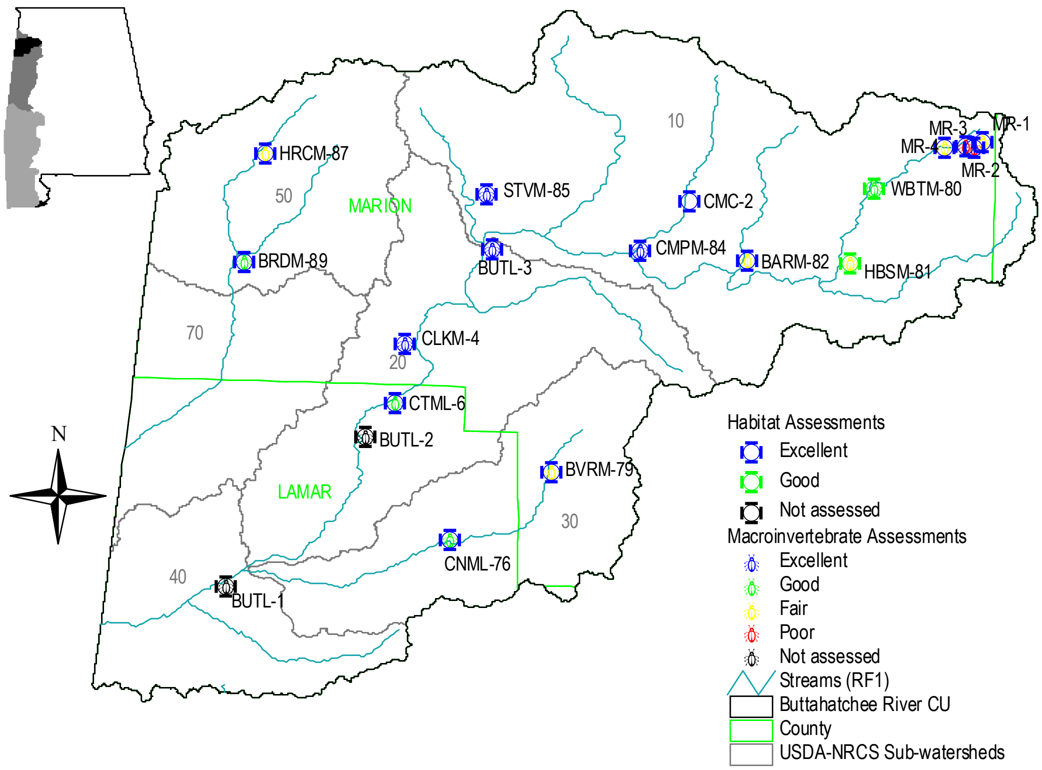

Fig. 14. Results of fish community assessments conducted within the Buttahatchee River CU.

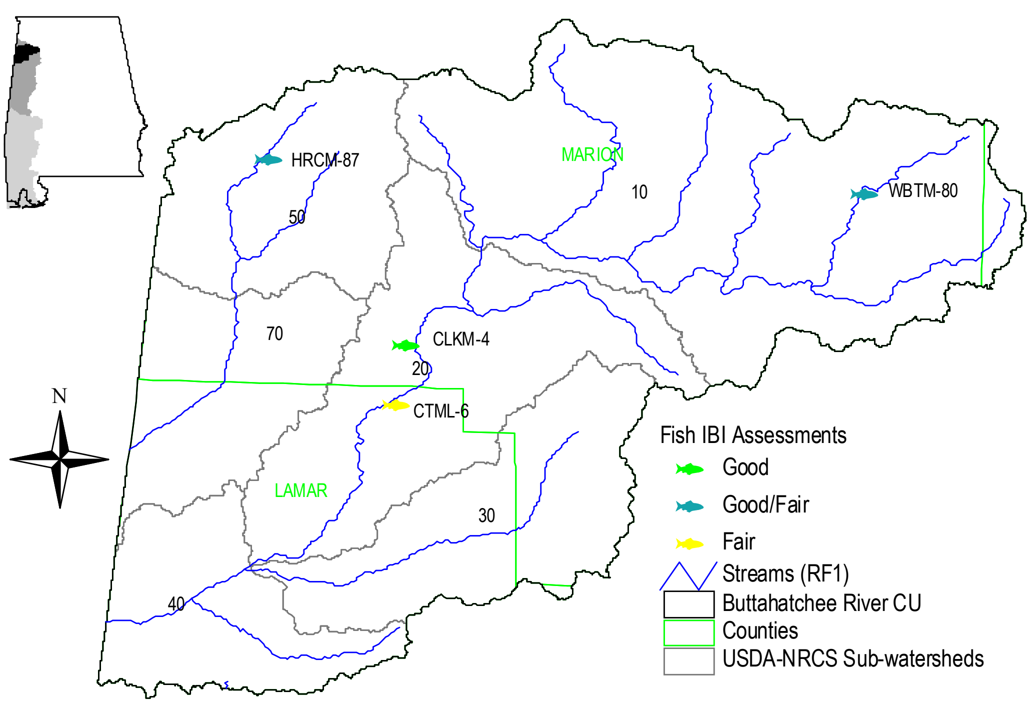

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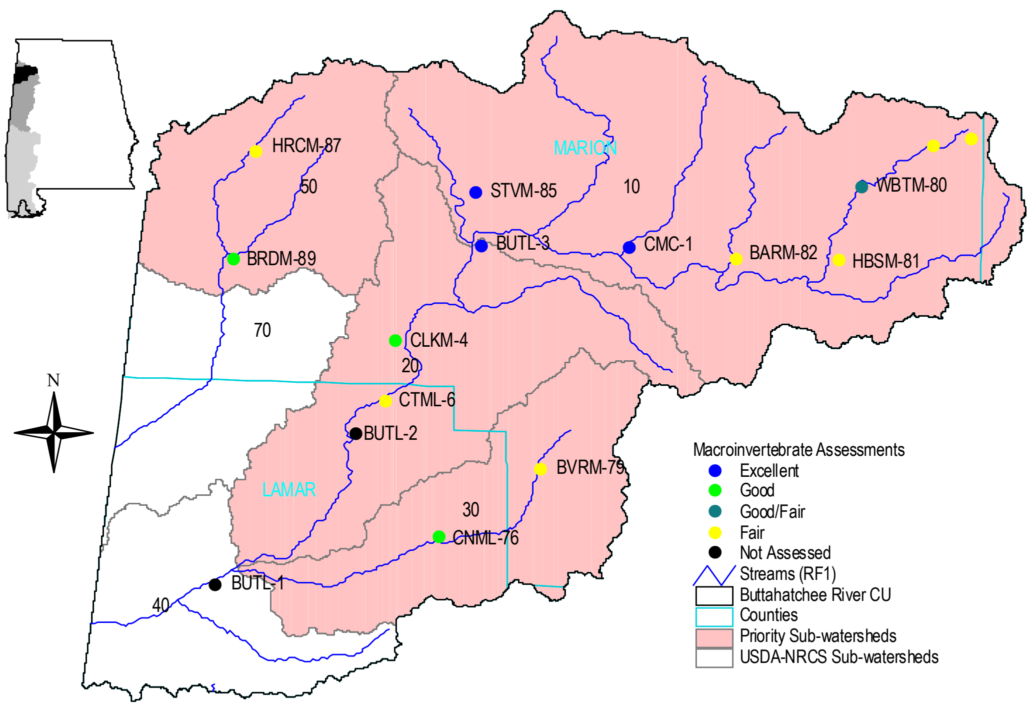
Fig. 15. Recommended NPS priority sub-watersheds within the Buttahatchee River CU. Lowest bioassessment result obtained by each station is also shown.



Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed		**Lowest Station Assessment**	**Suspected Cause(s)**	**Suspected nonpoint source(s)**
010	Upper Buttahatchee R.	Fair	Nutrient enrichment, sedimentation	Runoff from pasture, crop, and mining lands
020	Buttahatchee R.	Fair	Pathogens, sedimentation	Runoff from crop and mining lands
030	Beaver Cr.	Fair	Sedimentation	Runoff from mining lands
050	Upper Sipsey Cr.	Fair	Sedimentation	Runoff from pasture and crop lands

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Sub-Watershed: Upper Buttahatchee River NRCS Sub-Watershed Number 010

Landuse: The Upper Buttahatchee River sub-watershed drains approximately 233 mi^2 in Marion and Winston Counties. Land cover was primarily forest mixed with some pasture and crop lands. A total of 14 permits and authorizations, including 7 construction/stormwater authorizations and 3 CAFO registrations, have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
74%	7%	12%	1%	3%	<1%	3%

NPS impairment potential: The potential for NPS impairment from mining and sedimentation was estimated to be *high*. Woodlands contributed 80% of the total sediment load estimated for the sub-watershed (Table 20a). The potential for impairment from mining was estimated as *high*. There was a *moderate* potential for impairment associated with runoff from pasture and crop lands. Overall potential for NPS impairment was *moderate*. Upper Buttahatchee River was given a 1st priority sub-watershed rating by the SWCD. Resource concerns within the sub-watershed included inadequate management of animal waste and access of livestock to streams (Table 20a). The number of construction/stormwater authorizations indicated a *moderate* potential for impairment from urban development (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	18	0.07 AU/ac	0.00%	7%	12%	1%	ur	14.2 tons/ac/yr
NPS Potential	M	L	L	M	M	H	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments*:* Five stations were monitored within the sub-watershed during the 2001 NPS screening assessment. Moore Creek has been previously monitored at 4 locations in conjunction with a special study conducted by ADEM (Appendix F-6). Camp Creek was assessed at 3 locations in conjunction with ADEM's 1999 303(d) Monitoring Program (Appendix F-2). Buttahatchee River was evaluated in 1998 in conjunction with ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BARM-82	Chemical, Habitat, Biological	2001	Barn Cr. at US Hwy 278	20	F&W
CMC-3	Chemical, Habitat	1999	Camp Cr. at unnamed rd. 1.5 mi. SE of Union Hill Church	5	F&W
CMC-2	Chemical, Habitat	1999	Camp Cr. at Marion CR 48	13	F&W
CMC-1	Chemical, Habitat	1999	Camp Cr. at Camp Cr. Rd.	18	F&W
CMPM-84	Chemical, Habitat, Biological	2001	Camp Cr. at Marion CR 257	18	F&W
HBSM-81	Chemical, Habitat, Biological	2001	Hobson Cr. at AL Hwy 129	8	F&W
MR-1	Chemical, Habitat, Biological	1989, 1990, 1992	Moore Cr. approx. 75' us of WWTP	<1	F&W
MR-2	Chemical, Habitat, Biological	1989, 1990, 1992	Moore Cr. approx. 0.3 mi. ds of WWTP	<1	F&W
MR-3	Chemical, Habitat, Biological	1989, 1990, 1992	Moore Cr. approx. 0.5 mi. ds of WWTP	1	F&W
MR-4	Chemical, Habitat, Biological	1989, 1990, 1992	Moore Cr. at Marion CR 81	2	F&W
STVM-85	Chemical, Habitat, Biological	2001	Stevens Cr. at unnamed Marion CR	10	F&W
UT01U2-19	Chemical, Habitat	1998	Buttahatchee R approx. 2.8 mi. us of confluence with Barn Cr.	84	PWS/F&W
WBTM-80	Chemical, Habitat, Biological	2001	West Branch of Buttahatchee Cr.at Marion CR 48	17	F&W

Barn Creek: At BARM-82, Barn Creek is a riffle-run stream in the Dissected Plateau (68e) subecoregion (Table 21a). The site is characterized by bedrock, boulder, and cobble substrates (Table 21a). Habitat condition was assessed as *excellent* for this stream type. Ten EPT families were collected at the site, indicating the macroinvertebrate community was in *fair* condition (Table 22a).

Ammonia-nitrogen concentration was 0.070 mg/L in August 2001 (Appendix D-1). Alkalinity and total dissolved solids concentrations were 3.0 mg/L and 57.0 mg/L, respectively.

Camp Creek: Camp Creek is a riffle-run stream in the Fall Line Hills (65i) subecoregion (Appendix F-2a; Table 21a). Habitat conditions at CMPM-84, CMC-1, and CMC-2 were assessed as *excellent* for this stream type. The macroinvertebrate community was assessed as *good* at CMC-1 in 1999 (Appendix F-2b) and *excellent* at CMPM-84 in 2001 (Table 22a).

Fecal coliform counts and nitrate/nitrite-nitrogen concentrations were elevated in August 2001 (Appendix D-1). Turbidity was also elevated during this sampling event (Appendix D-1).

Three locations on Camp Creek were sampled intensively during 1999 (Appendix F-2c). Turbidity was highest at CMC-1 during the June sampling event (Appendix F-2c). Fecal coliform counts were 3,600 (June) and >1,200 (August) colonies/100 ml sample at CMC-3 and CMC-2, respectively. Nutrient concentrations were periodically elevated at all three sites.

Hobson Creek: At HBSM-81, Hobson Creek is a riffle-run stream in the Dissected Plateau (68e) subecoregion (Table 21a). Bottom substrates are primarily composed of gravel and sand (Table 21a). Habitat condition was assessed as *good* for this stream type. Ten EPT families were collected at the site, indicating the macroinvertebrate community to be in *fair* condition (Table 22a).

Results of water quality sampling are presented in Appendix D-1. Alkalinity and hardness concentrations measured in August were relatively low for the subecoregion. The concentration of ammonia-nitrogen was elevated.

Moore Creek: ADEM sampled Moore Creek at 4 stations during 1990 (Appendix F-6). Stream morphology and bottom substrates varied among sites, but habitat quality was assessed as *excellent* at all 4 stations (Appendix F-6a). The number of EPT families collected indicated the macroinvertebrate community to be in *poor* condition at 3 of the 4 sites (Appendix F-6b).

In situ water quality and chemical parameters were measured 5 times at each site during 1990 (Appendix F-6c). Conductivity was elevated at MR-2, MR-3, and MR-4 during all sampling events. Five day biochemical oxygen demand was elevated during 4 of 5 sampling events at MR-2 and MR-3 and during 1 sampling event at MR-4. Chloride concentrations were elevated during all sampling events at MR-2, MR-3, and MR-4. Nutrient concentrations were elevated at all 4 sites.

Stevens Creek: At STVM-85, Stevens Creek is a riffle-run stream in the Fall Line Hills (65i) subecoregion (Table 21a). Habitat condition was assessed as *excellent* for this stream type. Fourteen EPT families were collected at the site, indicating the macroinvertebrate community to be in *excellent* condition (Table 22a).

In situ water quality parameters measured in June and August and chemical sampling conducted in August did not indicate impairment at the site (Appendix D-1).

West Branch of the Buttahatchee River: At WBTM-80, the West Branch of the Buttahatchee River is a riffle-run stream in the Dissected Plateau (68e) of the Southwestern Appalachians Ecoregion (Table 21a). Habitat condition was assessed as *good* for this stream type. Eleven EPT families were collected at the site, indicating the macroinvertebrate community to be in *good* condition (Table 22a).

Nitrate/nitrite-nitrogen concentrations were elevated during an August sampling event (Appendix D-1).

Buttahatchee River: At UT01U2-19, Buttahatchee River is a riffle-run stream located in the Dissected Plateau (68e) of the Southwestern Appalachians Ecoregion (Appendix F-7a). Habitat condition was assessed as *excellent* for this stream type. Water quality parameters measured in August did not indicate impairment (Appendix F-7b).

NPS priority status*:* Upper Buttahatchee River is recommended as a priority sub-watershed. The main nonpoint source concerns were runoff from crop and pasture lands, mining, and sedimentation. Macroinvertebrate bioassessments indicated biological impairment at Barn Creek and Hobson Creek. Nutrient concentrations were elevated at both stations. Bioassessment results did not indicate impairment at Camp Creek; however, nutrient concentrations were elevated at several stations. The macroinvertebrate community at 4 stations on Moore Creek were impaired by a point source discharge.

Sub-Watershed: Buttahatchee River NRCS Sub-Watershed Number 020

Landuse: The Buttahatchee River sub-watershed drains approximately 131 mi^2 within Lamar and Marion Counties. Land cover within the sub-watershed was primarily forest mixed with crop lands, pasture, and urban areas. A total of 10 construction/stormwater and non-coal mining/stormwater (<5 acre) authorizations and 4 municipal and industrial process wastewater NPDES permits have been issued within the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
76%	7%	5%	1%	6%	<1%	4%

NPS impairment potential: The main nonpoint sources within the sub-watershed were sedimentation, mining, and row crops. The primary source of sedimentation was from woodlands (7.3 tons/ac/yr, Table 20a). There was a *moderate* potential for impairment from urbanization and development (Table 15a). Buttahatchee River was given a 4th priority sub-watershed rating by the SWCD. Resource concerns within the sub-watershed included excessive sediment from roads and cropland, and livestock overgrazing pastures and accessing streams (Table 20a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	16	0.03 AU/ac	0.00%	7%	5%	1%	ur	10.3 tons/ac/yr
NPS Potential	M	L	L	M	L	H	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Asessments: A nonpoint source assessment of this sub-watershed was not conducted during the 2001 NPS screening assessment. Stations established on Clark Creek and Cantrell Mill Creek were monitored during 2001 in conjunction with ADEM's Ecoregional Reference Reach Program (Appendix F-1). Buttahatchee River was monitored at BUTL-2 and BUTL-3 during ADEM's 2001 303(d) Monitoring Program (Appendix F-2). The river was previously monitored at these 2 locations (UT10 and UT09, respectively) during ADEM's 1996 Clean Water Strategy Project (Appendix F-9). The USGS has maintained a streamflow gage at 02438000 since 1951. One hundred and fifty-five sets of water quality data were collected at the site, 1962-2001 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
CLKM-4	Chemical, Habitat, Biological	2001	Clark Cr. at CR 35	4	F&W
CTML-6	Chemical, Habitat, Biological	2001	Cantrell Mill Cr. at 2nd road up in Lamarion WMA	11	F&W
BUTL-3	Chemical, Habitat, Biological	2001	Buttahatchee R. at US Hwy 278 in Hamilton	277	PWS/F&W
UT09	Chemical	1996	Buttahatchee R. at US Hwy 278 in Hamilton	277	PWS/F&W
02438000	Chemical	1951-2001	Buttahatchee R. at RM 82.6	277	F&W
BUTL-2	Chemical	2001	Buttahatchee R. at Lamar CR 16	329	F&W
UT10	Chemical	1996	Buttahatchee R. at Lamar CR 16	329	F&W

Clark Creek: At CLKM-4, Clark Creek is a small, shaded riffle-run stream in the Fall Line Hills (65i) subecoregion (Appendix F-1a). The site is characterized by bedrock and other stable substrates. Habitat condition was assessed as *excellent* for this stream type. Eighteen EPT families were collected at the site, indicating the macroinvertebrate community to be in *excellent* condition (Appendix F-1b). Fish IBI assessment results showed the fish community to be in *good* condition (Appendix F-1b).

In-situ field parameters collected at CLKM-4 did not indicate impairment at the site (Appendix F-1c).

Cantrell Mill Creek: At CTML-6, Cantrell Mill Creek is a small, riffle-run stream also located in the Fall Line Hills (65i) subecoregion (Appendix F-1a). Bottom substrates are composed primarily of gravel and sand. Reconnaissance showed forest harvesting within the sub-watershed during the last 10-15 years that may have historically contributed sand and gravel to the streambed. Habitat condition was assessed as *excellent* for this stream type. Nine EPT families were collected at the site, indicating the macroinvertebrate community to be in *good* condition (Appendix F-1b). Fish IBI assessment results showed the fish community to be in *fair* condition (Appendix F-1b).

Cantrell Mill was intensively monitored at CTML-6 during 2002 (Appendix F-1c). The fecal coliform concentration was >3,520 colonies/100 mL during the September 2002 sampling event. Total suspended solids were elevated during a high flow event in April 2002. Water column chlorophyll *a* ranged from <0.1 mg/L in March 2002 to 5.34 mg/L in May 2002.

Buttahatchee River: At BUTL-3, Buttahatchee River is a glide-pool river located in the Fall Line Hills (65i) subecoregion (Appendix F-2a). The site is characterized by an open canopy and bedrock and gravel substrates. Habitat condition was assessed as *excellent*. Thirteen EPT families were collected at the site, indicating the macroinvertebrate community to be in *excellent* condition (Appendix F-2b).

Buttahatchee River was intensively monitored at 2 stations during 2001 (Appendix F-2c). Fecal coliform counts were >600 colonies/100 mL at both stations during the May sampling event. Total suspended solids and total phosphorus concentrations were also slightly elevated at BUTL-2. Both stations were evaluated during ADEM's 1996 Clean Water Strategy Project (Appendix F-9a).

NPS priority status: Buttahatchee River was recommended as a NPS priority sub-watershed. Macroinvertebrate and fish assessments indicated biological impairment at Cantrell Mill Creek and Buttahatchee River. Water quality data collected at both stations indicated high concentrations of total suspended solids and high fecal coliform counts. The main NPS concerns within the sub-watershed were cropland runoff, mining, and sedimentation. Watershed reconnaissance also indicated historical forest harvesting to be a potential source of sediment.

Sub-Watershed: Beaver Creek **NRCS Sub-Watershed Number 030**

Landuse: The Beaver Creek sub-watershed drains approximately 88 mi^2 in Fayette, Lamar, and Marion Counties. Land cover was mainly forest, mixed with pasture lands and urban areas. A total of 5 construction/stormwater authorizations, 2 non-coal mining/stormwater authorizations (<5 acre), 1 municipal, and 2 industrial process wastewater NPDES permits have been issued within the sub-watershed (Table 13a). A 3.0 mile segment of Purgatory Creek is currently on Alabama's 2002 CWA §303(d) list of impaired waterbodies for not meeting its "Public Water Supply" and "Fish and Wildlife" water use classifications. It is listed for pH impairment caused by an abandoned surface mine (Table 14a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
81%	2%	7%	<1%	5%	<1%	5%

NPS impairment potential: Mining and sedimentation were the primary sources of potential impairment within the sub-watershed. The primary source of sedimentation was from woodlands (4.6 tons/ac/yr, Table 20a). Percent urban area and the number of construction/stormwater authorizations indicated a *moderate* potential for impairment from urban runoff and development (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	12	0.05 AU/ac	0.00%	2%	7%	<1%	ur	6.9 tons/ac/yr
NPS Potential	M	L	L	L	L	M	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Beaver Creek and Cannon Mill Creek were monitored during the 2001 NPS screening assessment (Table 17a). A tributary to Flurry Branch, scheduled for assessment during ADEM's 1998 ALAMAP Program (Appendix F-7a), could not be evaluated due to severe low flow conditions.

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BVRM-79	Chemical, Habitat, Biological	2001	Beaver Cr. at US Hwy 78	19	PWS/F&W
CNML-76	Chemical, Habitat, Biological	2001	Cannon Mill Cr. at unnamed Lamar CR.	7	F&W
UT02U2-57	None conducted	1998	Tributary to Flurry Branch approx. 1.7 mi. us of confluence with Flurry Branch	<1	F&W

Beaver Creek: At BVRM-79, Beaver Creek is a riffle-run stream located in the Fall Line Hills (65i) subecoregion (Table 21a). Habitat condition was assessed as *excellent* for this stream type. However, sediment deposition was noted to be a problem at the site. Seven EPT families were collected at the site, indicating the macroinvertebrate community to be in *fair* condition (Table 22a). Results of water quality sampling did not indicate impairment (Appendix D-1).

Cannon Mill Creek: At CNML-76, Cannon Mill Creek is a glide-pool stream also located in the Fall Line Hills (65i) subecoregion (Table 21a). Bottom substrates are composed primarily of sand and detritus. Habitat condition was assessed as *excellent* for this stream type. Ten EPT families were collected at the site, indicating the macroinvertebrate community to be in *good* condition (Table 22a). Results of water quality sampling conducted in June and August did not indicate impairment (Appendix D-1).

***NPS priority rating**:* The headwaters of Beaver Creek are recommended as a priority NPS sub-watershed. Biological conditions at BVRM-79 were assessed as *fair* (Table 15a). Habitat quality at the site was affected by sedimentation. SWCD estimates also indicated sedimentation to be a potential source of impairment within the sub-watershed. Although SWCD land cover estimates indicated potential impairment from urban and point sources within the sub-watershed, Beaver Creek at BVRM-79 is upstream of urban sources.

Sub-Watershed: Bogue Creek NRCS Sub-Watershed Number 040

Landuse: The Bogue Creek sub-watershed drains approximately 64 mi^2 in Lamar County. Percent land cover of the sub-watershed was primarily forest mixed with pasture and crop lands. Two construction/stormwater and 2 non-coal mining/stormwater (<5 acre) authorizations and 1 municipal and 2 industrial process wastewater NPDES permits have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
74%	6%	11%	<1%	3%	<1%	6%

NPS impairment potential: The nonpoint source categories of primary concern within the sub-watershed were runoff from crop and pasture lands, mining, and sedimentation. The main sediment sources were stream banks, dirt roads and roadbanks, and woodlands (Table 20a). The overall potential for impairment from nonpoint sources was estimated as *moderate*. Local SWCD identified the sub-watershed as a priority due to resource concerns including overgrazing of pastures, access of livestock to streams, and roadbank erosion (Table 20a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	14	0.03 AU/ac	0.00%	6%	11%	<1%	ur	3.6 tons/ac/yr
NPS Potential	M	L	L	M	M	M	ur	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment of Bogue Creek was not conducted during the 2001 NPS screening assessment. Buttahatchee River was monitored at one station in conjunction with ADEM's 2001 §303(d) Monitoring Program (Appendix F-2). The location has also been evaluated in conjunction with ADEM's 1996 Clean Water Strategy Project (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BUTL-1	Chemical, Habitat, Biological	2001	Buttahatchee R. at AL Hwy 17	472	F&W
UT11	Chemical	1996	Buttahatchee R. at AL Hwy 17	472	F&W

Buttahatchee River: Buttahatchee River at BUTL-1 is a nonwadeable river located in the Fall Line Hills (65i) subecoregion. Results of intensive water quality monitoring conducted at the site are presented in Appendix F-2c. Fecal coliform counts and turbidity measurements were elevated during the May 2001 sampling event.

NPS priority status**:** The NPS priority status of Buttahatchee Creek cannot be assessed from available data. However, runoff from crop and pasture lands and sedimentation were NPS concerns within the sub-watershed. It should be considered for assessment during the 2006 EMT Basin Screening Assessment.

Sub-Watershed: Upper Sipsey Creek NRCS Sub-Watershed Number 050

***Landuse**:* The Upper Sipsey Creek sub-watershed drains approximately 80 mi^2 in Marion County. Land use within the sub-watershed was primarily forest mixed with pasture and crop lands. One current industrial process wastewater NPDES permit, 2 construction/ stormwater authorizations and 1 non-coal mining/stormwater authorization (< 5 acres) have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
72%	9%	13%	0%	2%	<1%	4%

NPS impairment potential: Overall potential for impairment from nonpoint sources was *moderate*. The nonpoint source categories of primary concern were sedimentation and runoff from pasture and crop lands. Woodland sediment contributed 85% of the total sediment load estimated for the sub-watershed. Upper Sipsey Creek was given a 3rd priority sub-watershed rating by the SWCD for resource concerns listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	14	0.06 AU/ac	0.00%	9%	13%	0%	ur	13.3 tons/ac/yr
NPS Potential	M	L	L	M	M	L	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Boardtree Creek and Hurricane Creek were monitored during the 2001 NPS screening assessment (Table 17a).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BRDM-89	Chemical, Habitat, Biological	2001	Boardtree Cr. at Marion CR 33	8	F&W
HRCM-87	Chemical, Habitat, Biological	2001	Hurricane Cr. at unnamed Marion CR	3	F&W

Boardtree Creek: At BRDM-89, Boardtree Creek is a shaded, riffle-run stream located in the Fall Line Hills (65i) subecoregion. Habitat quality was assessed as *excellent* (Table 21a). The macroinvertebrate community was in *good* condition (Table 22a). Water quality data collected in June and August, 2001 are presented in Appendix D-1.

Hurricane Creek: At HRCM-87, Hurricane Creek is a small stream characterized by gravel riffles (Table 21a). Habitat quality was assessed as *excellent* for this stream type and subecoregion (Table 21a). Seven EPT families were collected, indicating the macroinvertebrate community to be in *fair* condition (Table 22a). The fish community was assessed as *good/fair* (Table 22a). Water quality data collected in June and August, 2001, did not suggest a cause of the impairment at the site (Appendix D-1).

NPS priority status: Upper Sipsey Creek is recommended as a priority NPS sub-watershed. The macroinvertebrate community at HRCM-87 was assessed as *fair* (Table 18a). The primary nonpoint source concerns within the sub-watershed were sedimentation and runoff from pasture and croplands.

Sub-Watershed: Sipsey Creek NRCS Sub-Watershed Number 070

Landuse: The Sipsey Creek sub-watershed drains approximately 69 mi^2 in Lamar and Marion Counties. Land cover was mainly forest, with some pasture and crop lands. One current construction/stormwater authorization and 1 non-coal mining/stormwater authorization (< 5 acre) have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
74%	10%	11%	0%	<1%	<1%	4%

NPS impairment potential: The overall potential for impairment from nonpoint sources was *moderate*. The main NPS concerns within the sub-watershed were sedimentation and runoff from pasture and crop lands. Woodland areas were the primary source of sediment (Table 20a). Sipsey Creek was given a 4th priority sub-watershed rating by the SWCD for resource concerns listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	14	0.05 AU/ac	0.00%	10%	11%	0%	ur	8.5 tons/ac/yr
NPS Potential	M	L	L	M	M	L	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An in-stream assessment has not been conducted within the Sipsey Creek sub-watershed.

NPS priority status: The NPS priority status of Sipsey Creek was not assessed. However, runoff from crop and pasturelands was a concern within the sub-watershed. It is recommended that the sub-watershed be evaluated during the 2006 assessment of the EMT basins.

Luxapallila Creek CU (0316-0105)

The Luxapallila Creek CU contains 8 sub-watersheds located primarily within Lamar and Fayette Counties (Fig. 3). Seven of these sub-watersheds were mainly in Alabama and reported by the SWCD (ASWCC 1998). The CU drains approximately 662 mi^2 of the Coastal Plain and Major Floodplains and Terraces soil areas (ACES 1997) and is primarily located in the Fall Line Hills (65i) subecoregion of the Southeastern Plains Ecoregion. However, the headwaters of Upper Luxapallila Creek (010) in the eastern-most corner of the CU, are located within the Dissected Plains subecoregion (68e) of the Southwestern Appalachians Ecoregion (Fig. 4) (Griffith et al. 2001).

Landuse: Land cover within the Luxapallila Creek cataloging unit was primarily forest mixed with some pasture.

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
82%	3%	8%	0%	2%	0%	4%

NPS impairment potential: The primary nonpoint source concerns within the Luxapallila Creek cataloging unit were pasture (Fig. 5), sedimentation (Fig. 8), and mining. Forestry harvesting percentages were not estimated for any of the sub-watersheds within the CU. A total of 5 sub-watersheds were estimated to have a *moderate* potential for impairment from nonpoint sources (Fig. 16). Impairment from urban and point sources was not as much of a concern in the CU (Table 15a).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15a).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	5	0	0	2	4	5	ur	4
High	0	0	0	0	0	1	ur	3

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15a).

Category	% Urban	Development	Septic tank failure
Moderate	1	2	0
High	0	0	0

Historical data/studies: Table 16a lists the sub-watersheds and water bodies in which data has been previously collected in conjunction with other monitoring programs. The appendices where the data are provided in this report are also listed. Recent assessment information has been collected from 3 of the 5 sub-watersheds estimated to have a *moderate* potential for impairment from nonpoint sources.

2001 NPS screening assessments: Two stations were assessed within the Upper Luxapallila Creek (010) sub-watershed (Table 17a). The sub-watershed had the highest potential for impairment from nonpoint sources within the CU (Table 15a).

Sub-watershed summaries: A summary of the information available for each of the 8 sub-watersheds is provided. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority rating based on available data. Assessment of habitat, biological and chemical conditions is based on long-term data from ADEM's Ecoregional Reference Reach Program. Tables 12a-22a are located at the end of the Upper Tombigbee River basin section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Table 18a summarizes the results of habitat, chemical/physical, and biological assessments in 2 sub-watersheds. Fig. 16 shows the results of habitat and macroinvertebrate assessments. Habitat quality was assessed as *excellent* or *good.* The macroinvertebrate community was assessed as *good* at 2 (29%) stations, *fair* at 4 (57%) stations, and *poor* at 1 (14%) station. Results of fish IBI assessments conducted at 2 stations indicated the fish community to be in *fair* condition (Fig. 17).

Overall condition for each station was rated as the lowest assessment result obtained (Table 18a). Two (28%) stations were assessed as *good* and 4 (57%) were assessed as *fair*. One station was assessed as *poor* (14%). Two stations located within the Upper Luxapallila Creek (010) sub-watershed were affected by urban sources.

NPS priority sub-watersheds: Fig. 18 shows the location of Upper Luxapallila Creek (010) and Lower Luxapallila Creek (030), recommended as priority sub-watersheds.

Fig. 16. Habitat and aquatic assessments conducted in the Luxapallila Creek CU.

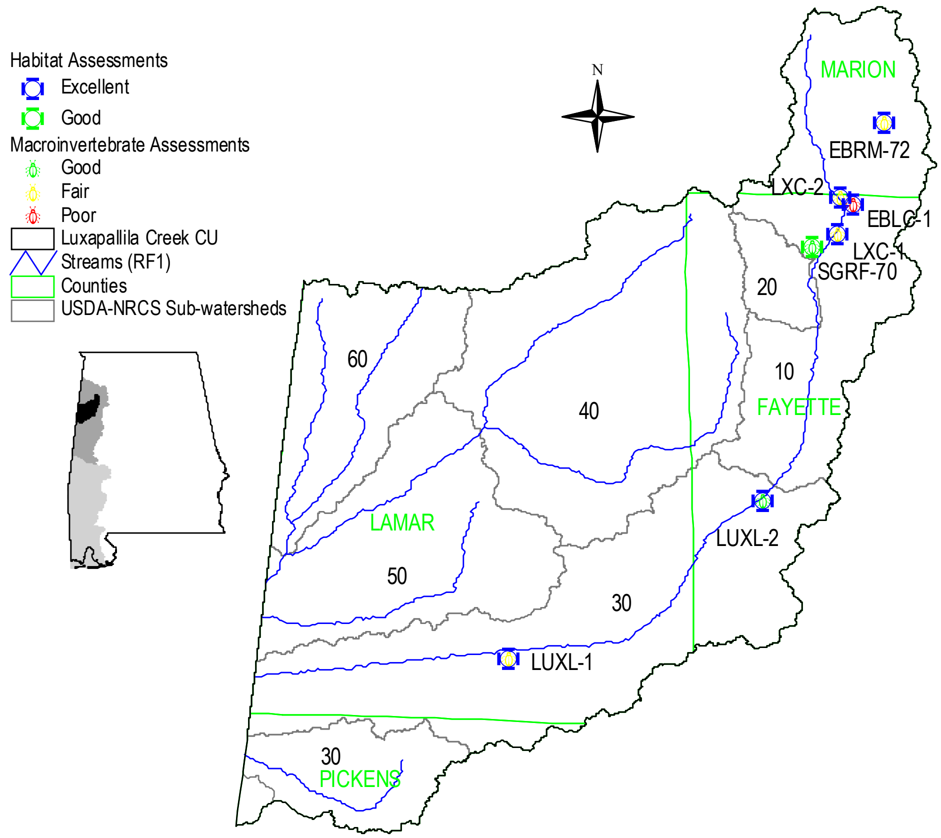

Fig. 17. Results of fish IBI assessments conducted in the Luxapallila Creek CU.

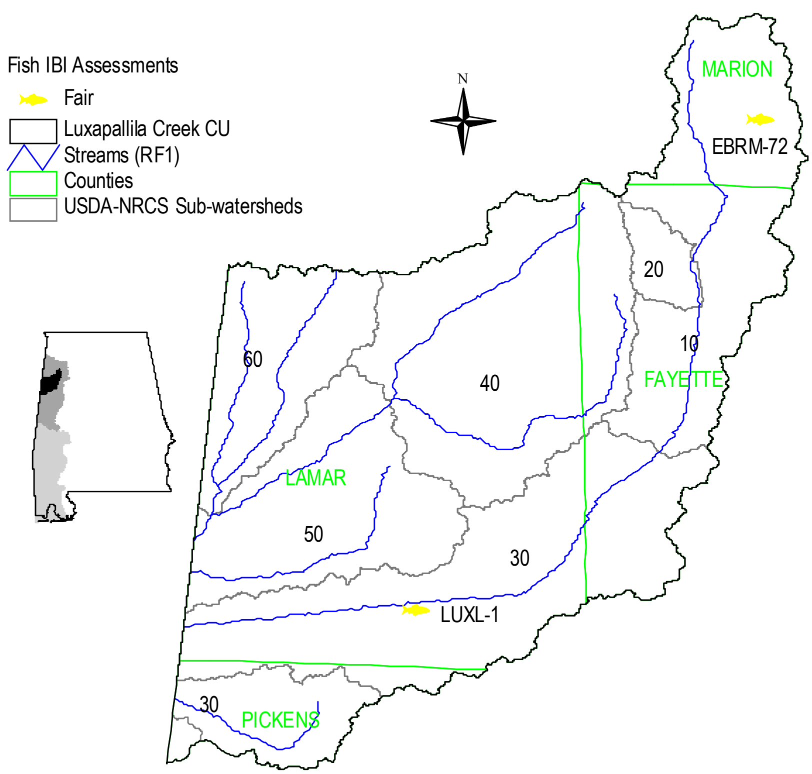

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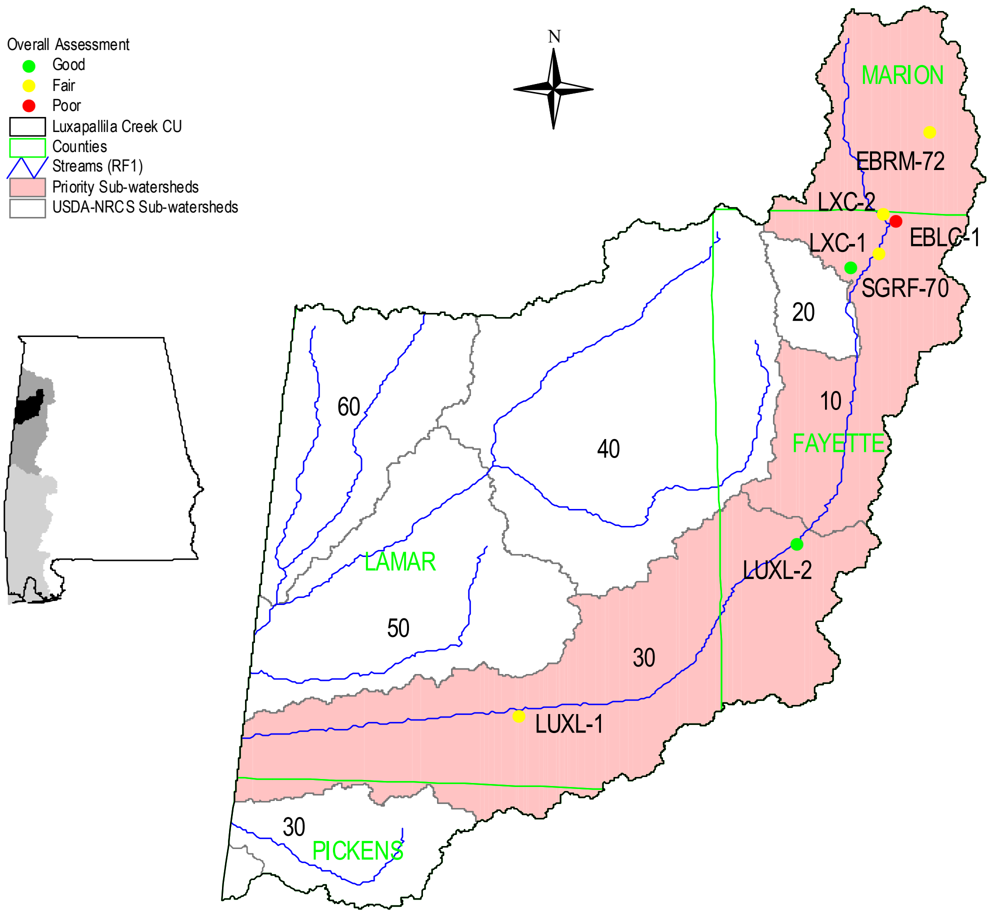
Fig. 18. Priority sub-watersheds located within the Luxapallila Creek CU. The lowest bioassessment rating obtained by each site is also shown.



Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed		Lowest Station Assessment	Suspected Cause(s)	Suspected nonpoint source(s)
010	Upper Luxapallila Creek	Fair	DO/OE, Nutrient enrichment, Sedimentation, Pathogens	Runoff from crop and pasture lands, Mining
030	Lower Luxapallila Creek	Fair	Nutrient enrichment, Sedimentaion, Pathogens	Mining, roadbank erosion, Cattle, Pasture grazing

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Sub-Watershed: Upper Luxapallila Creek NRCS Sub-Watershed Number 010

Landuse: The Upper Luxapallila Creek sub-watershed drains approximately 123 mi^2 in Fayette and Marion Counties. Land cover of this sub-watershed was primarily forest, mixed with some pasture and crop lands. One municipal NPDES permit, 3 construction/stormwater authorizations, and 4 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
71%	6%	11%	1%	7%	<1%	4%

NPS impairment potential: The main nonpoint source concerns within the sub-watershed were runoff from pasture and crop lands, mining, and sedimentation. Woodland areas contributed 58% of the total sediment load estimated for the sub-watershed (Table 20a). The overall potential for impairment from nonpoint sources was estimated as *moderate*. There was a *moderate* potential for impairment from urbanization and development (Table 15a). The Upper Luxapallila Creek sub-watershed was given a 4th priority rating for resource concerns including roadbank erosion, overgrazing of pastures, and access of livestock to streams (Table 20a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	18	0.12 AU/ac	0.00%	6%	11%	1%	ur	8.4 tons/ac/yr
NPS Potential	M	L	L	M	M	H	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Monitoring sites were established on East Branch of Luxapallila Creek and Sugar Creek within the Upper Luxapalilla Creek sub-watershed during the 2001 NPS screening assessment because of the *moderate* potenial for NPS impairment (Table 17a). Intensive water quality and assessment data has also been recently collected on East Branch of Luxapallila Creek and Luxapallila Creek in conjunction with ADEM's §303(d) Monitoring Program (Appendix F-2). Luxapallia Creek was evaluated at an additional station during ADEM's 1996 Clean Water Strategy Project (Appendix F-9). Turkey Creek was evaluated during 1998 as part of ADEM's ALAMAP Project (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
EBRM-72	Habitat, Biological, Chemical	2001	East Branch of Luxapallila Cr. at Marion CR 47	8	PWS/F&W
EBCL-3	Chemical	1999	East Branch of Luxapallila Cr. at Marion CR 47	8	PWS/F&W
EBCL-2	Chemical	1999	East Branch of Luxapallila Cr. at street us of US Hwy 78	14	PWS/F&W
EBLC-1	Habitat, Biological, Chemical	1999	East Branch of Luxapallila Cr. at unnamed drive ds of Winfield WWTP	15	PWS/F&W
UT04	Chemical	1996	Luxapallila Cr. at Fayette CR 69	23	F&W
LXC-2	Habitat, Biological, Chemical	1999	Luxapallila Cr. at Fayette CR 36	51	PWS/F&W
LXC-1	Habitat, Biological, Chemical	1999	Luxapallila Cr. at unnamed Fayette CR	53	F&W
SGRF-70	Habitat, Biological, Chemical	2001	Sugar Cr. at unnamed Fayette CR	9	F&W
UT03U2-36	Habitat, Chemical	1998	Turkey Cr. approx. 0.9 mi. us of confluence with Luxapallila Cr.	4	F&W

East Branch of Luxapallila Creek: East Branch of Luxapallila Creek is located within the Fall Line Hills subecoregion (Appendix F-2a; Table 21a). At EBRM-72, the stream is low gradient and sandy-bottomed (Table 21a). Habitat quality was assessed as *excellent* for this stream type. Macroinvertebrate and fish communities were assessed as *fair* at EBRM-72 (Table 22a). Water quality parameters measured at EBRM-72 during June and August, 2001, did not identify a source of impairment (Appendix D-1).

ADEM conducted an intensive assessment of the East Branch of Luxapallila Creek during 1999 (Appendix F-2). The purpose of the study was to evaluate the impact of Winfield's Waste Water Treatment Plant on water quality. Habitat quality was assessed as *good* at EBLC-1, directly downstream of the WWTP. However, the site was characterized by silt and bedrock substrates (Appendix F-2a). Only 1 EPT family was collected, indicating the macroinvertebrate community to be in *poor* condition (Appendix F-2b).

Water quality monitoring was conducted from May through September during the 1999 intensive assessment (Appendix F-2c). Fecal coliform counts were >1,000 colonies/100 mL of sample during 3 of 5 (60%) sampling events at EBLC-1 and once at EBLC-2. Nutrient concentrations, primarily total phosphorus and nitrate/nitrite-nitrogen were elevated at EBLC-1. Station EBLC-3 (EBRM-72) was used as an upstream control (ADEM 2001c). Conductivity was elevated at the site during several sampling events. The dissolved oxygen concentration was measured at 4.6 mg/L during the September sampling event. Nutrient concentrations and fecal coliform counts at the site were similar to reference conditions developed for the area.

Luxapallila Creek: Habitat and macroinvertebrate assessments were conducted at 2 sites during 1999 (Appendix F-2). At LXC-2, the upstream site, Luxapallila Creek was characterized by small gravel riffles (Appendix F-2a). Habitat quality was assessed as *good*. Although bottom substrates were similar, Luxapallila Creek was characterized by a lower gradient at LXC-1 (Appendix F-2a). Habitat quality was assessed as *excellent* for a glide/pool stream. The macroinvertebrate community was assessed as *fair* at both sites (Appendix F-2b).

Intensive water quality data collected at LXC-1 and LXC-2 during 1999 indicated nutrient enrichment and periodically high fecal coliform counts (Appendix F-2c). The concentration of nitrate/nitrite-nitrogen was elevated during all 5 sampling events at LXC-1 and 1 out of 5 times at LXC-2. Fecal coliform counts ranged from 220-1,060 colonies/100 mL at LXC-1 and 88-860 colonies/100 mL at LXC-2.

Luxapallila Creek was evaluated at a 3rd location during 1996 (Appendix F-9). Results did not indicate water quality impairment.

<u>Sugar Creek</u>: Sugar Creek at SGRF-70 is a shaded, glide-pool stream located in the Fall Line Hills (65i) subecoregion (Table 21a). Habitat quality was assessed as *good* for this stream type and subecoregion. Nine EPT families were collected during June, indicating the macroinvertebrate community to be in *good* condition (Table 22a).

Water quality data were collected at SGRF-70 during June and September 2001 (Appendix D-1). Nitrate/nitrite-nitrogen concentrations were slightly elevated during September.

<u>Turkey Creek</u>: Turkey Creek was evaluated at UT03U2-36 during 1998 (Appendix F-7). It is a riffle-run stream characterized by cobble, gravel, and sand substrates (Appendix F-7a). Habitat quality was assessed as *excellent* for this stream type and region. Water quality data did not indicate impairment (Appendix F-7b).

NPS priority status: Bioassessments conducted within the sub-watershed have indicated impairment from both urban and rural sources. At EBLC-1 and LXC-1, macroinvertebrate communities were likely impaired by point and nonpoint sources of pollution. Nutrient concentrations and fecal coliform counts were elevated at EBLC-1. Biological impairment was also detected at EBLC-3 and LXC-2, upstream of urban sources of impairment. High conductivity and periodically low dissolved oxygen concentrations were measured at EBLC-3 and periodically high nutrient concentrations and fecal coliform counts at LXC-2. The upper portion of the sub-watershed is therefore recommended for NPS priority status.

Sub-Watershed: Dodsen-Langston Creek NRCS Sub-Watershed Number 020

Landuse: The Dodsen-Langston Creek sub-watershed drains approximately 14 mi^2 in Fayette County. Land cover of Dodsen-Langston Creek was primarily forest and pasture. One non-coal mining/stormwater (< 5 acres) authorization has been issued within the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
77%	4%	15%	<1%	0%	<1%	4%

NPS impairment potential: There was a *moderate* potential for impairment from pasture runoff and mining. The potential for impairment from sedimentation was *high*. Fifty percent of the estimated sediment load was from roads and roadbanks (Table 20a). The overall potential for impairment from nonpoint sources was estimated as *moderate*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	14	0.05 AU/ac	0.00%	4%	15%	<1%	ur	5.4 tons/ac/yr
NPS Potential	M	L	L	L	M	M	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An in-stream assessment has not been conducted within the sub-watershed.

NPS priority status: Although Dodsen-Langston Creek was not assessed during the 2001 basin assessment, runoff from pasture and mining were NPS concerns within the sub-watershed. It should be considered for assessment during the 2006 NPS screening assessment of the EMT Basin Group.

Sub-Watershed: Lower Luxapallila Creek NRCS Sub-Watershed Number 030

***Landuse**:* Lower Luxapallila Creek drains approximately 163 mi^2 in Fayette, Lamar, and Pickens Counties. This sub-watershed was primarily forest with some pasture land. Three industrial process wastewater NPDES permits, 1 municipal NPDES permit, 1 current construction/stormwater authorization, and 1 non-coal mining (<5 acres)/stormwater authorization have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
86%	1%	7%	<1%	2%	<1%	4%

***NPS impairment potential**:* There was a *moderate* potential for impairment from mining and sedimentation. Potential for impairment from all other urban and rural NPS categories were *low*. However, Lower Luxapallila Creek was given a #3 priority sub-watershed rating by the local SWCD for resource concerns including excessive sediment from roadbanks, overgrazing of pastures, and access of livestock to streams (Table 20a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	0.09 AU/ac	0.00%	1%	7%	<1%	ur	3.6 tons/ac/yr
NPS Potential	L	L	L	L	L	M	ur	M
Table	15a	19a	19a	12a	12a	12a	20	20a

Assessments: An assessment was not conducted within the sub-watershed during the 2001 NPS screening assessment. However, Luxapallila Creek has been previously assessed at 3 locations in conjunction with the University Tributary Monitoring Project (Appendix F-4), ADEM's 2001 CWA §303(d) Monitoring Program (Appendix F-2), and ADEM's 1996 Clean Water Strategy Project (Appendix F-9). Cooper Creek was evaluated as part of ADEM's 1999 ALAMAP Program (Appendix F-7). The USGS has maintained a gage to measure streamflow of Luxapallila Creek at 02442500 since 1954. Limited water quality data collected since 1967 are available at http://waterdata.usgs.gov/nwis/inventory.

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
UT01U3-40	Chemical, Habitat	1999	Cooper Cr. us of Lamar CR 12	4	F&W
UT02U1	Chemical, Habitat	1997	Luxapallila Cr. approx. 25.3 mi. us confluence with Yellow Cr.	18	F&W
LUXL-2	Chemical, Habitat, Biological	2001	Luxapallila Cr. at Fayette CR 37	143	PWS/F&W
UT05	Chemical	1996	Luxapallila Cr. at Fayette CR 37	143	PWS/F&W
LUXL-1	Chemical, Habitat, Biological	2001	Luxapallila Cr. at AL Hwy 17	247	F&W
LXCUA01	Chemical	1998-2000	Luxapallila Cr. at AL Hwy 17	247	F&W
02442500	Chemical	1954-2001	Luxapallila Cr. at AL Hwy 17	247	F&W
UT06	Chemical	1996	Luxapallila Cr. at AL Hwy 17	247	F&W

Cooper Creek: At UT01U3-40, Cooper Creek is a low gradient stream located in the Fall Line Hills subecoregion (Appendix F-7a). Habitat quality was assessed as *excellent* for this stream type and subecoregion. Water quality samples were collected during August, 1999 (Appendix F-7b). Biochemical oxygen demand was measured at 2.9 mg/L.

Luxapallila Creek: Luxapallila Creek was assessed at LUXL-1 and LUXL-2 to verify suspected impairment caused by sedimentation. At both sites, Luxapallila Creek is a low gradient stream characterized by gravel-sand substrates (Appendix F-2a). Habitat quality was assessed as *excellent* for this stream type and subecoregion. The macroinvertebrate community was assessed as *good* at LUXL-2, just east of Fayette (Appendix F-2b). Both the macroinvertebrate and fish communities were assessed as *fair* at LUXL-1, several miles downstream of Fayette.

Intensive water quality samples were collected 7-9 times during 2001 and 2002 (Appendix F-2c). Data collected at LUXL-1 did not indicate impairment. Nutrient (total phosphorus, ammonia-nitrogen, total Kjeldahl nitrogen) concentrations were elevated at LUXL-2 during May, 2001. Fecal coliform counts, biochemical oxygen demand, and total suspended solid concentrations were also elevated. The concentration of nitrate/nitrite-nitrogen was elevated during June, 2001.

These locations were evaluated as UT05 (LUXL-2) and UT06 (LUXL-1) during 1996 (Appendix F-9). Samples collected had periodically elevated concentrations of nitrate/nitrite-nitrogen at UT06 and UT05 and total phosphorus at UT06.

NPS priority status: Lower Luxapallila Creek is recommended as a NPS priority sub-watershed. Impairment to both the macroinvertebrate and fish communities was detected in Luxapallila Creek at LUXL-1. Intensive water quality sampling indicated nutrient enrichment at LUXL-2. Mining and sedimentation were NPS concerns within the sub-watershed.

Sub-Watershed: Hells Creek **NRCS Sub-Watershed Number 040**

Landuse: The Hells Creek sub-watershed drains approximately 158 mi^2 in Fayette, Lamar, and Marion Counties. Percent land cover of this sub-watershed was mainly forest. Two non-coal mining (<5 acres)/stormwater authorizations and 1 construction/stormwater authorization have been issued within the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
86%	2%	6%	<1%	1%	<1%	5%

NPS impairment potential*:* The main NPS concerns within the sub-watershed were mining and sedimentation. The overall potential for impairment from nonpoint sources was estimated as *moderate*. The Hells Creek sub-watershed was given a 1^{st} and 5^{th} priority rating by the local SWCDs for resource concerns listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	12	0.03 AU/ac	0.00%	1%	7%	<1%	ur	4.1 tons/ac/yr
NPS Potential	M	L	L	L	L	M	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment of this sub-watershed was not conducted during the 2001 NPS screening assessment.

NPS priority status: Although an assessment was not conducted, mining and sedimentation were nonpoint source concerns within the sub-watershed. Hells Creek should be considered for assessment during the 2006 NPS screening assessment of the EMT Basin Group.

Sub-Watershed: Yellow Creek NRCS Sub-Watershed Number 050

Landuse: Yellow Creek drains approximately 99 mi^2 in Lamar County. Percent land cover of this sub-watershed was primarily forest mixed with some pasture land. One current non-coal mining (<5 acres)/stormwater authorization and 1 municipal NPDES permit have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
83%	2%	8%	<1%	2%	<1%	5%

NPS impairment potential: Percent pasture and mining indicated a *moderate* potential for NPS impairment. There was a *moderate* potential for impairment from sedimentation. The overall potential for impairment from nonpoint sources was estimated as *moderate*. Yellow Creek was given a #5 priority sub-watershed rating by the SWCD for resource concerns listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	12	0.03 AU/ac	0.00%	2%	8%	<1%	ur	3.8 tons/ac/yr
NPS Potential	M	L	L	L	M	M	ur	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment was not conducted during the 2001 NPS screening assessment. However, Yellow Creek was evaluated as part of ADEM's 1997 ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
UT01U1	Chemical, Habitat	1997	Yellow Cr. approx. 10.5 mi. us of confluence with Hells Cr.	18	F&W

<u>Yellow Creek</u>: Water quality data did not detect impairment at UT01U1 (Appendix F-7b).

NPS priority status: The NPS priority status of the Yellow Creek sub-watershed cannot be estimated from existing data. Mining and sedimentation were nonpoint source concerns, however. Yellow Creek should be considered for assessment during the 2006 NPS screening assessment of the EMT Basin Group.

Sub-Watershed: Wilson Creek NRCS Sub-Watershed Number 060

Landuse: The Wilson Creek sub-watershed drains approximately 65 mi^2 in Lamar County. Land cover was primarily forest mixed with pasture, crop lands, and other land cover. One non-coal mining (< 5 acres)/stormwater authorization has been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
77%	4%	12%	<1%	0%	1%	7%

NPS impairment potential: There was a *moderate* potential for impairment associated with pasture lands, mining, and sedimentation. The overall potential for impairment from nonpoint sources was estimated as *moderate*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	12	0.04 AU/ac	0.00%	4%	12%	<1%	ur	3.8 tons/ac/yr
NPS Potential	M	L	L	L	M	M	ur	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment of the Wilson Creek sub-watershed was not conducted during the 2001 NPS screening assessment. However, a tributary to Cut Bank Creek was evaluated in conjunction with ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
UT3U5-58	Chemical, Habitat	2001	Tributary to Cut Bank Cr. approx. 1.5 mi. us of confluence with Cut Bank Cr.	2	F&W

<u>Tributary to Cut Bank Creek</u>: At UT3U5-58, the tributary to Cut Bank Creek is a glide-pool stream located in the Fall Line Hills (65i) subecoregion (Appendix F-7a). Habitat quality was assessed as *good* for this stream type and subecoregion. Water quality data collected during August did not indicate impairment (Appendix F-7b).

NPS priority status: The NPS priority status of Wilson Creek could not be evaluated using available data.

Sub-Watershed: Magby Creek **NRCS Sub-Watershed Number 100**

Landuse*:* A small portion (37 mi^2) of the headwaters of the Magby Creek sub-watershed flows through Pickens County before entering Mississippi. Land cover within Pickens County was estimated as 90% forest. One current construction/stormwater authorization has been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
90%	7%	2%	0%	0%	<1%	1%

NPS impairment potential: The potential for impairment associated with runoff from crop land and sedimentation was estimated as *moderate*. Potential for impairment from other nonpoint sources was *low*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	0.01 AU/ac	0.00%	7%	2%	0%	ur	3.0 tons/ac/yr
NPS Potential	L	L	L	M	L	L	ur	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment was not conducted during the 2001 NPS screening assessment.

NPS priority status: NPS priority status was not estimated during the 2001 NPS screening assessment, but the potential for impairment was estimated as *low*.

Sub-Watershed: McCrary Creek **NRCS Sub-Watershed Number 120**

Landuse*:* McCrary Creek drains approximately 3 mi^2 in Pickens County before flowing into Mississippi. Land cover of McCrary Creek was not estimated by the local SWCD due to the small size of the sub-watershed. One current construction/stormwater authorization and 1 non-coal mining (<5 acres)/stormwater authorization have been issued in the sub-watershed (Table 13a).

NPS impairment potential*:* The local SWCD did not estimate animal units or sedimentation rates for McCrary Creek due to the small size of the sub-watershed.

Assessments*:* An in-stream assessment has not been conducted within the McCrary Creek sub-watershed.

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Middle Tombigbee River-Lubbub Creek CU (0316-0106)

The Middle Tombigbee River-Lubbub Creek CU contains 15 sub-watersheds located primarily within Pickens and Greene Counties (Fig. 3). The CU drains approximately 1,270 mi^2 of the Coastal Plain, Major Floodplains and Terraces, and the Blackland Prairie soil areas (ACES 1997) and is located in four subecoregions of the Southeastern Plains Ecoregion (65a, 65b, 65i, and 65p) (Fig. 4) (Griffith et al. 2001).

Landuse: Land cover within the Middle Tombigbee River-Lubbub Creek CU was primarily forest mixed with pasture and cropland. A 3.9-mile section of Little Bear Creek is currently on Alabama's 2002 §303(d) list of impaired waterbodies due to organic enrichment and low dissolved oxygen concentrations. Suspected sources of the impairment include urban runoff and storm sewers. A 5.0-mile section of the Tombigbee River is on Alabama's 2000 §303(d) list of impaired waterbodies due to organic enrichment and low dissolved oxygen concentrations caused by dam construction and flow modification.

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
63%	8%	20%	0%	3%	3%	3%

NPS impairment potential: The primary nonpoint source concerns within the Middle Tombigbee River-Lubbub Creek CU were pasture (Fig. 6), crop lands (Fig. 18), aquaculture (Fig. 9), and sedimentation (Fig. 8). A total of 11 sub-watersheds were estimated to have a *moderate* or *high* potential for impairment from nonpoint sources. Six of these sub-watersheds also had a *moderate* or *high* potential for impairment from urban and point sources (Table 15a).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15a).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry (7 Reported)	Sediment
Moderate	1	1	2	7	5	0	2	5
High	10	2	6	2	3	0	2	9

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15a).

Category	% Urban	Development	Septic tank failure
Moderate	4	2	8
High	0	0	3

Historical data/ studies: Table 16a lists the sub-watersheds and water bodies in which data have been previously collected in conjunction with other monitoring programs. The appendices of this report where the data are provided are also listed. Recent assessment information has been collected from 11 of 15 sub-watersheds (Fig. 10).

2001 NPS screening assessments: Four sub-watersheds in the Middle Tombigbee River-Lubbub Creek CU were targeted for assessment during the EMT Basinwide Screening Assessment because they had a *moderate* or *high* potential for impairment from nonpoint sources, *low* potential for impairment from urban or point sources, and relatively little recent assessment data (Table 17a). These included Lower Lubbub Creek (120), Fenache Creek (130), Trussells Creek (160), and Factory Creek (170) sub-watersheds.

Sub-watershed summaries: Current and historical monitoring data were combined to provide a comprehensive assessment. A summary of the information available for each of the 15 sub-watersheds is provided. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority rating based on available data. Assessment of habitat, biological and chemical conditions is based on long-term data from ADEM's Ecoregional Reference Reach Program. Tables 12a-22a are located at the end of the Basin summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Table 18a summarizes the results of habitat, chemical/physical, and biological assessments conducted throughout the CU. Fig. 19 shows the location of habitat and macroinvertebrate assessments. Habitat quality was assessed as *excellent* or *good* at 8 stations and *fair* at one station. Macroinvertebrate assessments indicated the macroinvertebrate community to be in *good* condition at 5 (56%) stations, and *fair* condition at 4 (44%) stations. Results of fish IBI assessments conducted at 4 of these sites indicated the fish community as *good* at 1 (25%) station, *fair* condition at 2 (50%), and *poor* condition at 1 (25%) station (Fig. 20).

Overall condition for each station was rated as the lowest assessment result obtained (Fig. 21). Four (44%) stations were assessed as *good*. Four (44%) stations were assessed as *fair* and 1 (11%) was assessed as *poor*. Of the 5 stations assessed as *fair* or *poor*, one was primarily impacted by flow modification. The remaining 4 stations were located in 3 sub-watersheds.

NPS priority sub-watersheds: Fig. 21 shows the location of the 3 recommended priority sub-watersheds. These included Coal Fire Creek (060), Trussells Creek (160), and Factory Creek (170).

Fig. 19. Habitat and macroinvertebrate assessments conducted within the Middle Tombigbee R.-Lubbub Cr. CU.

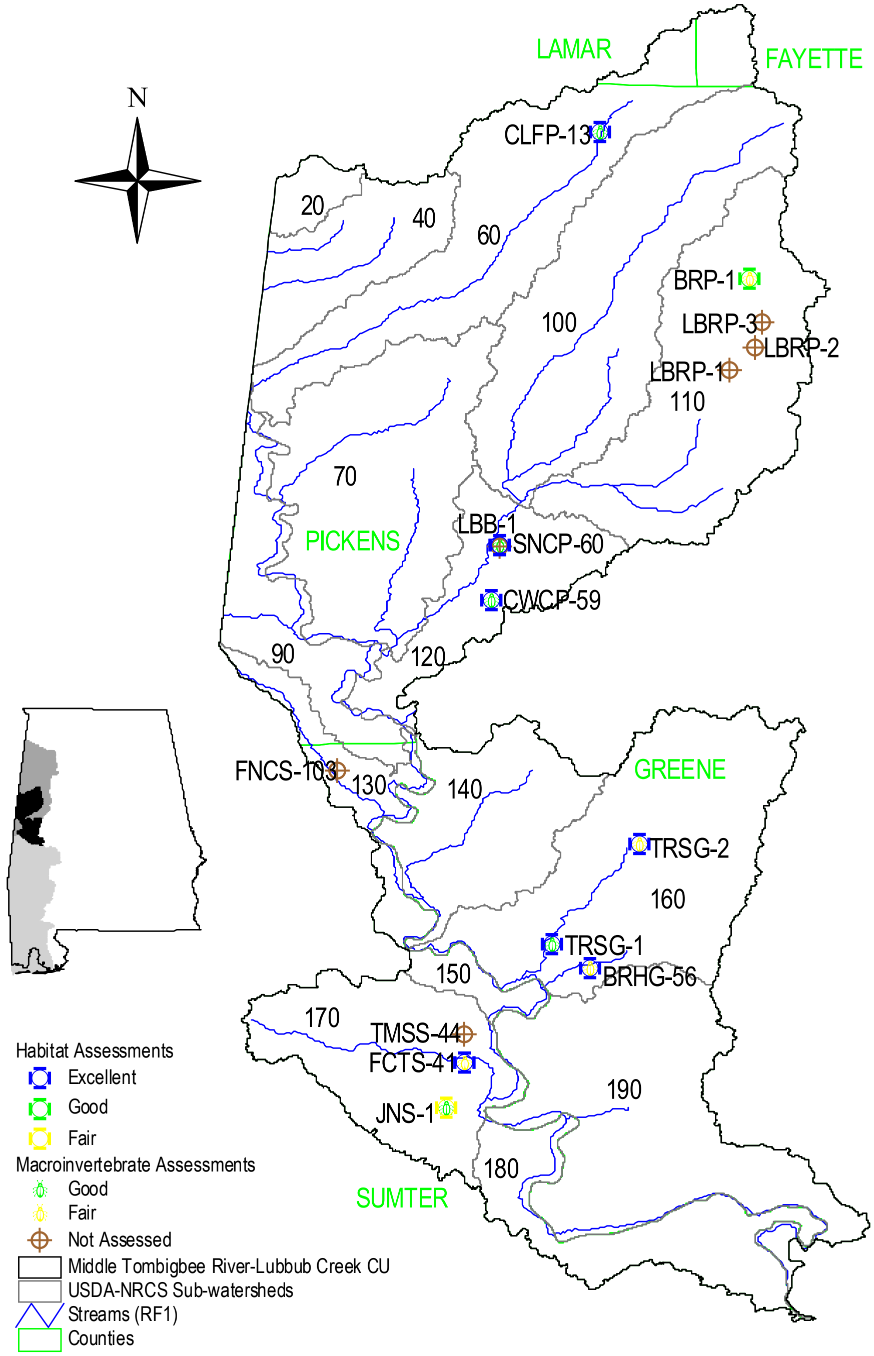

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Fig. 20. Results of fish IBI assessments conducted in the Middle Tombigbee R.-Lubbub Cr. CU.

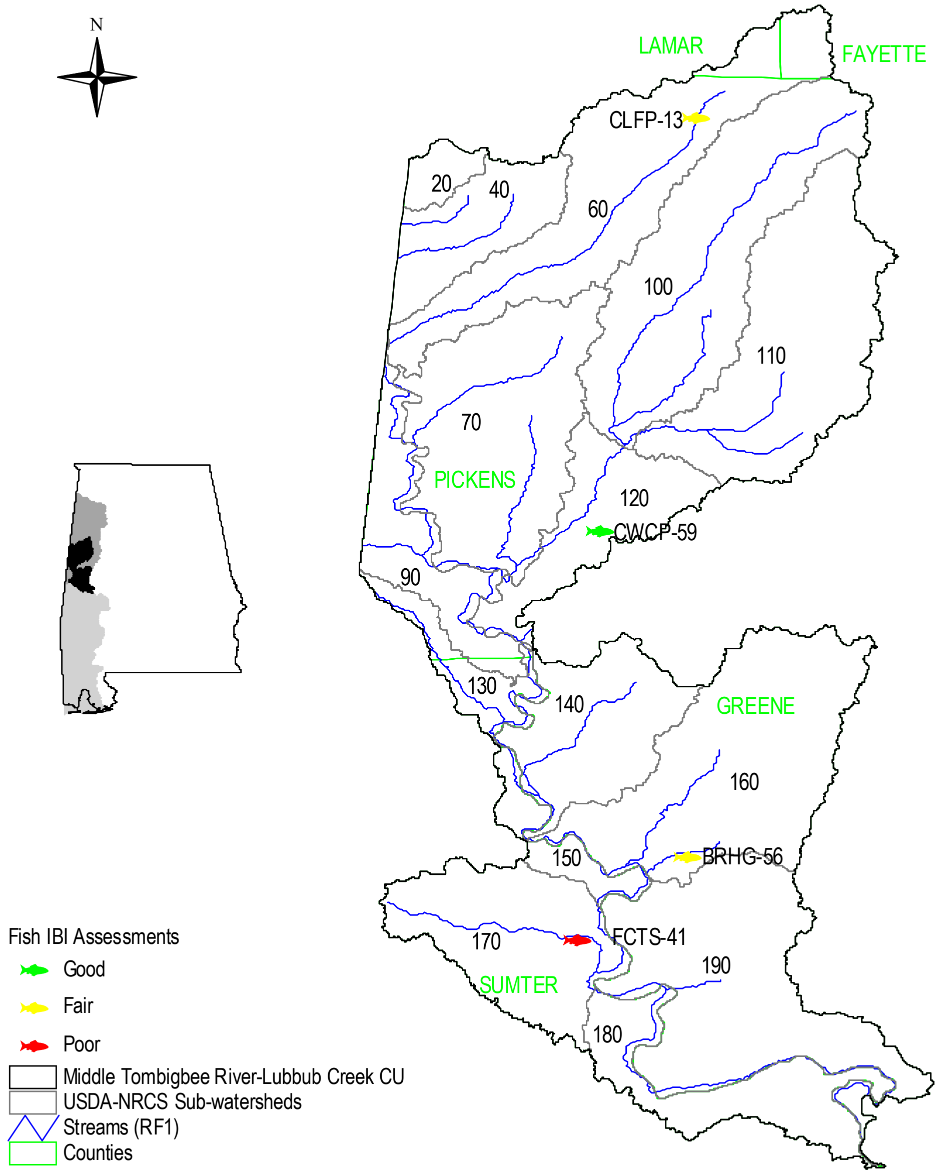

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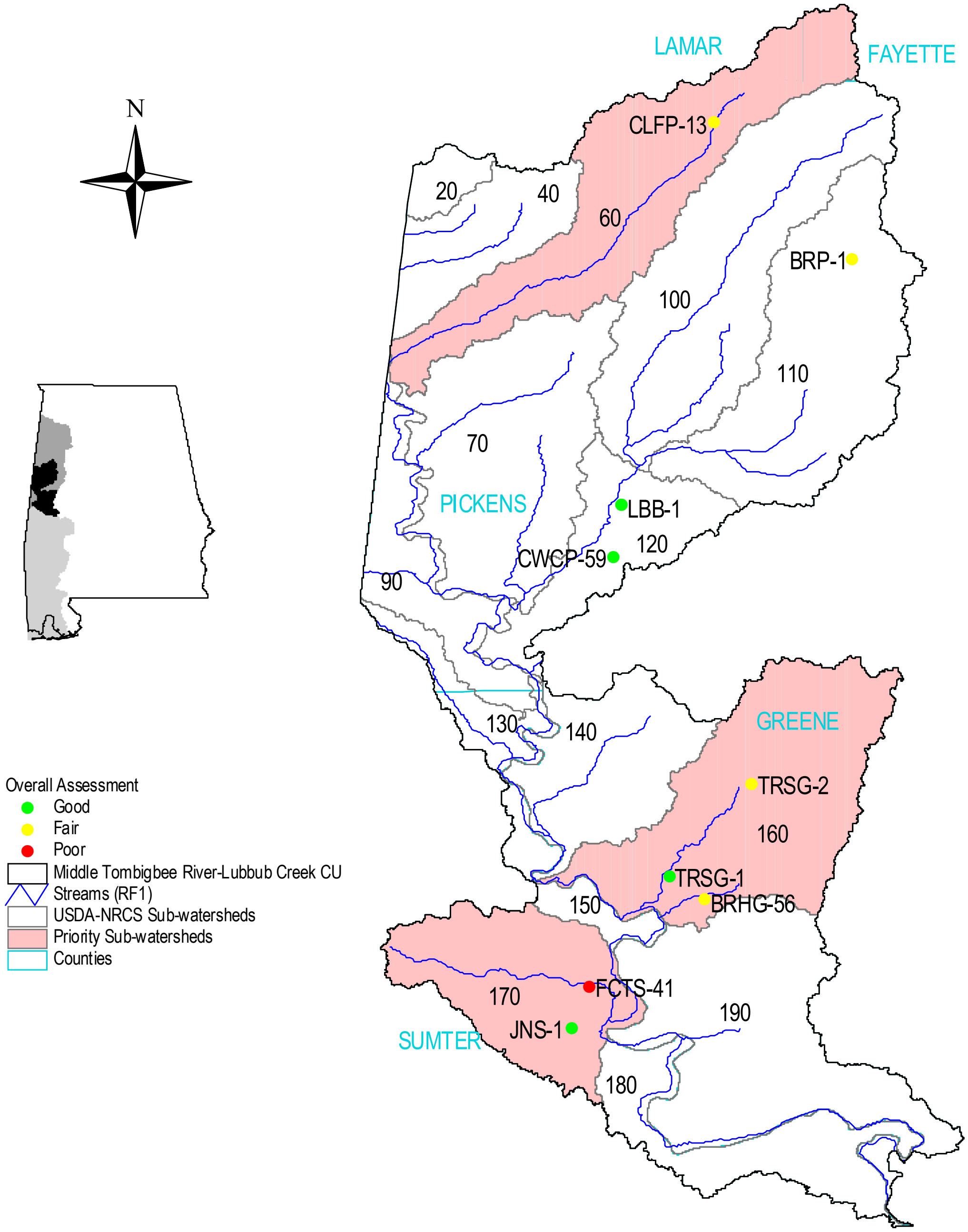
Fig. 21. Priority sub-watersheds within the MiddeTombigbee R.-Lubbub Cr. CU. Lowest bioassessment result obtained at each station is also shown.



Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed		Lowest Station Assessment	Suspected Cause(s)	Suspected nonpoint source(s)
060	Coal Fire Creek	Fair	Nutrient enrichment, Sedimentation	Forestry, Aquaculture
160	Trussells Creek	Fair	Nutrient enrichment, Sedimentation	Crop land runoff
170	Factory Creek	Poor	Nutrient enrichment, Sedimentation, Habitat degradation	Aquaculture, Crop and pasture land runoff, Animal husbandry

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Sub-Watershed: Ellis Creek NRCS Sub-Watershed Number 020

Landuse: Ellis Creek drains approximately 12 mi^2 in Pickens County. Land cover of the sub-watershed was 93% forest. One current construction/stormwater authorization has been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
93%	2%	4%	0%	0%	<1%	1%

NPS impairment potential: The potential for impairment from all nonpoint source categories was estimated as *low.* Forestry information was not available to estimate impairment potential. The potential for impairment from septic tank failure was estimated as *moderate* (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	6	0.03 AU/ac	0.005	2%	4%	0%	ur	1.1 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	L
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment has not been conducted within the Ellis Creek sub-watershed.

NPS priority status: The NPS priority status of the Ellis Creek sub-watershed was not evaluated. However, the potential for NPS impairment within the sub-watershed was estimated as *low*. Although small, further evaluation of Ellis Creek as a potential reference site is warranted.

Sub-Watershed: Kincaide Creek NRCS Sub-Watershed Number 040

Landuse: The Kincaide Creek sub-watershed drains approximately 48 mi^2 in Pickens County. Forest was the primary land cover within the sub-watershed. One current construction/stormwater and 2 non-coal mining (<5 acres)/stormwater authorizations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
89%	3%	3%	0%	2%	<1%	2%

NPS impairment potential: Sedimentation was the primary nonpoint source concern within the sub-watershed. However, sediment from developing urban land constituted 39% of the total sediment load estimated for the sub-watershed (Table 20a). Potential for impairment from other nonpoint sources was *low*. Estimates of septic tank failure indicated a *moderate* potential for impairment (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	8	0.01 AU/ac	0.00%	3%	3%	0%	ur	3.8 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment has not been conducted within the Kincaide Creek sub-watershed.

NPS priority status: The NPS priority status of the Kincaide Creek sub-watershed was not evaluated, but the potential for impairment was estimated as *low*.

Sub-Watershed: Coal Fire Creek NRCS Sub-Watershed Number 060

***Landuse**:* The Coal Fire Creek sub-watershed drains approximately 134 mi^2 in Fayette, Lamar, and Pickens Counties. Land cover of the sub-watershed was estimated as 93% forest. Two current construction/stormwater authorizations, 1 non-coal mining (<5 acres)/ stormwater authorization, and 2 CAFO registrations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
93%	2%	2%	0%	0%	1%	2%

NPS impairment potential: The main NPS concerns within the sub-watershed were estimated to be aquaculture and sedimentation. Dirt roads and roadbanks contributed 33% to the total sediment load in the sub-watershed. Forestry information was not available to estimate impairment potential, but forestry harvesting activity has been noted in the sub-watershed during site visits. The overall potential for impairment from nonpoint sources was estimated as *low*. Estimates of septic tank failure indicated a *moderate* potential for impairment (Table 15a). Coal Fire Creek sub-watershed was given a #5 priority by the Pickens County SWCD for resource concerns listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	0.05 AU/ac	0.10%	2%	2%	0%	ur	3.0 tons/ac/yr
NPS Potential	L	L	M	L	L	L	ur	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

***Assessments**:* The sub-watershed was not monitored during the 2001 NPS screening assessment. However, Coal Fire Creek has been assessed at 5 locations in conjunction with ADEM's Ecoregional Reference Reach Program (Appendix F-1), Reservoir Monitoring Program (Appendix F-3), Clean Water Strategy Project (Appendix F-9), and the University Tributary Monitoring Project (Appendix F-4). The Tombigbee River has also been monitored in conjunction with ADEM's Reservoir Monitoring Program (Appendix F-3).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
CFCUA01	Chemical	1998-1999	Coal Fire Cr. at AL Hwy 14	22	S/F&W
UT16	Chemical	1996	Coal Fire Cr. at AL Hwy 14	22	S/F&W
CLFP-13	Habitat, Biological, Chemical	2001	Coal Fire Cr. 2 mi. west of Palmetto, 8 mi north of Reform	30	S/F&W
UT17	Chemical	1996	Coal Fire Cr. on unnamed Pickens CR off of Pickens CR 35	83	S/F&W
UT18	Chemical	1996	Coal Fire Cr. at Pickens CR 27	47	S/F&W
Aliceville3	Chemical, Biological	2001	Coal Fire Cr. embayment approx. 1 mi. us of confluence with the Tombigbee River	129	S/F&W
Aliceville2	Chemical, Biological	2001	Tombigbee R. at deepest point in main channel immediately us of the confluence with Lindsey Cr.	5619	S/F&W

Coalfire Creek: Coal Fire Creek at CLFP-13 is a low gradient stream located in the Fall Line Hills (65i) subecoregion (Appendix E-1). Habitat quality was assessed as *excellent* (Appendix F-1a). Bioassessments conducted at this station indicated the macroinvertebrate community to be in *good* condition and the fish community to be in *fair* condition (Appendix F-1b).

Intensive water quality sampling was conducted at CLFP-13 from March through November 2002 (Appendix F-1c). Nutrient concentrations (DRP, NO_3/NO_2-N, TKN) were periodically elevated. The fecal coliform count was >2,310 during the November, 2002 sampling event.

Coal Fire Creek was monitored intensively at CFCUA01, November 1998-October of 1999 (Appendix F-4a). Concentrations of total suspended solids and total dissolved solids were elevated during 4 (22%) and 6 (33%) of 18 sampling events, respectively. The concentration of total Kjeldahl nitrogen was 1.06 mg/L during April 24, 1999. Total phosphorus concentrations were >0.09 mg/L during 3 (17%) of 18 sampling events.

An additional 3 stations were evaluated during the 1996 Clean Water Strategy Project (Appendix F-9a). Biochemical oxygen demand was >2.0 mg/L during the October sampling event at UT17 and UT18. In addition, nitrate/nitrite-nitrogen concentrations ranged from 1.60-1.96 mg/L at all 3 stations.

Intensive water quality samples were collected monthly during April through October, 2001 near the mouth of Coalfire Creek (Aliceville3) to evaluate nutrient and sediment loading as a source of water quality impairment to Aliceville Reservoir (Appendix F-3a). The mean TSI value was 56, indicating eutrophic conditions over much of the growing season (ADEM 2003b). Total suspended solid concentrations ranged from 10-28 mg/L.

Tombigbee River: Aliceville Reservoir at Aliceville2 was monitored monthly, April through October of 2001, to assess trends in water quality at the site (Appendix F-3a). The mean total nitrogen and total phosphorus concentrations were 0.495 mg/L and 0.090 mg/L, respectively. The mean TSI value was 53, indicating eutrophic conditions at the site. The mean concentration of total suspended solids was 18.3 mg/L. Fecal coliform counts ranged from 2-110 colonies/100 mL.

NPS priority status: An assessment conducted at CLFP-13 during 2001 indicated the fish community to be in *fair* condition. Intensive chemical sampling at CFCUA01 suggested sedimentation and nutrient enrichment to be potential sources of biological impairment. NPS concerns within the sub-watershed included aquaculture and sedimentation. Watershed reconnaissance indicated forest harvesting activities to be another potential source of impairment within the sub-watershed. Coalfire Creek is therefore recommended as an NPS priority sub-watershed.

Sub-Watershed: Big Creek NRCS Sub-Watershed Number 070

***Landuse**:* The Big Creek sub-watershed drains approximately 131 mi^2 in Pickens County. Primary landuses within the sub-watershed were forest mixed with row crop, urban areas, and pasture. Big Creek flows into Tombigbee River just upstream of the Aliceville Lock and Dam. The Tombigbee River from Aliceville Reservoir to the AL/MS stateline is currently on ADEM's 2002 draft §303(d) list for impairments caused by organic enrichment and low dissolved oxygen concentrations (Table 14a, ADEM 2003a). Two current construction stormwater authorizations, 3 non-coal mining (<5 acres)/stormwater authorizations, 1 municipal NPDES permit, and 2 CAFO registrations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
81%	7%	4%	0%	5%	1%	3%

NPS impairment potenial: The SWCD estimates indicated *moderate* potential for impairment from row crops, and a *high* potential for impairment from sedimentation. Sand and gravel pits were the primary sediment source, contributing 64% of the total sediment load (Table 20a). The overall potential for NPS impairment was estimated as *moderate*. Big Creek was given a #4 priority sub-watershed rating by the local SWCD. Resource concerns are listed in Table 20a. Estimates of percent urban area and septic tank failure indicated *moderate* and *high* potentials for impairment, respectively (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	12	0.1 AU/ac	0.00%	7%	4%	0%	ur	5.9 tons/ac/yr
NPS Potential	M	L	L	M	L	L	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An in-stream assessment was not conducted during the 2001 NPS screening assessment. Blubber Creek has been monitored in conjunction with ADEM's Ecoregional Reference Reach Program (Appendix F-1). Greer Branch and Woolbank Creek have been evaluated as part of ADEM's ALAMAP Program (Appendix F-7) and Clean Water Strategy Project (Appendix F-9). The Tombigbee River has been monitored in conjunction with the University Tributary Monitoring Project (Appendix F-4) and ADEM's Ambient Monitoring (Appendix F-8) and Reservoir Monitoring (Appendix F-3) Programs. The USGS has maintained a gage to measure streamflow of the Tombigbee River at 02444500 since 1938. Peak flows dating back to 1892 are also available. Water quality data were collected at the site, 1962-1997 (http://waterdata.usgs.gov/nwis/inventory). The USGS has monitored streamflow at 02444160 since 1980.

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BLBP-1	Chemical, Habitat, Biological	1993, 1995	Blubber Cr. at AL Hwy 14	17	F&W
LT03U3-30	Chemical, Habitat	1999	Greer Branch approx. 0.3 mi. east of unnamed dirt rd.	6	F&W
Aliceville1	Chemical, Biological	1985, 1989, 1992, 1995, 1997, 1999, 2001	Tombigbee R. at deepest point of the main channel in the dam forebay	5750	S/F&W
TORUA03	Chemical	1998-2000	Tombigbee R. at Bevill Dam Forebay	5750	S/F&W
T-4	Chemical	1975-2000	Tombigbee R. at Bevill Lock and Dam	5750	S/F&W
0244160	Chemical	1980-2001	Tombigbee R. at Bevill Lock and Dam	5750	S/F&W
0244500	Chemical	1938-2001	Tombigbee R. at AL Hwy 17	5940	S/F&W
UT14	Chemical	1996	Woolbank Cr. at dirt rd. off of CR 12	6	F&W
UT15	Chemical	1996	Woolbank Cr. at 2nd dirt rd. to east off of CR 12	4	F&W

Blubber Creek: Blubber Creek at BLBP-1 is a sand-bottomed, low gradient stream located in the Fall Line Hills subecoregion (Appendix F-1a). The site was not assessed during 2001 due to the presence of several beaver dams. Previous assessments conducted during 1993 and 1995 indicated habitat quality to be *excellent* (Appendix F-1a). The macroinvertebrate community was assessed as *good* in 1993 and *fair* in 1995 (Appendix F-1b).

Water samples collected during 1993 and 1995 did not indicate impairment (Appendix F-1c).

Greer Branch: At LT03U3-30, Greer Branch is a low gradient stream located in the Southeastern Floodplains and Low Terraces (65p) (Appendix F-7a). Assessment guidelines have not been established for this subecoregion. The concentration of nitrate/nitrite-nitrogen was 0.46 mg/L during an August, 1999 sampling event (Appendix F-7b).

Tombigbee River: Since 1975, the Tombigbee River has been monitored intensively at T-4 as part of ADEM's Ambient Monitoring Program (ADEM, In press). Data collected since 1990 are provided in Appendix F-8a. Since 1996, dissolved oxygen concentrations have been below the Fish & Wildlife Criteria of 5.0 mg/L during 2 of 26 (8%) sampling events. Temperature and pH have consistently met Fish & Wildlife Criteria.

The same location (TORUA03) was intensively monitored as part of the University Tributary Monitoring Project from November 1998 through October of 1999 (Appendix F-4a). Flows ranged from 585-30,500 cfs. Dissolved oxygen concentrations ranged from 4.5-15.4 mg/L, but was below the Fish & Wildlife Criteria of 5.0 mg/L during 1 (6%) of 18 sampling events.

ADEM monitored the station (Aliceville1) monthly during April-October of 2001 (Appendix F-3a). The mean chlorophyll *a* concentration suggests conditions within the dam forebay to be eutrophic over much of the algal growing season (ADEM 2003b). Comparison of 2001 data with monitoring data collected during 1992 and 1995 indicates average total phosphorus concentrations in 2001 to be nearly twice as high as the value reported in ADEM's 1996 five year reservoir report (ADEM 1996b, ADEM 1996c). Total suspended solid concentrations ranged from 12-48 mg/L, slightly higher than in the upstream portion of the reservoir (Appendix F-3a). The mean total phosphorus concentration was 0.093 mg/L.

<u>Woolbank Creek</u>: Woolbank Creek was evaluated in 1996 at UT14 and UT15 (Appendix F-9a). During the October sampling event, the biochemical oxygen demand was measured at 2.2 mg/L at UT14 and the nitrate/nitrite-nitrogen concentration was 1.97 mg/L at UT15.

NPS priority status: Although the macroinvertebrate community was assessed as *fair* in 1995, the station needs to be re-evaluated to assess current conditions of the reference site. SWCD landuse estimates indicated cropland runoff and sedimentation to be NPS concerns in the sub-watershed. The sub-watershed may also be an important source of nutrient enrichment to the Tombigbee River.

Sub-Watershed: Boguechitto Creek NRCS Sub-Watershed Number 090

***Landuse**:* The Boguechitto Creek sub-watershed drains approximately 54 mi^2 in Pickens and Sumter Counties. Land cover in the sub-watershed was mainly forest with crop and pasture lands. Two current construction/stormwater authorizations, 2 non-coal mining (< 5 acres)/stormwater authorizations, 1 semi-public/private NPDES permit, and 1 CAFO registration have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
52%	16%	19%	0%	2%	7%	4%

NPS impairment potential: Animal husbandry, aquaculture, crop land, pastures, and sedimentation were NPS concerns within the sub-watershed. Sand and gravel pits contributed 53% of the total sediment load estimated for the sub-watershed (Table 20a). No data were available to estimate the potential for impairment from forestry activities. The overall potential for impairment from nonpoint sources was *moderate*. Boguechitto Creek was given a 2nd priority rating by the local SWCD for resource concerns listed in Table 20a. Estimates of septic failure indicated a *high* potential for impairment (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	20	0.19 AU/ac	0.69	16%	19%	0%	ur	11.1 tons/ac/yr
NPS Potential	M	M	H	M	M	L	ur	H
Table	18a	19a	19a	12a	12a	12a	20a	20a

***Assessments**:* An assessment was not conducted within this sub-watershed during the 2001 NPS screening assessment. Boguechitto Creek was monitored in conjunction with ADEM's Reservoir Monitoring Program (Appendix F-3). The USGS has maintained a gage to measure streamflow of Boguechitto Creek at 02444490 since 1999 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
02444490	Chemical	1999-2001	Boguechitto Cr. at Pickens CR 1	53	F&W
Gainesville4	Chemical, Biological	2001	Boguechitto Cr. embayment at deepest point of main channel, 0.5 mi us of confluence with Tombigbee R.	327	F&W
Gainesville3	Chemical, Biological	2001	Tombigbee R. at deepest point of the main channel approx. 0.5 mi. ds of confluence with Boguechitto Cr.	5,941	S/F&W

Boguechitto Creek: Intensive water quality samples were collected monthly near the mouth of Boguechitto Creek during April through October 2001 (Gainesville4) to evaluate nutrient and sediment loading as a source of water quality impairment to Gainesville Reservoir (Appendix F-3a). Total suspended solid concentrations ranged from 21-40 mg/L, the highest within the Gainesville Reservoir sampling stations (Appendix F-3a). The mean total nitrogen concentration was highest within the Gaineville Reservoir and 2nd highest of the 17 tributaries monitored along the Tombigbee River. The average TSI value was 63, indicating eutrophic conditions (ADEM 2003b).

Tombigbee River: The Tombigbee River was monitored just downstream of Gainesville4 at Gainesville3, April-October 2001 (Appendix F-3a). Mean total nitrogen and phosphorus concentrations were 0.503 mg/L and 0.074 mg/L, respectively. The mean TSI value was 53, indicating eutrophic conditions at this location. The mean concentration of total suspended solids was 22.7 mg/L. Comparison with historical data suggest that phosphorus and total suspended solid concentrations have increased since 1995 (ADEM 1996b, ADEM 1996c). The trophic state appears essentially unchanged, however.

NPS priority status: Animal husbandry, aquaculture, crop land, pastures, and sedimentation were NPS concerns within the sub-watershed. Intensive water quality sampling at the mouth of Boguechitto Creek suggest the stream to be a primary source of nutrients for the Gainesville Reservoir.

Sub-Watershed: Upper Lubbub Creek NRCS Sub-Watershed Number 100

Landuse: The Upper Lubbub Creek sub-watershed drains approximately 148 mi^2 in Fayette and Pickens Counties. Land cover within the sub-watershed was primarily forest with small urban areas. Two current construction/stormwater authorizations, 2 non-coal mining (<5 acres)/stormwater authorizations, 2 municipal NPDES permits, 2 industrial process wastewater permits, and 6 CAFO registrations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
81%	2%	4%	0%	9%	1%	3%

NPS impairment potential: The potential for impairment from crop land was estimated as *moderate.* Sedimentation was also a concern within the sub-watershed, but developing urban lands contributed 71% of the total sediment load estimated for the sub-watershed (Table 20a). The potential for impairment from other nonpoint sources was *low*. However, Upper Lubbub Creek was given a 1st priority sub-watershed rating by the SWCD for resource concerns listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	0.08 AU/ac	0.03%	2%	4%	0%	ur	7.6 tons/ac/yr
NPS Potential	L	L	L	M	L	L	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment was not conducted within this sub-watershed during the 2001 NPS screening assessment because of the *low* potential for impairment from nonpoint sources. Lubbub Creek was evaluated at 2 locations as part of ADEM's 1996 Clean Water Strategy Project.

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
UT22	Chemical	1996	Lubbub Creek at western most bridge on dirt rd. off of CR3	39	F&W
UT21	Chemical	1996	Lubbub Cr. at unnamed Pickens CR, 3 mi. S of Reform	78	F&W

<u>Lubbub Creek</u>: During June and August of 1996, dissolved oxygen concentrations were below numeric criteria for the "Fish and Wildlife" water use classification at UT21. During October, the nitrate/nitrite-nitrogen concentrations were 2.08 and 2.00 mg/L at UT21 and UT22, respectively (Appendix F-9a).

NPS priority status: NPS priority status could not be estimated from available data. However, the sub-watershed was not at a *high* risk for NPS impairment.

Sub-Watershed: Bear Creek NRCS Sub-Watershed Number 110

***Landuse**:* The Bear Creek sub-watershed drains approximately 134 mi^2 in Pickens County. Percent land cover was estimated as 85% forest. A total of 9 NPDES permits, authorizations, and CAFO registrations have been issued within the sub-watershed (Table 13a). A 3.9 mile segment of Little Bear Creek is currently on Alabama's 2002 CWA §303(d) list of impaired waterbodies for partially meeting its "Fish and Wildlife" water use classification for impairments caused by urban runoff/storm sewers (Table 14a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
85%	2%	5%	0%	6%	1%	2%

***NPS impairment potential**:* The potential for impairment from animal husbandry, primarily poultry, was estimated as *high*. The risk for impairment from sedimentation was also estimated as *high*, but developing urban lands were the main source of sedimentation within the sub-watershed (Table 20a). Potential for impairment from other nonpoint sources was *low*. Estimates of percent urban area and septic tank failure indicated *moderate* potentials for impairment (Table 15a). Bear Creek was given a #3 priority sub-watershed rating by the SWCD. Resource concerns are listed in Table 15a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	14	1.48 AU/ac	0.00%	2%	5%	0%	ur	6.2 tons/ac/yr
NPS Potential	M	H	L	L	L	L	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

***Assessments**:* ADEM has monitored Bear Creek (BRP-1) as a least-impaired, ecoregional reference site (Appendix F-1). Little Bear Creek was assessed at 3 locations in conjunction with ADEM's 303(d) Monitoring Program (Appendix F-2) and 1996 Clean Water Strategy Project (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BRP-1	Chemical, Habitat, Biological	1993, 1995, 2001	Bear Cr. at Pickens CR 38	15	F&W
LBRP-1	Chemical, Habitat	2001	Little Bear Cr. at Pickens CR 9	18	F&W
UT03	Chemical	1996	Little Bear Cr. at Pickens CR 9	18	F&W
LBRP-2	Chemical, Habitat	2001	Little Bear Cr. at US Hwy 82	13	F&W
UT02	Chemical	1996	Little Bear Cr. at US Hwy 82	13	F&W
LBRP-3	Chemical, Habitat	2001	Little Bear Cr at Pickens CR 4	5	F&W
UT01	Chemical	1996	Little Bear Cr. at Pickens CR 4	5	F&W
SNDP-61	None conducted	2001	Sneads Cr. at unnamed Pickens CR	23	F&W
UT03U1	Chemical, Habitat	1997	Tributary to Sneads Cr. approx. 0.3 mi. us of confluence with Sneads Cr.	1	F&W

Bear Creek: At BRP-1, Bear Creek is a low gradient, sand-bottomed stream located within the Fall Line Hills (65i) subecoregion (Appendix F-1a). Habitat quality was assessed as *fair* during 1993 and *good* in 1995 and 2001. The macroinvertebrate community was assessed as *fair* during all 3 sampling events (Appendix F-1b). Water quality parameters did not indicate a source of impairment (Appendix F-1c).

Little Bear Creek: Little Bear Creek was intensively monitored at LBRP-1, LBRP-2 and LBRP-3 during 2001 (Appendix F-2c). All three sites lie within the Fall Line Hills (65i) subecoregion. Stations LBRP-2 and LBRP-1 are located within and downstream of the city of Gordo, respectively. LBRP-3 is located just upstream of the city. Dissolved oxygen concentrations at LBRP-2 and LBRP-1 were below the criteria for Fish & Wildlife water use classification of 5.0 mg/L during 3 (33%) of 9 and 3 (30%) of 10 sampling events, respectively. Dissolved oxygen concentrations were below 5.0 mg/L during 6 (66%) of 9 sampling events at LBRP-3. Total phosphorus concentrations were elevated during 4 (44%) of 9 sampling events at LBRP-2, 6 (60%) of 10 sampling events at LBRP-1 and 7 (78%) of 9 sampling events at LBRP-3. Nitrate/nitrite-nitrogen concentrations were also periodically elevated at LBRP-2 and LBRP-3. Fecal coliform counts were >600 colonies/100 mL at LBRP-2 during 3 (33%) of 9 sampling events. Biochemical oxygen demand was >2.0 mg/L at LBRP-3 during 3 (33%) of 9 sampling events. The sites were unwadeable; habitat quality and biological communities could not be assessed (Appendix F-2a).

Little Bear Creek was evaluated at 3 sites during 1996 (Appendix F-9a). These data also indicated nutrient enrichment at UT01 (LBRP-3) and UT02 (LBRP-2). Dissolved oxygen concentrations were <5.0 mg/L at UT01 (LBRP-3) during 4 (80%) of 5 sampling events.

***NPS priority status**:* Results of intensive water quality sampling showed frequent dissolved oxygen violations at 3 locations on Little Bear Creek. Nutrient enrichment also appears to be a problem at 2 sites. These results support inclusion of Little Bear Creek on Alabama's 2002 CWA §303(d) list of impaired waterbodies. Impairment to Little Bear Creek is primarily from urban sources, however. Bioassessments conducted at one location on Bear Creek indicated the macroinvertebrate communities to be in *fair* condition. Screening level water quality data did not indicate a source of the impairment, but SWCD estimates suggested animal husbandry and sedimentation to be potential nonpoint sources of pollution within the sub-watershed.

Sub-Watershed: Lower Lubbub Creek NRCS Sub-Watershed Number 120

***Landuse**:* The Lower Lubbub Creek sub-watershed drains approximately 59 mi^2 in Pickens County. Percent land cover was primarily forest mixed with crop and pasture lands, and urban areas. Two current construction/stormwater authorizations, 1 non-coal mining (<5 acres)/stormwater authorization, and 1 municipal NPDES permit have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
53%	11%	17%	0%	11%	5%	4%

***NPS impairment potential**:* Percent pasture and crop land indicated a *moderate* potential for impairment from runoff. There was a *high* potential for impairment from aquaculture. The potential for impairment from sedimentation was also high, but sediment from developing urban land constituted 68% of the total sediment load (Table 20a). The overall potential for impairment from nonpoint sources was *moderate*. There was a *moderate* potential for impairment from urban runoff and septic tank failure (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	18	0.09 AU/ac	0.40%	11%	17%	0%	ur	9.4 tons/ac/yr
NPS Potential	M	L	H	M	M	L	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Cow Creek was monitored during the 2001 NPS screening assessment. A 2nd site on Cow Creek has also been evaluated in conjunction with ADEM's ALAMAP Program (Appendix F-7). Seneca Creek at SNCP-60 could not be assessed during the 2001 NPS screening assessment because of severe low flow conditions. Lubbub Creek was monitored just downstream of SNCP-60 (Table 17a). This location was also monitored in conjunction with the University Tributary Monitoring Project (Appendix F-4), ADEM's Clean Water Strategy Project (Appendix F-9), and a special study conducted by ADEM in 1992 (Appendix F-6). Lubbub Creek embayment was monitored as part of ADEM's Reservoir Monitoring Program (Appendix F-3).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
UT04U1	Chemical, Habitat	1997	Cow Cr. approx. 6.1 mi. us of confluence with Lubbub Cr.	1	F&W
CWCP-59	Chemical, Habitat, Biological	2001	Cow Cr. at Pickens CR 2	9	F&W
LBB-1	Chemical, Habitat, Biological	1990-1993, 2001	Lubbub Cr. at Pickens CR 24	301	F&W
LBCUA01	Chemical	1998-1999	Lubbub Cr. at Pickens CR 24	301	F&W
UT20	Chemical	1996	Lubbub Cr. at Pickens CR 24	301	F&W
UT19	Chemical	1996	Lubbub Cr. at AL Hwy 14	58	F&W
Gainesville 5	Chemical, Biological	2001	Lubbub Cr. embayment at deepest point of main channel approx. 1.5 mi us of the confluence with the Tombigbee R.	368	F&W
SNCP-60	None conducted	2001	Seneca Cr. nr. Pickens CR 24	9	F&W

Cow Creek: At CWCP-59, Cow Creek is characterized by small gravel riffles. It is located in the Flatwoods/Blackland Prairie Margins (65b) subecoregion (Table 21a). Habitat quality was assessed as *excellent*. Bioassessments conducted at the site indicated the macroinvertebrate and fish communities to be in *good* condition (Table 22a).

Water quality data collected during May and September 2001 did not indicate nutrient enrichment problems (Appendix D-1). Stream flow and fecal coliform counts were twice as high in September than in May.

At UT04U1, Cow Creek is within the Fall Line Hills (65i) subecoregion (Appendix F-7a). It is characterized by greater proportions of silt and detritus. Water quality data were collected during August 1997 (Appendix F-7b). Fecal coliform concentrations were >6,500 colonies/100 mL.

Lubbub Creek: At LBB-1, Lubbub Creek is low gradient, sand and gravel stream located in the Fall Line Hills (65i) subecoregion (Table 21a). Habitat quality was assessed as *excellent* for the stream type and region. Twelve EPT families were collected at the site, indicating the macroinvertebrate community to be in *good* condition (Table 22a).

Water quality data were collected during May and September in conjunction with the 2001 NPS screening assessment (Appendix D-1). The concentration of total Kjeldahl nitrogen was slightly elevated during September.

Water quality data were collected at LBB-1 in conjunction with a special study conducted by ADEM (1990-1993) to evaluate the impact of coalbed methane mining on water quality (Appendix F-6c). Dissolved oxygen concentrations ranged from 5.6-12.7 mg/L. The concentration of total dissolved solids was 251 mg/L during December 1991. The biochemical oxygen demand was elevated during 5 of 35 (14%) sampling events.

Intensive water quality monitoring data were collected at this location (LBCUA01) as part of University Tributary Monitoring Project (Appendix F-4a). Conductivity was 1,400 µmhos during April 1999. The concentration of total dissolved solids was above background levels during 6 of 18 (33%) sampling events.

Intensive water quality monitoring data were collected at Gainesville5 during ADEM's Reservoir Monitoring Program (Appendix F-3a). The mean total nitrogen concentration (<0.572 mg/L) was 2nd highest of the 17 tributaries monitored during ADEM's Reservoir Monitoring Program (Appendix F-3a). However, nutrient concentrations within the Gainesville Reservoir tributaries were generally lower than the mainstem Gainesville Reservoir stations. The mean TSI value was 40, suggesting mesotrophic conditions within Lubbub Creek.

Two locations were evaluated during the 1996 Clean Water Strategy Project (Appendix F-9a). At UT21, dissolved oxygen concentrations were below the 5.0 mg/L Fish & Wildlife water use classification criteria during 2 of 5 (40%) sampling events.

NPS priority status: Runoff from pasture and crop lands, aquaculture, and sedimentation were the primary NPS concerns within the sub-watershed. Fecal coliform concentrations were elevated at 2 locations on Cow Creek. However, biological assessments did not indicate impairment to macroinvertebrate communities. Additionally, intensive water quality monitoring at the mouth of Lubbub Creek did not suggest the stream to be a major source of nutrients or sediment loading for the Gainesville Reservoir.

Sub-Watershed: Fenache Creek NRCS Sub-Watershed Number 130

***Landuse**:* The Fenache Creek sub-watershed drains approximately 34 mi^2 in Pickens and Sumter Counties. Land cover in the sub-watershed was mainly forest mixed with crop and pasture lands. Two current construction/stormwater authorizations and 3 non-coal mining (<5 acres)/stormwater authorizations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
57%	20%	18%	0%	0%	2%	3%

***NPS impairment potential**:* Aquaculture, crop land runoff, pasture runoff, sedimentation, and forestry were NPS concerns within the sub-watershed. The overall potential for impairment from nonpoint sources was *moderate*. Estimates of septic tank failure indicated a *moderate* potential for impairment.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	21	0.10 AU/ac	1.65%	20%	18%	0%	36%	2.8 tons/ac/yr
NPS Potential	M	L	H	H	M	L	M	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

***Assessments**:* Fenache Creek was scheduled for assessment during the 2001 NPS screening assessment (Table 17a). The site could not be monitored due to low flow conditions. The Tombigbee River was monitored in conjunction with ADEM's Reservoir Monitoring Program (Appendix F-3).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
FNCS-103	None conducted	2001	Fenache Cr. at Sumter CR 4	11	F&W
Gainesville 2	Chemical, Biological	2001	Tombigbee R. at deepest point, approx. 1.5 mi ds of confluence with Sipsey R.	7,213	S/F&W

Tombigbee River: The Tombigbee River at Gainesville2, is located within the Southeastern Floodplains and Low Terraces (65p) subecoregion (Appendix E-1). Mean total nitrogen and phosphorus concentrations were 0.693 mg/L and 0.083 mg/L, respectively (Appendix F-3a). Comparison of 2001 data with historical monitoring data suggest nutrient concentrations have increased since 1995 (ADEM 1996b, ADEM 1996c).

NPS priority status: Aquaculture, crop land runoff, pasture runoff, forestry, and sedimentation were NPS concerns within the sub-watershed. A bioassessment has not been conducted within the sub-watershed, but intensive water quality data suggest nutrient enrichment to be a concern. The sub-watershed should be considered for assessment during the 2006 NPS Screening Assessment of the EMT Basin Group.

Sub-Watershed: Wilkes Creek NRCS Sub-Watershed Number 140

***Landuse**:* The Wilkes Creek sub-watershed drains approximately 71 mi^2 in Greene County. Percent land cover was primarily forest mixed with crop and pasture lands. One current construction stormwater authorization, 1 non-coal mining (<5 acres)/stormwater authorization, and 1 CAFO registration have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
60%	15%	20%	0%	0%	4%	1%

***NPS impairment potential**:* The primary NPS concerns within the sub-watershed were runoff from crop and pasture lands, aquaculture, mining, and sedimentation. Wilkes Creek was given a 1st priority sub-watershed rating by the local SWCD for resource concerns listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	17	0.11 AU/ac	0.01%	15%	20%	0%	28%	4.0 tons/ac/yr
NPS Potential	M	L	M	M	M	L	M	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

***Assessments**:* An assessment was not conducted within the Wilkes Creek sub-watershed during the 2001 NPS screening assessment. The Tombigbee River has been monitored as part of the University Tributary Monitoring Project (Appendix F-4) and ADEM's Reservoir Monitoring Program (Appendix F-3). The USGS has maintained a gage to measure streamflow at Heflin Lock and Dam since 1978 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
TORUA04	Chemical	1998-2000	Tombigbee R. downstream of the Gainesville Dam	7230	F&W
Gainesville1	Chemical, Biological	1992, 1995, 2001	Tombigbee R. in deepest point of main channel of Gainesville Dam forebay	7230	S/F&W
02447025	Chemical	1978-2001	Tombigbee R. at Heflin Lock and Dam	7230	S/F&W

Tombigbee River: The Tombigbee River at TORUA04, located within the Southeastern Floodplains and Low Terraces (65p) subecoregion (Appendix E-1), was monitored intensively, November 1998 through October of 1999 (Appendix F-4a). Dissolved oxygen concentrations ranged from 6.1-13.3 mg/L. Total Kjedahl nitrogen concentrations ranged from 0.32-0.79 mg/L. Total phosphorus concentrations ranged from <0.04-0.20 mg/L.

ADEM monitored the Tombigbee River at Gainesville1 during 2001 (Appendix F-3a). Mean total nitrogen and phosphorus concentrations were 0.606 mg/L and 0.073 mg/L, respectively. The mean TSI value was 49, indicating mesotrophic conditions at the dam forebay. Comparison with historic data suggest that mean total phosphorus concentrations have almost doubled since 1995 (ADEM 1996b, ADEM 1996c). However, the trophic state index has decreased from eutrophic conditions measured in 1992 and 1995 to the mesotrophic conditions recorded in 1985 and 1989.

NPS priority status: Intensive water quality data collected during 1998-2001 suggest nutrient enrichment at the Gainesville dam forebay. Comparison with historical data suggests that total phosphorus concentrations have increased since 1995. SWCD landuse estimates indicated runoff from crop and pasture lands, aquaculture, mining, and sedimentation to be NPS concerns within the sub-watershed.

Sub-Watershed: Cypress Swamp NRCS Sub-Watershed Number 150

***Landuse**:* The Cypress Swamp sub-watershed drains approximately 13 mi^2 in Sumter County. Land cover was primarily forest mixed with pasture and row crop. One current construction/stormwater authorization and 1 non-coal mining (< 5 acres)/stormwater authorization have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
69%	5%	20%	0%	1%	3%	2%

***NPS impairment potential**:* There was a *high* potential for impairment associated with forestry activities and sedimentation. The potential for impairment caused by runoff from pasture and crop lands was estimated as *moderate*. Overall potential for impairment from nonpoint sources was estimated as *moderate.* Septic tank failure estimates indicated a *moderate* potential for impairment (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	19	0.05 AU/ac	0.00%	5%	20%	0%	56%	6.2 tons/ac/yr
NPS Potential	M	L	L	M	M	L	H	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment has not been conducted within the Cypress Swamp sub-watershed.

NPS priority status: Nonpoint source priority status could not be determined with the data available. NPS concerns within the sub-watershed include runoff from pasture and crop lands, forest harvesting, and sedimentation. An assessment of Cypress Swamp is recommended during the 2006 NPS screening assessment of the EMT Basin Group.

Sub-Watershed: Trussells Creek NRCS Sub-Watershed Number 160

Landuse: The Trussells Creek sub-watershed drains approximately 144 mi^2 in Greene County. The sub-watershed was primarily pasture and forest. Four current construction/ stormwater authorizations and 3 non-coal mining stormwater authorizations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
40%	10%	46%	0%	0%	2%	2%

NPS impairment potential: The potential for impairment from aquaculture and pasture runoff was *high*. The potential for impairment from crop land runoff and sedimentation was estimated as *moderate*. However, sediment from developing urban lands contributed 57% of the total sediment load estimated for the sub-watershed. Trussells Creek was given a #3 priority sub-watershed rating by the local SWCD. Resource concerns are listed in Table 20a. There was a *moderate* potential for impairment from urban development (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	19	0.04 AU/ac	1.57%	10%	46%	0%	3%	3.7 tons/ac/yr
NPS Potential	M	L	H	M	H	L	L	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Brush Creek was monitored at one location during the 2001 NPS screening assessment (Table 17a). Several other locations within the sub-watershed were monitored during 2001 as part of ADEM's §303(d) and Reservoir Monitoring Programs (Appendices F-2 and F-3, respectively).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BRHG-56	Chemical, Habitat, Biological	2001	Brush Cr. at Greene CR 20	50	F&W
Demopolis6	Chemical, Biological	2001	Brush Cr. embayment at deepest point of main channel, approx. 0.5 mi. us of confluence with the Tombigbee R.	55	F&W
PIPG-54	Chemical	2001	Pippen Cr. at Greene CR 131	11	F&W
TRSG-1	Chemical, Habitat	2001	Trussells Cr. at Greene CR 20	71	F&W
TRSG-2	Chemical, Habitat	2001	Trussells Cr. at AL Hwy 14	38	F&W
Demopolis5	Chemical, Biological	2001	Trussells Cr. embayment in deepest point of main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	77	F&W
Demopolis3	Chemical, Biological	2001	Tombigbee R. at deepest point of main channel approx. 2.0 mi. ds of Tubbs Cr. confluence	8,668	F&W

Brush Creek: At BRHG-56, Brush Creek is a low gradient stream located in the the Flatwoods/Blackland Prairie Margins (65b) subecoregion (Table 21a). Habitat quality was assessed as *excellent* for this stream type and region. Bioassessments conducted at the site indicated the macroinvertebrate community to be in *good* condition and fish community to be in *fair* condition (Table 22a).

Water quality data collected at the site during May, July, and September did not indicate a source of impairment (Appendix D-1).

Brush Creek was intensively monitored at Demopolis6 to evaluate the stream as a potential source of sedimentation and nutrients within Demopolis Reservoir (Appendix F-3a). Brush Creek showed the highest mean total nitrogen and phosphorus concentrations of 17 tributaries located within the Tombigbee River basin, suggesting Brush Creek to be a potential source of nutrients to Demopolis Reservoir. The concentration of total suspended solids ranged from 23 mg/L in May to 67 mg/L in August. Brush Creek also had the highest mean fecal coliform concentrations (222 colonies/100 mL) within Demopolis Reservoir.

Pippen Creek: Water quality data collected from Pippen Creek at PIPG-54 during May 2001 are provided in Appendix D-1. Data did not indicate water quality impairment.

Trussells Creek: Trussells Creek at TRSG-1 and TRSG-2 is located within the Flatwoods/Blackland Prairie Margins (65b) subecoregion (Appendix F-2a). At TRSG-2, the upstream-most station, Trussells Creek is a low gradient stream characterized by sand and silt bottom substrates. At TRSG-1, Trussells Creek is a clay-bottomed stream with small cobble-gravel riffles. Habitat quality at both sites was assessed as *excellent* for their stream type. However, the macroinvertebrate community was assessed as *good* at TRSG-1 and *fair* at TRSG-2 (Appendix F-2b).

Intensive water quality data were collected at both stations from April 2001 through January of 2002 (Appendix F-2c). Fecal coliform concentrations were elevated at TRSG-1 during the June, August, and September sampling events. Dissolved oxygen was below

Fish & Wildlife water use classification criteria at TRSG-2 during 3 (30%) of 10 sampling events.

Several water quality parameters differed between the 2 stations. Minimum dissolved oxygen and pH values were lower at TRSG-2 than at TRSG-1. Average biochemical oxygen demand and nitrate/nitrite-nitrogen concentrations were higher at TRSG-2. Mean conductivity and hardness were higher at the downstream station, TRSG-1. Mean total suspended solid concentrations and fecal coliform counts were also higher at the downstream station.

Trussels Creek at Demopolis5 was sampled monthly, April 2001-October 2001 (Appendix F-3a). The mean total nitrogen concentration was 0.552 mg/L; total phosphorus concentrations averaged 0.080 mg/L. Chlorophyll a concentrations were relatively low, averaging 2.0 mg/L. The mean TSI value was 34, indicating oligotrophic conditions within the Trussels Creek embayment.

Tombigbee River: Tombigbee River at Demopolis3 was sampled monthly, April 2001-October 2001 (Appendix F-3a). The mean total nitrogen concentration was 0.532 mg/L; total phosphorus concentrations averaged 0.074 mg/L. The mean TSI value was 51, indicating eutrophic conditions at the site.

NPS priority status: Trussells Creek is recommended as a NPS priority sub-watershed. Fish assessments indicated impaired biological conditions at Brush Creek. Intensive water quality monitoring near the mouth of Brush Creek showed the tributary to be a potential source of nutrient loading to Demopolis Reservoir. Impaired biological conditions were also detected in Trussells Creek at TRSG-2. Water quality data suggest nutrient enrichment as a potential source of impairment. Runoff from pasture and crop lands and aquaculture were concerns within the sub-watershed.

Sub-Watershed: Factory Creek NRCS Sub-Watershed Number 170

Landuse: The Factory Creek sub-watershed drains approximately 88 mi^2 in Sumter County. Land cover was mainly pasture mixed with some crop land, forest, and open water. A total of 11 current construction/stormwater authorizations, NPDES permits, and CAFO registrations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
10%	17%	57%	0%	2%	10%	5%

NPS impairment potential: The overall potential for NPS impairment was *high*. NPS concerns in the sub-watershed included animal husbandry, primarily cattle and swine, aquaculture, and runoff from crop and pasture lands. Sedimentation, primarily from critical areas and gullies, was also a concern (Table 20a). Factory Creek was given a 4th priority sub-watershed rating by the SWCD for resource concerns listed in Table 20a. There was a *moderate* potential for impairment from urban development and septic tank failure (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	23	0.57 AU/ac	2.93%	17%	57%	0%	9%	10.1 tons/ac/yr
NPS Potential	H	L	H	H	H	L	L	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Monitoring stations were established on Factory Creek and Toms Creek during the 2001 NPS screening assessment. However, Toms Creek at TMSS-44 could not be monitored due to severe low flow conditions. Factory Creek was also assessed in conjunction with ADEM's Reservoir Monitoring Program (Appendix F-3). The stream has been evaluated at 3 stations in conjunction with ADEM's Factory and Bodka Creek Arsenic Monitoring Project (Appendix F-6). A station on Jones Creek has been monitored as part of ADEM's Ecoregional Reference Reach Program (Appendix F-1).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi²)	Classification
FC-2	Chemical	1986-1991	Factory Cr. at unnamed Sumter CR	<1	F&W
FC-1	Chemical	1986-1991	Factory Cr. at Sumter CR 24	8	F&W
FCTS-41	Chemical, Habitat, Biological	2001	Factory Cr. at Sumter CR 21	35	F&W
Demopolis7	Chemical, Biological	2001	Factory Cr. embayment at deepest point of main channel approx. 0.5 mi. us of confluence with Tombigbee R.	54	F&W
JNS-1	Chemical, Habitat, Biological	1991-1993, 1995, 2001	Jones Cr. at Sumter CR 20	21	F&W
TMSS-44	None conducted	2001	Toms Cr. at Sumter CR 21	14	F&W
FC-3	Chemical	1986-1991	Tributary to Factory Cr. at unnamed Sumter CR	2	F&W

Factory Creek: At FCTS-41, Factory Creek is a clay bottomed, low gradient stream located in the Blackland Prairie (65a) subecoregion. Habitat condition was assessed as *excellent* for this stream type (Table 21a). Six EPT families were collected, indicating the macroinvertebrate community to be in *fair* condition (Table 22a). The fish community was assessed as *poor* (Table 22a). Water quality parameters were collected during May and September 2001 (Appendix D-1).

Three additional stations on Factory Creek and an unnamed tributary were evaluated in conjunction with the Factory and Bodka Creek Arsenic Study conducted 1986-1991 (Appendix F-6). Data collected during 1990 and 1991 are provided in Appendix F-6a.

Factory Creek was intensively monitored at Demopolis7 during ADEM's 2001 Reservoir Monitoring Program (Appendix F-3a). Dissolved oxygen concentrations below the Fish and Wildlife water use classification criteria of 5 mg/L were measured during 5 (71%) of 7 summer sampling events (Appendix F-3a). Mean total nitrogen and phosphorus concentrations were 0.624 mg/L and 0.089 mg/L, respectively. The mean TSI value was 61, indicating conditions in the Factory Creek embayment to be eutrophic. Total suspended solid concentrations ranged from 15 mg/L in October to 45 mg/L in May.

Jones Creek: At JNS-1, Jones Creek is a relatively low gradient, clay-bottomed stream located in the Blackland Prairie (65a) subecoregion. Habitat condition was assessed as *excellent* during site visits conducted in 1991, 1992, and 1993, but appears to have been declining since 1995 due to increased access of cattle to the site (Appendix F-1a). However, macroinvertebrate assessments have indicated the macroinvertebrate community to be in *good* condition (Appendix F-1b).

In-situ water quality parameters were collected during each of the macroinvertebrate bioassessment site visits (Appendix F-1c). During June 1993, the dissolved oxygen concentration was only 3.0 mg/L. Conductivity and alkalinity were slightly elevated during 1995. Conductivity and hardness were slightly high in May 2001. Biochemical oxygen demand was 5.2 mg/L in September 2001. Total suspended solids and total dissolved solids were also above reference conditions for the region.

NPS priority status: Factory Creek is recommended as a NPS priority sub-watershed. Landuse within the sub-watershed indicate potential impairment from aquaculture and crop and pasture lands. Bioassessment results indicated impaired macroinvertebrate and fish communities at FCTS-41. Macroinvertebrate assessments did not indicate impairment despite obvious habitat impacts at JNS-1. An assessment of the fish community is recommended to fully evaluate biological conditions at the site.

Sub-Watershed: Twelve Mile Bend Tributaries NRCS Sub-Watershed Number 180

Landuse: The Twelve Mile Bend Tributaries sub-watershed drains approximately 60 mi^2 in Sumter County. Land cover was estimated to be 82% forest. One current construction/ stormwater authorization, 2 non-coal mining (<5 acres)/stormwater authorizations, and 1 semi-public/private NPDES permit have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
82%	3%	3%	0%	0%	7%	5%

NPS impairment potential: The primary nonpoint source concerns within the sub-watershed were forestry and sedimentation. The overall potential for impairment from nonpoint sources was estimated as *moderate.*

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	19	0.01 AU/ac	0.00%	3%	3%	0%	54%	7.2 tons/ac/yr
NPS Potential	M	L	L	L	L	L	H	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment has not been conducted within the sub-watershed.

NPS priority status: Forestry and sedimentation were NPS concerns within the sub-watershed. However, the sub-watershed drains directly into the Tombigbee River from small intermittent tributaries, making monitoring water quality difficult.

Sub-Watershed: Taylor Creek NRCS Sub-Watershed Number 190

Landuse: The Taylor Creek sub-watershed drains approximately 142 mi^2 in Greene County. Land cover was a mixture of pasture, forest, and crop land. One current construction/stormwater authorization, 1 non-coal mining (<5 acres)/stormwater authorization, and 1 CAFO registration have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
30%	10%	49%	0%	4%	5%	2%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* The primary nonpoint source concerns within the sub-watershed were aquaculture, runoff from crop and pasture lands, and sedimentation. Developing urban lands contributed 55% of the total sediment estimated for the sub-watershed (Table 20a). Taylor Creek was given a 2nd priority sub-watershed rating by the local SWCD. Resource concerns are listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	21	0.04 AU/ac	1.58%	10%	49%	0%	14%	4.4 tons/ac/yr
NPS Potential	M	L	H	M	H	L	L	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment was not conducted during the 2001 NPS screening assessment of the EMT Basin Group. The Tombigbee River was monitored at one location in conjunction with ADEM's Reservoir Monitoring Program (Appendix 3).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
Demopolis2	Chemical, Biological	2001	Tombigbee R. at deepest point of main channel us of confluence with Cobb Cr.	9,033	F&W

<u>Tombigbee River</u>: The Tombigbee River was intensively monitored at Demopolis2 (Appendix F-3a). The site was characterized by the lowest mean concentrations of total nitrogen and total phosphorus within the Demopolis Reservoir. Comparison with historical data suggest that total nitrogen concentrations are decreasing while mean phosphorus concentrations are increasing (ADEM 1996b). The mean TSI value was 49, indicating mesotrophic conditions and a slight decrease since 1995. Concentrations of

total suspended solids were the lowest of the Demopolis stations, but appear to have increased since 1995.

NPS priority status: Aquaculture, runoff from crop and pasture lands, and sedimentation were NPS concerns within the sub-watershed. Nutrient and sediment loads appear to have increased since 1995.

Sipsey River CU (0316-0107)

The Sipsey River CU of the Upper Tombigbee River Basin includes 8 sub-watersheds, draining approximately 789 mi^2 of west Alabama (Fig. 3). The CU drains the Fall Line Hills (65i) subecoregion of the Southeastern Plains Ecoregion (65) and the Shale Hills (68f) subecoregion of the Southwestern Appalachians Ecoregion (68) (Fig. 4) (Griffith et al. 2001). These subecoregions consist of the Appalachian Plateau, Coastal Plain, and Major Floodplains and Terraces soil areas (ACES 1997).

Landuse: Based on the conservation assessment worksheets completed (1998) by the local SWCDs, the primary land cover throughout the Sipsey River CU were forest, pasture, and crop land. The number of acres treated with pesticides and herbicides was estimated for 7 of the 8 sub-watersheds within the CU. Approximately 21,400 (4%) acres of crop and pasture land were treated within the sub-watershed. A 4.4 mile segment of the Sipsey River is currently on ADEM's 2000 §303(d) list of impaired water bodies for metals contamination from abandoned surface mines (Table 14a).

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
79%	4%	11%	1%	2%	1%	2%

NPS impairment potential: The primary nonpoint source concerns within the Sipsey River CU were pasture (Fig. 6), crop lands (Fig. 18), and sedimentation (Fig. 8). Mining was a concern within 4 sub-watersheds. Forest harvesting estimates were only reported for 3 of 8 sub-watersheds (Table 15a). Four sub-watersheds were estimated to have a *moderate* potential for impairment from nonpoint sources (Fig. 5). One sub-watershed had a *moderate* potential for impairment from urban sources (Table 15a).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15a).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	4	0	0	3	6	2	0	5
High	0	0	0	0	0	2	0	3

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15a).

Category	Urban	Development	Septic tank failure
Moderate	1	3	1
High	0	0	0

Historical data/studies: Table 16a lists the sub-watersheds and water bodies in which data have been previously collected in conjunction with other monitoring programs and the Appendices where these data are provided. Recent assessment information has been collected in 5 of 8 sub-watersheds.

2001 NPS screening assessments: Six stations in 3 sub-watersheds were targeted for assessment during the NPS screening assessment because they had a *moderate* or *high* potential for impairment from nonpoint sources. These included the Little New River (020), Sipsey River (040), and Sipsey River (080) sub-watersheds (Table 17a).

Sub-watershed summaries: A summary of the information available for each of the 8 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. Assessment of habitat, biological, and chemical conditions within each sub-watershed are based on long-term data from ADEM's Ecoregional Reference Reach Program. Tables referenced in the summaries are located at the end of the Basin summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Table 18a summarizes habitat, chemical/physical, and biological indicators of water quality monitored throughout the CU. Fig. 22 shows the results of habitat and macroinvertebrate assessments. Habitat quality was generally assessed as *excellent* or *good* throughout the CU. Macroinvertebrate assessments indicated the macroinvertebrate community to be in *good* condition at one station (17%), and *fair* condition at 5 (83%) stations (Fig. 22). Results of fish IBI assessments conducted at 4 of these stations indicated the fish community to be in *good* or *good/fair* condition at 2 stations (50%), and *fair* or *fair/poor* condition at 2 stations (50%) (Fig. 23).

Overall condition for each station was rated as the lowest assessment result obtained (Table 18a). Three (50%) stations were assessed as *good* or *good/fair*. The remaining 3 (50%) stations were assessed as *fair* or *fair/poor*. These 3 stations were primarily impacted by nonpoint sources and located in 2 sub-watersheds of the Sipsey River (040 and 080).

NPS priority sub-watersheds: Fig. 24 shows the location of the 2 sub-watersheds recommended as NPS priority sub-watersheds. These included the Sipsey River in sub-watersheds 040 and 080.

Fig. 22. Habitat and macroinvertebrate assessments conducted within the Sipsey River CU.

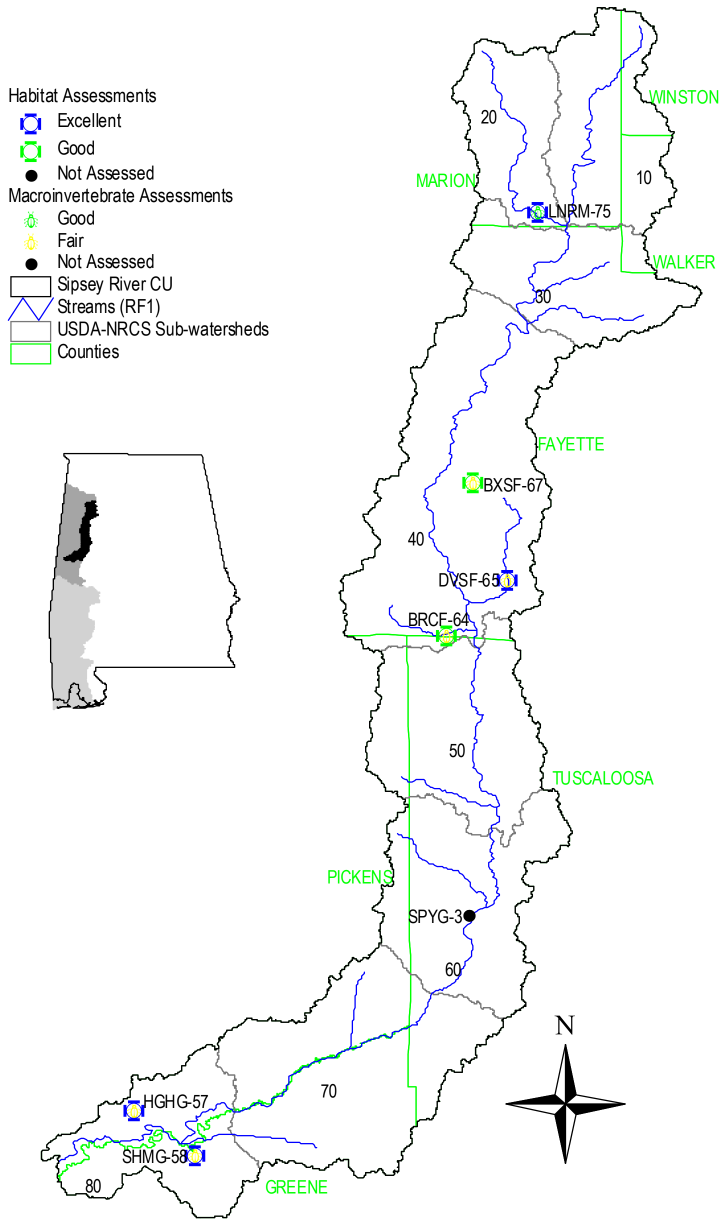

Fig. 23. Fish IBI assessments conducted within the Sipsey River CU.

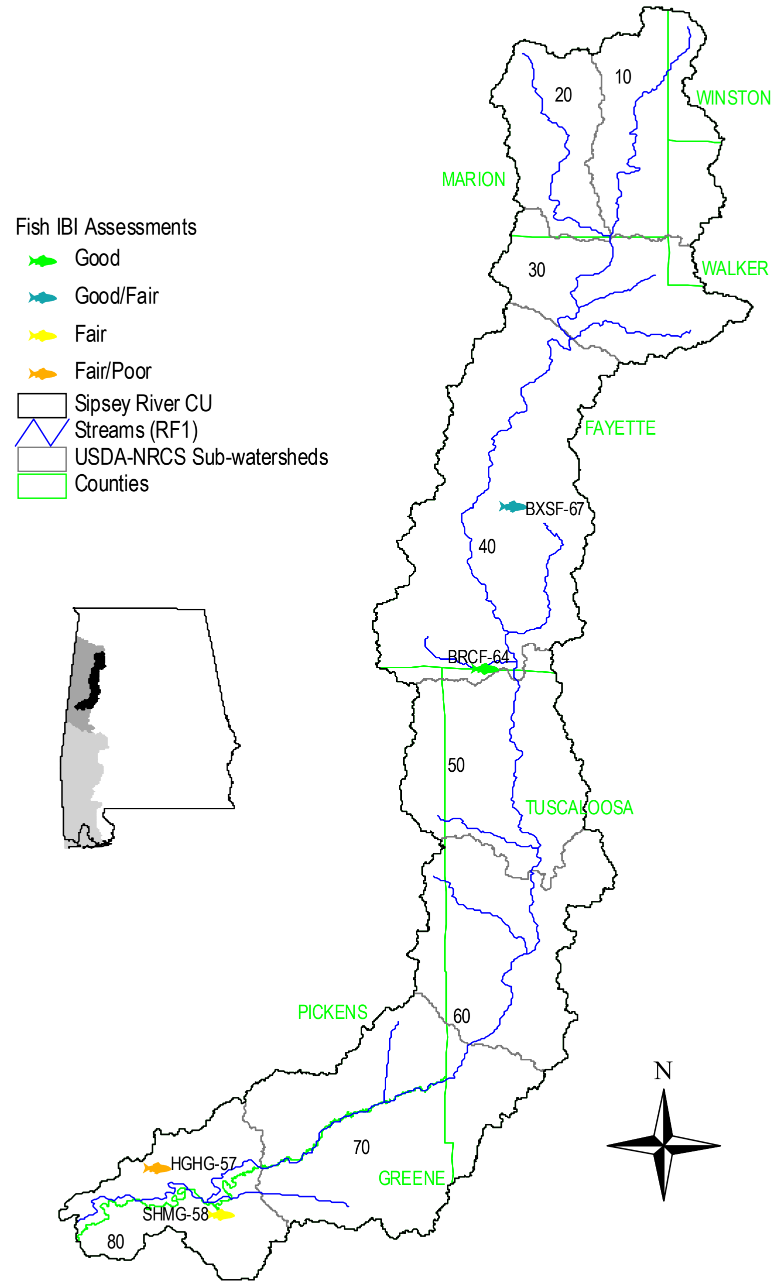

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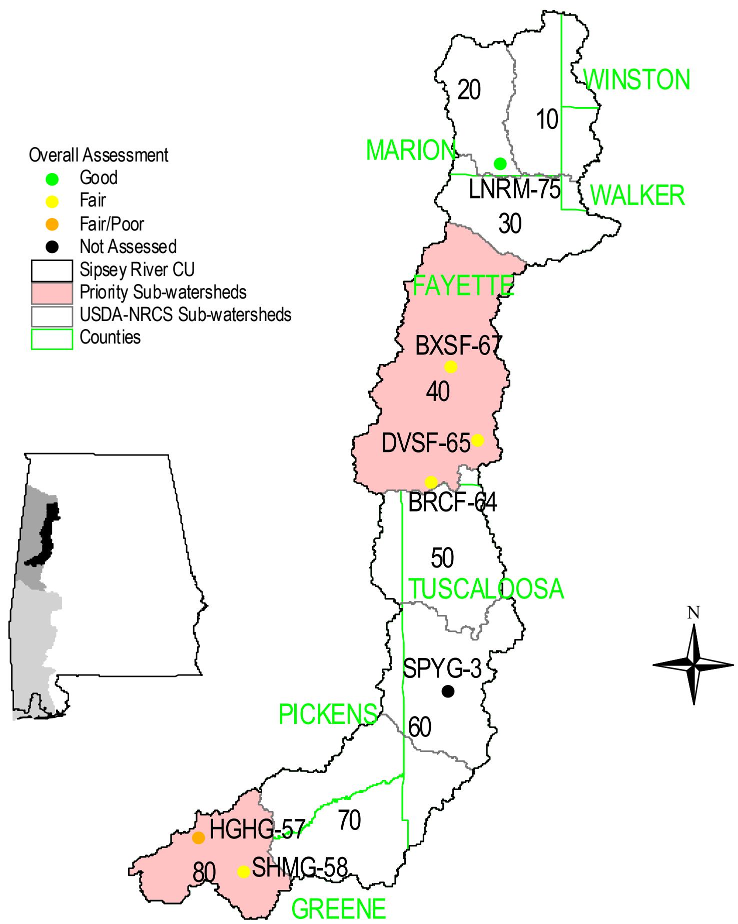
Fig. 24. Sub-watersheds recommended for NPS priority status within the Sipsey River CU. The lowest bioassessment result obtained at each station is also shown.



Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed		Lowest Station Assessment	Suspected Cause(s)	Suspected nonpoint source(s)
040	Sipsey River	Fair	Sedimentation	Runoff from pasture and crop lands, Mining
080	Sipsey River	Fair/Poor	Nutrient enrichment	Runoff from pasture and crop lands

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Sub-Watershed: New River **NRCS Sub-Watershed Number 010**

Landuse: The New River sub-watershed drains approximately 77 mi^2 in Fayette, Marion, Walker, and Winston Counties. Land cover was primarily forest. A total of 10 authorizations, NPDES permits, and CAFO registrations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
88%	2%	3%	5%	<1%	<1%	2%

NPS impairment potential: The potential for impairment from mining and sedimentation was estimated as *high*. Woodlands contributed 74% of the total sediment load for the sub-watershed (Table 20a). Potential for impairment from other nonpoint sources was *low*. The potential for impairment from urban development was estimated to be *moderate* (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	15	0.04 AU/ac	0.00%	2%	3%	5%	12%	10.2 tons/ac/yr
NPS Potential	M	L	L	L	L	H	L	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment was not conducted during the 2001 NPS screening assessment of the EMT River Basins. New River was historically evaluated by the Alabama Water Improvement Commission at one station, NR1, from January 1974 through February 1984. These data were recently reported by ADEM (ADEM, In press).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
NR1	Chemical	1974-1984	New R. at US Hwy 78	59	F&W

NPS priority status: The NPS priority status of the New River sub-watershed could not be estimated from available data.

Sub-Watershed: Little New River NRCS Sub-Watershed Number 020

Landuse: The Little New River sub-watershed drains approximately 51 mi^2 in Fayette and Marion Counties. The main land cover was forest mixed with mining and pasture lands. Eleven stormwater authorizations, NPDES permits, and CAFO registrations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 15a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
78%	2%	6%	10%	3%	1%	1%

NPS impairment potential: The main NPS concerns within the sub-watershed were mining and sedimentation. Woodland areas contributed 84% of the total sediment load estimated for the sub-watershed (Table 20a). The overall potential for NPS impairment was estimated as *moderate*. There was a *moderate* potential for impairment from urban development and septic tank failure.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	14	0.06 AU/ac	0.00%	2%	6%	10%	ur	13.4 tons/ac/yr
NPS Potential	M	L	L	L	L	H	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Little New River was assessed at one location during the 2001 NPS screening assessment (Table 17a). Little New River was historically evaluated at one station, LNR1 (Appendix E-1), from January 1974 through February 1984 (ADEM, In press).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
LNRM-75	Chemical, Habitat, Biological	2001	Little New River at AL Hwy 233	48	F&W
LNR1	Chemical	1974-1984	Little New River at US Hwy 78	48	F&W

Little New River: At LNRM-75, Little New River is a riffle-run stream characterized by stable substrates and located within the Fall Line Hills (65i) subecoregion (Table 21a). Habitat quality was assessed as *excellent* for this stream type and region. Ten EPT families were collected at the site, indicating the macroinvertebrate community to be in *good* condition (Table 22a).

Screening level water quality data were collected during June and September 2001 (Appendix D-1). Conductivity was 308 and 263 μmhos at 25^{o}C in June and September, respectively. Alkalinity, hardness, and total dissolved solids concentrations were elevated in September.

NPS priority status: Mining and sedimentation were NPS concerns within the sub-watershed. However, a macroinvertebrate bioassessment did not indicate severe impairment.

Sub-Watershed: Studhorse Creek NRCS Sub-Watershed Number 030

Landuse: The Studhorse Creek sub-watershed drains approximately 73 mi^2 in Fayette, Marion, and Walker Counties. Land cover was 85% forest. Two current construction/ stormwater authorizations and 1 non-coal mining (<5 acres)/stormwater authorization have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 15a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
85%	4%	8%	<1%	0%	<1%	2%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* The main NPS concern within the sub-watershed was sedimentation and runoff from pasture and mining lands.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	12	0.03 AU/ac	0.00%	4%	8%	<1%	ur	3.8 tons/ac/yr
NPS Potential	M	L	L	L	M	M	ur	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment was not conducted within the sub-watershed during the 2001 NPS screening assessment. Stud Horse Creek was evaluated at 2 locations in 1996 in conjunction with ADEM's 1996 Clean Water Strategy Project (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
UT07	Chemical	1996	Studhorse Cr. at unnamed Fayette CR	2	F&W
UT08	Chemical	1996	Studhorse Cr. at AL Hwy 129	14	F&W

Studhorse Creek: Two locations on Studhorse Creek were evaluated 4-5 times from July to October of 1996 (Appendix F-9a). The concentration of nitrate/nitrite-nitrogen was 1.01 mg/L at UT08 during the October sampling event. Other water quality parameters appeared normal for the region.

NPS priority status: NPS priority status could not be estimated from available data.

Sub-Watershed: Sipsey River **NRCS Sub-Watershed Number 040**

Landuse: The Sipsey River sub-watershed drains approximately 181 mi^2 in Fayette, Pickens, and Tuscaloosa Counties. Forest, pasture, row crops, and urban areas comprised 97% of the sub-watershed. A total of 11 current stormwater authorizations, NPDES permits, and CAFO registrations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
74%	8%	10%	<1%	5%	1%	2%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* Percent pasture, crop, and mining lands indicated a *moderate* potential for impairment from nonpoint sources. The potential for impairment from sedimentation was estimated as *high*. Developing urban lands contributed 44% of the total sediment load. The Sipsey River sub-watershed was given a 1st priority sub-watershed rating by the SWCD. Resource concerns are listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	16	0.06 AU/ac	0.00%	8%	10%	<1%	ur	6.6 tons/ac/yr
NPS Potential	M	L	L	M	M	M	ur	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Three stations (BRCF-64, BXSF-67, DVSF-65) were monitored during the 2001 NPS screening assessment (Table 17a). Two stations on the Sipsey River have been evaluated in conjunction with ADEM’s ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BRCF-64	Chemical, Habitat, Biological	2001	Bear Cr. at AL Hwy 171	24	F&W
BXSF-67	Chemical, Habitat, Biological	2001	Boxes Cr. at Fayette CR 26	11	F&W
DVSF-65	Chemical, Habitat, Biological	2001	Davis Cr. at Fayette CR 35	22	F&W
UT2U5-22	Chemical, Habitat	2001	Sipsey R. approx. 1 mi. ds of AL Hwy 102	234	PWS/F&W
UT1U5-21	Chemical, Habitat	2001	Sipsey R. approx. 1.3 mi. ds of Fayette CR 12	359	F&W

Bear Creek: At BRCF-64, Bear Creek is a low gradient, clay-bottomed stream located in the Fall Line Hills (65i) subecoregion. Habitat condition was assessed as *good* for this stream type (Table 21a). Eight EPT families were collected at this site, indicating the macroinvertebrate community to be in *fair* condition (Table 22a). The fish community was assessed as *good* (Table 22a).

In-situ water quality parameters collected during June and September 2001 did not indicate impairment (Appendix D-1).

Boxes Creek: Boxes Creek at BXSF-67 is a relatively low gradient stream located in the Fall Line Hills (65i) subecoregion (Table 21a). Sand is the predominant substrate. Habitat condition was assessed as *good*. The macroinvertebrate and fish communities were assessed as *fair* and *good/fair*, respectively (Table 22a).

In-situ water quality parameters are provided in Appendix D-1.

Davis Creek: Davis Creek at DVSF-65 is a low gradient, sand-bottomed stream located in the Fall Line Hills (65i) subecoregion (Table 21a). Habitat condition was assessed as *excellent* for this stream type and region. Seven EPT families were collected at the site, indicating the macroinvertebrate community to be in *fair* condition (Table 22a).

Screening level water quality data collected during June and September 2001 did not indicate impairment at the site (Appendix D-1).

Sipsey River: Sipsey River was evaluated at 2 sites during August 2001 (Appendix F-7). At UT1U5-21, the Sipsey River is a wide, low gradient stream located in the Fall Line Hills (65i) subecoregion (Appendix F-7a). Habitat quality was assessed as *excellent* for this stream type and region.

Water quality data collected at UT1U5-21 indicated the dissolved oxygen concentration to be below the Fish and Wildlife water use classification criteria of 5 mg/L (Appendix F-7b). The biochemical oxygen demand was 5.2 mg/L.

At UT2U5-22, the Sipsey River was also characterized by a low gradient (Appendix F-7a). Habitat quality was assessed as *good.* One-time water quality sampling at the site did not indicate impairment (Appendix F-7b).

NPS priority status: Three macroinvertebrate assessments indicated biological impairment at Bear Creek (BRCF-64), Boxes Creek (BXSF-67), and Davis Creek (DVSF-65). Although water quality sampling did not indicate a source of the impairment, nonpoint source concerns within the sub-watershed included run off from pasture, crop, and mining lands. Sedimentation was also prevalent throughout the sub-watershed. Sipsey River is recommended as a NPS priority sub-watershed.

Sub-Watershed: Dunn Creek NRCS Sub-Watershed Number 050

Landuse: The Dunn Creek sub-watershed drains approximately 95 mi^2 in Fayette, Pickens, and Tuscaloosa Counties. Land cover was primarily forest with some pasture land. A total of 8 current stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
86%	2%	9%	0%	1%	1%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *low.* There was a *moderate* potential for impairment associated with pasture lands and sedimentation. Sediment from woodland areas contributed 46% of the total sediment load within the sub-watershed (Table 20a). Dunn Creek was given a 3rd priority sub-watershed rating by the Tuscaloosa County SWCD. Resource concerns are listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	0.11 Au/ac	0.00%	2%	9%	0%	ur	2.8 tons/ac/yr
NPS Potential	L	L	L	L	M	L	ur	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment was not conducted within the sub-watershed during the 2001 NPS screening assessment. One station has been previously evaluated in conjunction with ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
UT04U2-17	Chemical, Habitat	1998	Sipsey R. approx. 21.6 mi. us of confluence with Dunn Cr.	22	F&W

Sipsey River: Screening level water quality data was collected at UT04U2-17 during August 1998 (Appendix F-7b). A habitat assessment was not conducted (Appendix F-7a).

NPS priority status: NPS priority status could not be determined from available data. However, the potential for nonpoint source impairment within the sub-watershed was estimated as *low*.

Sub-Watershed: Malone Mill Creek NRCS Sub-Watershed Number 060

Landuse: The Malone Mill Creek sub-watershed drains approximately 98 mi^2 in Pickens and Tuscaloosa Counties. The sub-watershed is mainly forest with some pasture land. Two current construction/stormwater authorizations, one non-coal mining (<5 acres)/stormwater authorization, and one CAFO registration have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
78%	1%	18%	0%	1%	1%	1%

NPS impairment potential: The overall potential for NPS impairment was estimated as *low* (Table 15a). Runoff from pasture land and sedimentation were concerns within the sub-watershed, however. The Malone Mill Creek subwatershed was given a 2nd priority sub-watershed rating by the Tuscaloosa County SWCD for resource concerns listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	0.09 AU/ac	0.00%	1%	18%	0%	ur	2.3 tons/ac/yr
NPS Potential	L	L	L	L	M	L	ur	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment was not conducted within the sub-watershed because of the low potential for impairment from nonpoint sources. A USGS gaging station has been maintained at one location since 1928. Water quality data were collected at the site, 1956-2001. (http://waterdata.usgs.gov/nwis/inventory)

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
02446500	Chemical	1928-2001	Sipsey R. at AL Hwy 104	528	F&W

NPS priority status: An assessment of Malone Creek has not been conducted recently. However, SWCD landuse estimates indicated a *low* potential for impairment from nonpoint sources.

Sub-Watershed: Brush Creek NRCS Sub-Watershed Number 070

Landuse: The Brush Creek sub-watershed drains approximately 141 mi^2 in Greene, Pickens, and Tuscaloosa Counties. Land cover was mainly forest with some pasture. Four current construction (<5 acres)/stormwater authorizations, 3 non-coal mining/stormwater authorizations, and 1 CAFO registration have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
74%	6%	15%	0%	1%	1%	3%

NPS impairment potential: Potential for impairment from sedimentation and runoff from pasture and crop lands were estimated as *moderate*. Potential for impairment from other nonpoint sources was *low*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	13	0.07 AU/ac	0.00%	6%	15%	0%	15%	2.9 tons/ac/yr
NPS Potential	L	L	L	M	M	L	L	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: The Sipsey River has been assessed at 3 locations in conjunction with ADEM's 303(d) Monitoring Program (Appendix F-2), and Clean Water Strategy Project (Appendix F-9). A tributary to the Sipsey River was scheduled for assessment at UT02U3-39 during ADEM's 1999 ALAMAP Program, but the site could not be assessed due to low flow conditions (Appendix F-7a).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
SPYG-3	Chemical	2001	Sipsey R. at AL Hwy 140	528	F&W
SPYG-2	Chemical	2001	Sipsey R. at Pickens CR 2	607	F&W
UT13	Chemical	1996	Sipsey R. at Pickens CR 2	607	F&W
UT02U3-39	None conducted	1999	Tributary to Sipsey R. approx. 1.3 mi. us of confluence with Sipsey R.	<1	F&W

<u>Sipsey River</u>: Sipsey River at SPYG-3, located within the Fall Line Hills (65i) subecoregion, was scheduled for habitat and macroinvertebrate assessments during 2001 (Appendices F-2a and F-2b). The assessments could not be conducted at SPYG-3 because the site was unwadeable.

Intensive water quality samples were collected at SPYG-3 and a 2nd site, SPYG-2, located several miles downstream, from April 2001 through January 2002 (Appendix F-2c). Conductivity ranged from 56-170 µmhos at 25°C at SPYG-2 and 49-179 µmhos at 25°C at SPYG-3. The concentration of total Kjeldahl nitrogen was 0.87 mg/L at SPYG-2 during April 2001.

Sipsey River was evaluated at UT13 during 1996 (Appendix F-9). Conductivity was 131 µmhos during the August and September sampling events. The concentration of nitrate/nitrite-nitrogen was 1.02 mg/L during the October sampling event.

NPS priority status: NPS concerns within the sub-watershed included sedimentation and runoff from pasture and crop lands. Nonpoint source impairment could not be assessed with the data available.

Sub-Watershed: Sipsey River **NRCS Sub-Watershed Number 080**

Landuse: The Sipsey River sub-watershed drains approximately 73 mi^2 in Greene and Pickens Counties. Land cover was mainly forest mixed with pasture and crop lands. Two current construction/stormwater authorizations, 3 non-coal mining (<5 acres)/stormwater authorizations, and 1 CAFO registration have been issued in the sub-watershed (Table 13a). A 4.4 mile segment of the Sipsey River is currently on ADEM's 2002 CWA §303(d) list of impaired waters for only partially supporting its Fish and Wildlife water use classification (Table 14a). High metal concentrations from abandoned surface mines are suspected of causing the impairment.

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
78%	7%	12%	0%	0%	1%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *low.* However, runoff from pasture and crop lands and sedimentation were concerns within the sub-watershed.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	13	0.02 Au/ac	0.07%	7%	12%	0%	21%	3.2 tons/ac/yr
NPS Potential	L	L	L	M	M	L	L	M
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Hughes Creek and Shambley Creek were monitored during the 2001 NPS screening assessment (Table 17a). Intensive water quality data were collected in conjunction with ADEM's CWA§303(d) (Appendix F-2) and Reservoir Monitoring (Appendix F-3) Programs and a tributary monitoring project implemented by the University of Alabama (Appendix F-4).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
HGHG-57	Chemical, Habitat, Biological	2001	Hughes Cr. at Pickens CR 23	12	F&W
SHMG-58	Chemical, Habitat, Biological	2001	Shambley Cr. at Greene CR 60	11	F&W
SIRUA01	Chemical	1998-1999	Sipsey R. at AL Hwy 14	769	F&W
SPYG-1	Chemical	2001	Sipsey R. at Greene CR 181	745	F&W
UT12	Chemical	1996	Sipsey R. at Greene CR 181	745	F&W
Gainesville 6	Chemical, Biological	2001	Sipsey R. embayment at deepest point of main channel approx. 1.5 mi us of the mouth.	789	F&W

Hughes Creek: At HGHG-57, Hughes Creek is a low gradient, sand and clay bottomed stream located in the Southeastern Floodplains and Low Terraces (65p) subecoregion (Table 21a). Assessment guidelines have not been established for this subecoregion. Eight EPT families were collected at the site (Table 22a). A fish IBI assessment conducted at the site indicated the fish community to be in *fair/poor* condition (Table 22a).

Screening level water quality data were collected at this station during May, July, and September 2001 (Appendix D-1).

Shambley Creek: At SHMG-58, Shambley Creek is a low gradient, sand-bottomed stream located in the Southeastern Floodplains and Low Terraces (65p) subecoregion (Table 21a). Assessment guidelines have not been established for this subecoregion. Seven EPT families were collected at the site (Table 22a). A fish IBI assessment conducted at the site indicated the fish community to be in *fair* condition (Table 22a).

Screening level water quality data were collected at this station during May, July, and September 2001 (Appendix D-1).

Sipsey River: Intensive monitoring data collected from Sipsey River at SPYG-1 are provided in Appendix F-2c. Total Kjeldahl nitrogen concentrations were >0.80 mg/L during April and July 2001. Other parameters were similar to least-impaired reference site data. Evaluated data collected during 1996 are provided in Appendix F-9a.

Intensive water quality monitoring was conducted at SIRUA01, November 1998 through October of 1999 (Appendix F-4a). Water temperatures ranged from 6.8-29.0^{o}C. Flows ranged from 82 cfs in June 1999 to >1,960 cfs in January 1999.

Sipsey River was monitored at Gainesville6 from April through October of 2001 (Appendix F-3a). The mean total nitrogen concentration was <0.366 mg/L, 3rd highest of the Tombigbee Reservoir tributaries monitored by ADEM during 2001. Tributary nutrient concentrations were generally lower than mainstem reservoir stations. The mean TSI was 50, suggesting eutrophic conditions within the Sipsey River embayment.

NPS priority status: The fish communities were impaired at sites established on Hughes Creek and Shambley Creek. Runoff from crop and pasture lands was a concern within the sub-watershed. Sipsey River at SPYG-1 showed periodic nutrient enrichment. Sipsey River is therefore recommended as a NPS priority sub-watershed.

Noxubee River CU (0316-0108)

The Noxubee River CU contains only 3 small sub-watersheds, draining approximately 140 mi^2 of Sumter and Pickens Counties on the southwestern corner of the Upper Tombigbee River Basin (Fig. 3). They are located within the Blackland Prairie (65a), Flatwoods/Blackland Prairie Margins (65b), and the Southeastern Floodplains and Low Terraces (65p) subecoregions of the Southeastern Plains Ecoregion (65) (Fig. 4; Griffith et al. 2001) and consist of the Major Floodplains and Terraces and the Blackland Prairie soil areas (ACES 1997). The headwaters of all 3 sub-watersheds are located within Mississippi.

Landuse: Based on the conservation assessment worksheets completed (1998) by the local SWCDs, the primary land-uses throughout the Noxubee River CU were pasture, forest, and crop land.

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
23%	18%	48%	0%	1%	2%	9%

NPS impairment potential: All 3 sub-watersheds had a *moderate* or *high* potential for impairment from nonpoint sources. The primary nonpoint source concerns within the Noxubee River CU were sedimentation, pasture, row crops, and aquaculture. Septic tank failures were a potential concern in 2 sub-watersheds (Table 15a).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15a).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	1	1	1	1	0	0	1	0
High	2	0	2	2	3	0	0	3

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15a).

Category	Urban	Development	Septic tank failure
Moderate	0	0	1
High	0	0	1

Historical data/studies: Table 16a lists the sub-watersheds and water bodies in which data have been previously collected in conjunction with other monitoring programs and the appendices where these data are provided. Recent assessment information has been collected in the Noxubee River (090) and Bodka Creek (140) sub-watersheds (Fig. 10).

2001 NPS screening assessment: Table 17a lists the stations assessed or attempted during the NPS screening assessment. The Woodward Creek (110) and Bodka Creek (140) sub-watersheds were targeted for assessment because they had a *moderate* or *high* potential for impairment from nonpoint sources.

Sub-watershed summaries: A summary of the information available for each of the 3 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. Assessment of habitat, biological, and chemical conditions within each sub-watershed are based on long-term data from ADEM's Ecoregional Reference Reach Program. Tables 12a-22a are located at the end of the Upper Tombigbee River Basin summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Table 18a summarizes assessment of habitat, chemical/physical, and biological conditions conducted at 2 stations within the Woodward Creek and Bodka Creek sub-watersheds. Assessment was prevented at 2 additional stations due to severe low flow conditions. Habitat quality was assessed as *excellent* and *good* at both stations. Macroinvertebrate assessments indicated the macroinvertebrate community to be in *good* condition at one station (50%) and *fair* condition at one station (50%). Results of the habitat and macroinvertebrate assessments are presented in Fig. 25. Results of fish IBI assessments indicated the fish community to be in *fair/poor* condition at one station (50%) and *poor* condition at one station (50%) (Fig. 26).

Overall condition for each station was rated as the lowest assessment result obtained (Table 18a). One (50%) station, located within the Woodward Creek (110) sub-watershed, was assessed as *fair/poor* and one (50%) station, located within the Bodka Creek sub-watershed (140), was assessed as *poor*.

NPS priority sub-watersheds: Fig. 27 shows the location of Woodward Creek (110) and Bodka Creek (140), which were both recommended as priority sub-watersheds.

Fig. 25. Habitat and macroinvertebrate assessments conducted within the Noxubee River CU.

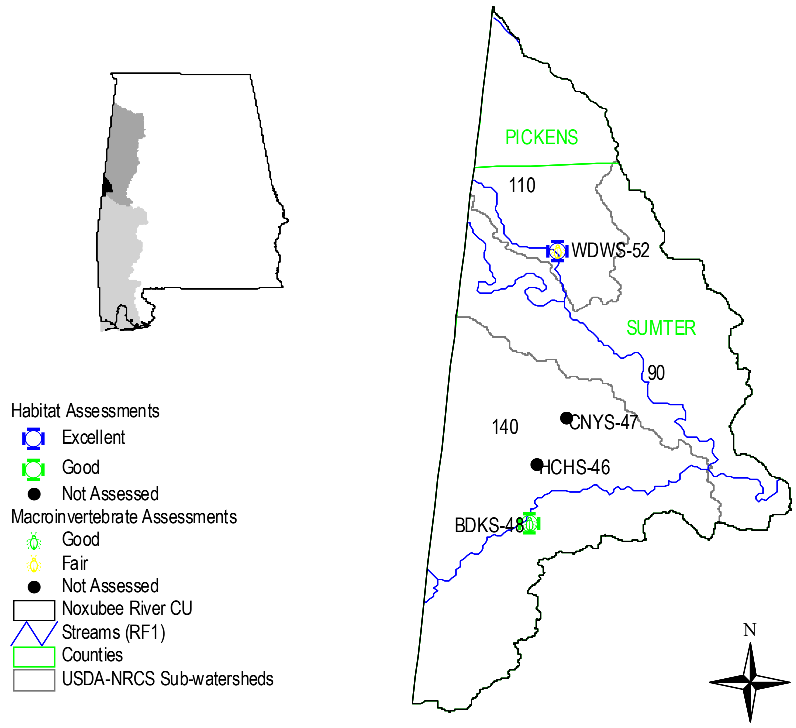

Fig. 26. Fish IBI assessments conducted within the Noxubee River CU.

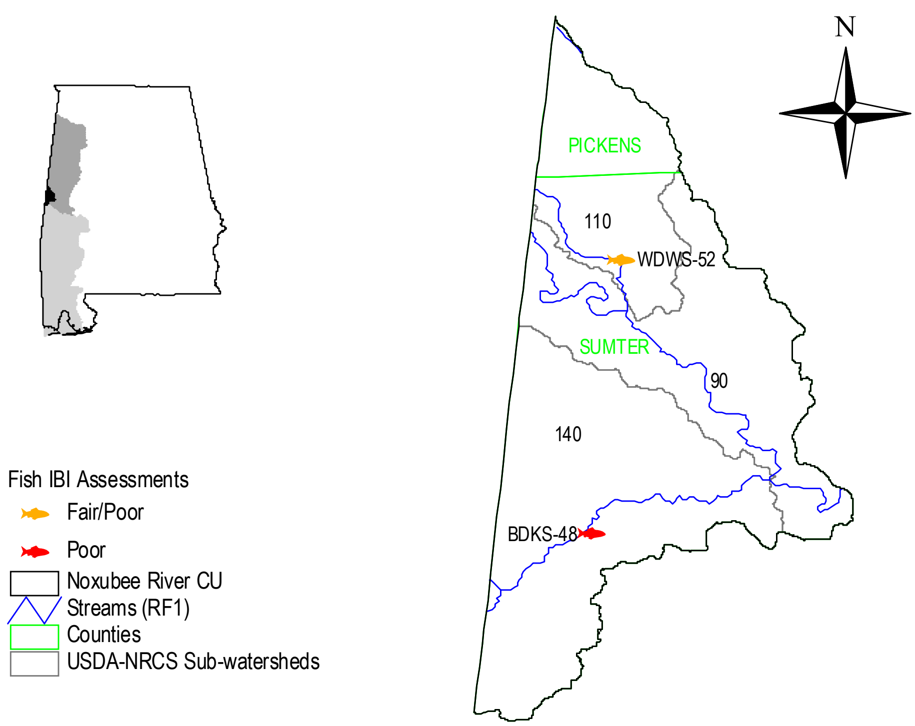

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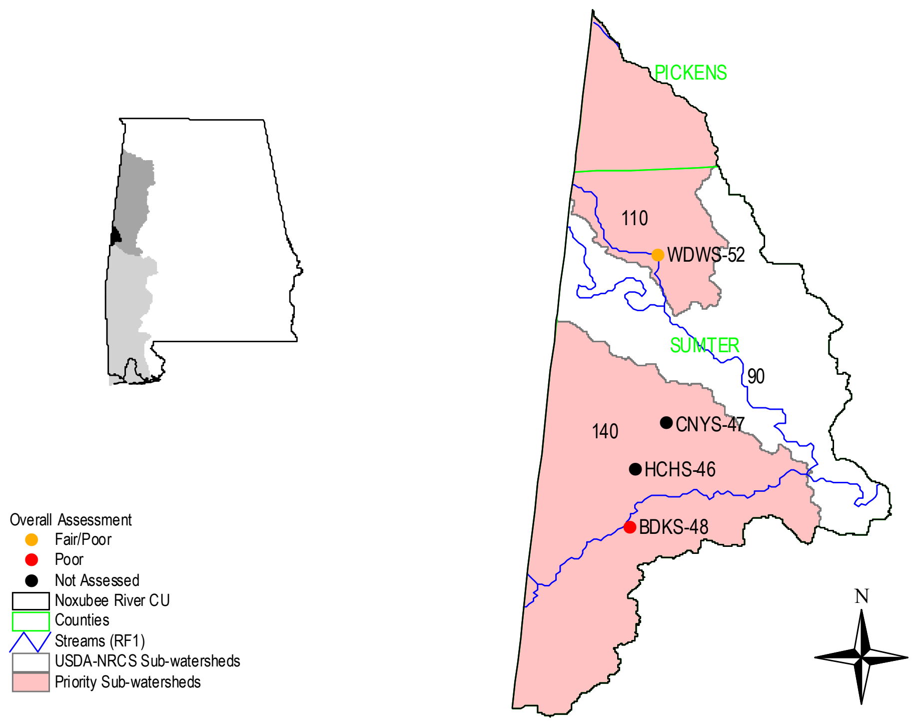
Fig. 27. Priority sub-watersheds located within the Noxubee River CU. Lowest bioassessment rating obtained at each station is also shown.



Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed	Lowest Station Assessment	Suspected Cause(s)	Suspected nonpoint source(s)
110 Woodward Creek	Fair/Poor	Sedimentation	Runoff from pasture and crop lands, Aquaculture, Animal husbandry
140 Bodka Creek	Poor	Sedimentation	Runoff from pasture and crop lands

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Sub-Watershed: Noxubee River NRCS Sub-Watershed Number 090

Landuse: The Noxubee River sub-watershed drains approximately 1,018 mi^2 in Noxubee County, Mississippi before flowing into Sumter County, Alabama. Within Alabama, land cover was a mix of pasture, forest, crop land, and other areas. Two current construction/stormwater authorizations and 2 non-coal mining (<5 acres)/stormwater authorizations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
27%	12%	48%	0%	1%	2%	10%

NPS impairment potential: The Noxubee River sub-watershed rated the highest NPS impairment potential score within the Upper Tombigbee River Basin (Table 15a). It also obtained the highest sedimentation rate within the Upper Tombigbee River Basin (30.3 tons/ac/yr). Sediment from gullies constituted 81% (24.6 tons/ac/yr) of the total sediment load (Table 20a). Animal husbandry, aquaculture, runoff from crop and pasture lands, and forestry activities were also NPS concerns within the sub-watershed. Noxubee River was given a 2nd priority sub-watershed rating from the local SWCD. Estimates of septic tank failure indicated a *moderate* potential for impairment (Table 15a).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	25	0.15 AU/ac	0.42%	12%	48%	0%	27%	30.3 tons/ac/yr
NPS Potential	H	M	H	M	H	L	M	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: An assessment was not conducted during the 2001 NPS screening assessment. However, intensive water quality data have been collected at 2 locations on the Noxubee River in conjunction with ADEM's Reservoir Monitoring Program (Appendix F-3) and a statewide tributary nutrient study (Appendix F-4). The USGS has monitored streamflow of the Noxubee River since 1939. Water quality data have been collected at the site since 1956 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
NBRUA01	Chemical	1999	Noxubee R. at AL Hwy 17	1097	F&W
02448500	Chemical	1939-2001	Noxubee R. at AL Hwy 17	1097	F&W
Demopolis4	Chemical, Biological	2001	Noxubee R. at deepest point of main channel, approx. 1 mi. us of confluence with Tombigbee R.	1418	F&W

Noxubee River: The Noxubee River was intensively monitored at NBRUA01 during November 1998 through October of 1999 (Appendix F-4a). Flow at the site ranged from 68 cfs in September 1999 to 2,860 cfs in March 1999. Nitrogen concentrations (TKN, NH_3-N, and NO_3/NO_2-N) were periodically elevated.

Noxubee River was intensively monitored at Demoplis4 in conjunction with ADEM's Reservoir Monitoring Program to evaluate the tributary as a potential source of nutrient and sediment loading within Demopolis Reservoir (Appendix F-3). The mean total nitrogen concentration (MTN) was 0.643 mg/L, 3rd highest of the Demopolis tributaries. The mean total phosphorus (MTP) concentration was 0.089 mg/L, similar to Factory Creek. Both MTN and MTP were higher than mean concentrations measured at mainstem stations (Appendix F-3a). The mean TSI value was 53, indicating eutrophic conditions at the mouth of Noxubee River. The mean concentration of total suspended solids was 22.1 mg/L.

NPS priority status: Nutrient enrichment appeared to be a concern at NBRUA01. Although historic data are unavailable for comparison, nutrient concentrations at Demopolis4 were higher than concentrations currently and historically measured at mainstem stations. The sub-watershed rated the highest NPS impairment potential score within the Upper Tombigbee River Basin. However, the majority of the Noxubee River sub-watershed is located within Mississippi.

Sub-Watershed: Woodward Creek NRCS Sub-Watershed Number 110

Landuse: The Woodward Creek sub-watershed drains approximately 29 mi^2 in Pickens and Sumter Counties, Alabama, and 54 mi^2 in Noxubee County, Mississippi. Pasture, row crop, and forest comprised 94% of SWCD percent land cover estimates. Two current construction/stormwater authorizations have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
13%	32%	49%	0%	0%	2%	4%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *high*. The main NPS concerns within the sub-watershed were runoff from pasture and crop lands, aquaculture, animal husbandry, and sedimentation. Crop land, critical areas, and gullies were the main sources of sedimentation (Table 20a). Woodward Creek was given a 1st priority sub-watershed rating by the local SWCD. Resource concerns are listed in Table 20a. Septic tank failure estimates indicated a *high* potential for impairment.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	23	0.19 AU/ac	0.81%	32%	49%	0%	21%	6.0 tons/ac/yr
NPS Potential	H	M	H	H	H	L	L	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Woodward Creek was monitored at one location during the 2001 NPS screening assessment (Table 17a).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
WDWS-52	Chemical, Habitat, Biological	2001	Woodward CR. at AL Hwy 17	67	F&W

Woodward Creek: At WDWS-52, Woodward Creek is a low gradient, sand-bottomed stream located within the Blackland Prairie (65b) subecoregion (Table 21a). Habitat quality was assessed as *excellent* for this stream type. Five EPT families were collected, indicating the macroinvertebrate community to be in *fair* condition (Table 22a).

Screening level water quality data were collected during May and September 2001 (Appendix D-1). The concentration of total dissolved solids was 285 mg/L during the May sampling event. Chloride concentrations were 52 mg/L in May and 23 mg/L in September.

NPS priority status: The macroinvertebrate community was assessed as *fair* at WDWS-52, identifying Woodward Creek as a NPS priority sub-watershed. Screening level water quality data suggested high total dissolved solids and chloride concentrations at the site. Runoff from pasture and crop lands, aquaculture, animal husbandry, and sedimentation were the main NPS concerns.

Sub-Watershed: Bodka Creek NRCS Sub-Watershed Number 140

Landuse: The Bodka Creek sub-watershed drains approximately 64 mi^2 in Sumter County, Alabama, and 145 mi^2 in Kemper County, Mississippi. Land cover was a mixture of pasture, forest, and crop land. One current construction/stormwater authorization, 2 non-coal mining (<5 acres)/stormwater authorization, and 1 industrial process wastewater NPDES permit have been issued in the sub-watershed (Table 13a).

Percent land cover estimated by local SWCD (Table 12a, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
24%	17%	47%	0%	1%	2%	10%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* The primary NPS concerns were runoff from crop and pasture lands, aquaculture, and sedimentation. Bodka Creek was given a 3rd prioirty sub-watershed rating by the local SWCD. Resource concerns are listed in Table 20a.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	21	0.21 AU/ac	1%	17%	47%	0%	21	14.3 tons/ac/yr
NPS Potential	M	L	M	H	H	L	L	H
Table	15a	19a	19a	12a	12a	12a	20a	20a

Assessments: Intensive monitoring data were collected at one location on Bodka Creek during the 2001 NPS screening assessment (Table 17a). Assessments could not be conducted at 2 additional locations on Caney Creek and Hatchet Creek due to severe low flow conditions. However, Caney Creek was evaluated in 1997 during ADEM's ALAMAP Program (Appendix F-7). Bodka Creek has been evaluated at 3 stations in conjunction with ADEM's Factory and Bodka Creek Arsenic Monitoring Project (Appendix F-6). Water quality data have been collected at a USGS Surface Water Station since 1967. Stream flow data have been collected at the site since 1990 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BC-1	Chemical	1986-1991	Bodka Cr. at RR crossing	157	F&W
BDKS-48	Chemical, Habitat, Biological	2001	Bodka Cr. at AL Hwy 17	158	F&W
02448900	Chemical	1967-2001	Bodka Cr. at AL Hwy 17	158	F&W
BC-2	Chemical	1986-1991	Bodka Cr. at AL Hwy 17	158	F&W
BC-3	Chemical	1986-1991	Bodka Cr. at unnamed Sumter CR	183	F&W
CNYS-47	None conducted	2001	Caney Cr. at unnamed Sumter CR	6	F&W
UT05U1	Chemical, Habitat	1997	Caney Branch approx. 3.1 mi. us of confluence of Bodka Cr. and Noxubee R.	20	F&W
HCHS-46	None conducted	2001	Hatchet Cr. at AL Hwy 17	9	F&W

Bodka Creek: At BDKS-48, Bodka Creek is a low gradient stream located within the Blackland Prairie (65a) subecoregion (Table 21a). The site is characterized by hardpan clay and sand substrates. Habitat quality was assessed as *good*. Bioassessments indicated the macroinvertebrate community to be in *good* condition and the fish community to be in *poor* condition (Table 22a). Screening level water quality data were collected during May and September 2001 (Appendix D-1).

Three additional stations on Bodka Creek were evaluated in conjunction with a special study conducted 1986-1991 (Appendix F-6). Data collected during 1990 and 1991 are provided in Appendix F-6a.

Caney Creek: At UT05U1, Caney Creek is a low gradient, clay-bottomed stream located within the Southeastern Floodplains and Low Terraces (65p) subecoregion (Appendix F-7a). Assessment guidelines have not been developed for this subecoregion. Chemical data are provided in Appendix F-7b.

NPS priority status: Bodka Creek is recommended as a priority sub-watershed. The fish community was assessed as *poor* at BDKS-48. Nonpoint source concerns within the sub-watershed included runoff from crop and pasture lands, aquaculture, and sedimentation.

Table 12a. Land use percentages for the Upper Tombigbee River (0316-0101), Buttahatchee Creek (0316-0103), Luxapallila Creek (0316-0105), Lubbub Creek (0316-0106), Sipsey River (0316-0107), and Noxubee River (0316-0108) CUs. Values based on EPA landuse categories (EPA 1997) and local SWCD Conservation Assessment Worksheet landuse estimates (ASWCC 1998).

Sub-watershed	Percent Total Landuse													
	Open Water		Urban		Mines		Forest		Pasture		Row Crops		Other	
	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA
Upper Tombigbee (0316-0101)														
060	<1	<1	1	<1	0	0	86	89	9	5	3	3	1	3
070	1	<1	5	<1	0	0	84	89	6	7	4	3	1	<1
Buttahatchee Creek (0316-0103)														
010	<1	<1	3	<1	1	<1	74	86	12	9	7	4	3	<1
020	<1	1	6	1	1	0	76	83	5	5	7	4	4	6
030	<1	<1	5	1	<1	0	81	85	7	5	2	2	5	7
040	<1	1	3	1	<1	0	74	71	11	5	6	7	6	16
050	<1	<1	2	1	0	0	72	78	13	8	9	7	4	6
070	<1	<1	<1	<1	0	0	74	81	11	7	10	5	4	7
Luxapallila Creek (0316-0105)														
010	<1	<1	7	1	1	<1	71	78	11	11	6	8	4	2
020	<1	<1	0	<1	<1	0	77	73	15	17	4	9	4	<1
030	<1	<1	2	<1	<1	<1	86	80	7	5	1	5	4	10
040	<1	<1	1	<1	<1	0	86	86	6	5	2	4	5	5
050	<1	<1	2	<1	<1	<1	83	70	8	6	2	6	5	16
060	1	<1	<1	<1	<1	<1	77	70	12	8	4	11	7	11
100	<1	<1	<1	<1	0	<1	90	84	2	6	7	6	1	4
120	---	<1	---	<1	---	0	---	55	---	23	---	22	---	0
Lubbub Creek (0316-0106)														
020	<1	<1	0	<1	0	0	93	80	4	8	2	12	1	0
040	<1	<1	2	1	0	0	89	84	3	4	3	6	2	6
060	1	1	0	<1	0	0	93	84	2	3	2	3	2	9
070	1	2	5	1	0	<1	81	55	4	8	7	9	3	26
090	7	6	2	<1	0	<1	52	12	19	20	16	27	4	33
100	1	<1	9	1	0	0	81	81	4	5	2	4	3	9
110	1	<1	6	1	0	0	85	80	5	7	2	5	2	8

Table 12a. Land use percentages for the Upper Tombigbee River (0316-0101), Buttahatchee Creek (0316-0103), Luxapallila Creek (0316-0105), Lubbub Creek (0316-0106), Sipsey River (0316-0107), and Noxubee River (0316-0108) CUs. Values based on EPA landuse categories (EPA 1997) and local SWCD Conservation Assessment Worksheet landuse estimates (ASWCC 1998).

Subwatershed	Percent Total Landuse													
	Open Water		Urban		Mines		Forest		Pasture		Row Crops		Other	
	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA
Lubbub Creek (0316-0106)														
120	5	2	11	1	0	0	53	60	17	9	11	9	4	19
130	2	6	0	<1	0	0	57	12	18	22	20	24	3	36
140	4	3	0	<1	0	0	60	33	20	20	15	16	1	28
150	3	5	1	1	0	0	69	34	20	9	5	11	2	41
160	2	1	0	<1	0	0	40	65	46	8	10	8	2	17
170	10	2	2	<1	0	0	10	29	57	30	17	31	5	8
180	7	4	0	<1	0	<1	82	41	3	10	3	7	5	37
190	5	3	4	<1	0	0	30	31	49	20	10	13	2	33
Sipsey River (0316-0107)														
010	<1	<1	<1	<1	5	3	88	92	3	3	2	1	2	<1
020	1	<1	3	1	10	1	78	88	6	6	2	3	1	<1
030	<1	<1	0	<1	<1	0	85	88	8	6	4	5	2	1
040	1	<1	5	1	<1	<1	74	76	10	6	8	5	2	13
050	1	<1	1	<1	0	0	86	75	9	5	2	3	1	17
060	1	1	1	<1	0	0	78	61	18	4	1	4	1	21
070	1	<1	1	<1	0	0	74	84	15	5	6	4	3	6
080	1	1	0	<1	0	0	78	78	12	9	7	8	1	4
Noxubee River (0316-0108)														
090	2	1	1	<1	0	0	27	20	48	18	12	12	10	48
110	2	1	0	<1	0	0	13	20	49	27	32	41	4	11
140	2	1	1	<1	0	<1	24	31	47	26	17	23	10	18

Table 13a. Number of current construction/stormwater authorizations, noncoal mining (<5 acres)/stormwater authorizations, NPDES permits, and CAFO registrations issued within sub-watersheds of the Upper Tombigbee River Basin (0316-01).

		# of Authorizations / #NPDES permits							
Cataloging Unit	Sub-watershed	Total Number of Permits and Authorizations	Construction/ Stormwater Authorizations (a)	Non-Coal Mining <5 Acres / Stormwater Authorizations (a)	Mining NPDES (c)	Municipal NPDES (b)	Semi Public/ Private NPDES (b)	Industrial Process Wastewater - NPDES Majors (b)	CAFO Registrations (c)
0101	060	9	3	5				1	
	070	2	1					1	
0103	010	14	7	2		1		1	3
	020	14	4	6		1		3	
	030	10	5	2		1		2	
	040	7	2	2		1		2	
	050	4	2	1				1	
	070	2	1	1					
0105	010	8	3	4		1			
	020	1		1					
	030	6	1	1		1		3	
	040	3	1	2					
	050	2		1		1			
	060	1		1					
	100	1	1						
	120	2	1	1					
0106	020	1	1						
	040	3	1	2					
	060	5	2	1					2
	070	8	2	3		1			2
	090	6	2	2			1		1
	100	14	2	2		2		2	6
	110	9	1	2		1		1	4
	120	4	2	1		1			
	130	5	2	3					
	140	3	1	1					1
	150	2	1	1					
	160	7	4	3					
	170	11	4	3		1			3
	180	4	1	2			1		
	190	3	1	1					1
0107	010	10	3	5					2
	020	11	4	5		1			1
	030	3	2	1					
	040	11	1	6		1	1	1	1
	050	8	2	4				2	
	060	4	2	1					1
	070	8	4	3					1
	080	6	2	3					1
0108	090	4	2	2					
	110	2	2						
	140	4	1	2				1	

(a) Source: ADEM Mining and Nonpoint Source Unit, Field Operations, database retrieval (05/21/02); (b) Source: ADEM Water Division, NPDES database retrieval (05/21/02); (c) Source: ADEM Mining and Nonpoint Source Unit, Field Operations, database retrieval (07/17/02)

Table 14a. List of waterbodies within the Buttahatchee, (0316-0103), Middle Tombigbee-Lubbub (0316-0106), and Sipsey (0316-0107) River cataloging units on ADEM's draft 2002 §303(d) list due to unknown or nonpoint source impacts. Sources and causes of impairment are listed (ADEM 1999c). Two segments (in italics) are included on the §303(d) list with source(s) other than rural nonpoint.

Waterbody	Sub-watershed	Miles impaired	Use[1]	Support Status	Suspected Sources	Causes of Impairment
0316-0103						
Purgatory Creek	030	3.0	PWS, F&W	Partial	Surface mining-abandoned	pH
0316-0106						
Little Bear Creek	*110*	*3.9*	*F&W*	*Partial*	*Urban runoff/storm sewers*	*OE/DO*
Tombigbee River		*5.0*	*F&W, S*	*Partial*	*Dam construction, flow regulation/modification*	*OE/DO*
0316-0107						
Sipsey River	080	4.4	F&W	Partial	Surface mining-abandoned	Metals (Fe)

1. Water use classification: A&I=Agriculture and Industry, F&W=Fish and Wildlife, H=Shellfish harvesting, LWWF=Limited Warmwater Fishery, PWS=Public Water Supply, S=Swimming

Table 15a. Estimates of (H)igh, (M)oderate, or (L)ow NPS impairment potential for sub-watersheds in the Upper Tombigbee River accounting unit (0316-01). Source categories are based upon information provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets completed in 1998, and from Construction Stormwater Authorization information provided by the Mining and NPS Unit of ADEM. *Rural landuse sources were used to develop the NPS potential. The presence of a CWA 303(d) stream segment within a sub-watershed raised the sub-watershed to the top of the prioritization ranking.

CU	Sub-watershed	Overall NPS Impairment Score	Potential NPS Impairment	Potential Sources of Impairment									
				Rural Landuses*							Urban / Suburban / Residential Landuses		
				Animal Husbandry	Aquaculture	Row Crops	Pasture Runoff	Mining	Forestry Practices	Sedimentation	Urban	Development	Septic Tank Failure
Raw Data Table				19a	19a	12a	12a	12a	20a	20a	12a	13a	20a
0316-0101	060	14	M	M	L	L	M	L	ur	H	L	M	L
	070	14	M	M	M	L	L	L	ur	H	M	L	M
0316-0103	010	18	M	L	L	M	M	H	ur	H	L	M	L
	020	16	M	L	L	M	L	H	ur	H	M	M	L
	030	12	M	L	L	L	L	M	ur	H	M	M	L
	040	14	M	L	L	M	M	M	ur	M	L	L	L
	050	14	M	L	L	M	M	L	ur	H	L	L	L
	070	14	M	L	L	M	M	L	ur	H	L	L	L
0316-0105	010	18	M	L	L	M	M	H	ur	H	M	M	L
	020	14	M	L	L	L	M	M	ur	H	L	L	L
	030	10	L	L	L	L	L	M	ur	M	L	L	L
	040	12	M	L	L	L	L	M	ur	H	L	L	L
	050	12	M	L	L	L	M	M	ur	M	L	L	L
	060	12	M	L	L	L	M	M	ur	M	L	L	L
	100	10	L	L	L	M	L	L	ur	M	L	L	L
	120	---	---	---	---	---	---	---	---	---	---	M	L
0316-0106	020	6	L	L	L	L	L	L	ur	L	L	L	M
	040	8	L	L	L	L	L	L	ur	M	L	L	M
	060	10	L	L	M	L	L	L	ur	M	L	L	M
	070	12	M	L	L	M	L	L	ur	H	M	L	H
	090	20	M	M	H	M	M	L	ur	H	L	L	H
	100	10	L	L	L	L	L	L	ur	H	M	L	H
	110	14	M	H	L	L	L	L	ur	H	M	L	M
	120	18	M	L	H	M	M	L	ur	H	M	L	M
	130	21	M	L	H	H	M	L	M	M	L	L	M
	140	17	M	L	M	M	M	L	M	M	L	L	L
	150	19	M	L	L	M	M	L	H	H	L	L	M

ur= unreported

Table 15a. Estimates of (H)igh, (M)oderate, or (L)ow NPS impairment potential for sub-watersheds in the Upper Tombigbee River accounting unit (0316-01). Source categories are based upon information provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets completed in 1998, and from Construction Stormwater Authorization information provided by the Mining and NPS Unit of ADEM. *Rural landuse sources were used to develop the NPS potential. The presence of a CWA 303(d) stream segment within a sub-watershed raised the sub-watershed to the top of the prioritization ranking.

CU	Sub-watershed	Overall NPS Impairment Score	Potential NPS Impairment	Potential Sources of Impairment									
				Rural Landuses							Urban / Suburban / Residential Landuses		
				Animal Husbandry	Aquaculture	Row Crops	Pasture Runoff	Mining	Forestry Practices	Sedimentation	Urban	Development	Septic Tank Failure
Raw Data Table													
0316-0106	160	19	M	L	H	M	H	L	L	M	L	M	L
	170	23	H	L	H	H	H	L	L	H	L	M	M
	180	19	M	H	L	L	L	L	H	H	L	L	L
	190	21	M	L	H	M	H	L	L	H	L	L	L
0316-0107	010	15	M	L	L	L	L	H	L	H	L	M	L
	020	14	M	L	L	L	L	H	ur	H	L	M	M
	030	12	M	L	L	L	M	M	ur	M	L	L	L
	040	16	M	L	L	M	M	M	ur	H	M	L	L
	050	10	L	L	L	L	M	L	ur	M	L	L	L
	060	10	L	L	L	L	M	L	ur	M	L	L	L
	070	13	L	L	L	M	M	L	L	M	L	M	L
	080	13	L	L	L	M	M	L	L	M	L	L	L
0316-0108	090	25	H	M	H	M	H	L	M	H	L	L	M
	110	23	H	L	H	H	H	L	L	H	L	L	H
	140	21	M	L	M	H	H	L	L	H	L	L	L

ur=unreported

Table 16a. List of other water quality assessments conducted on streams within the Upper Tombigbee River Basin, 1990-2001. Data provided in the Appendices are listed. References are listed for data not provided in the report.

Waterbody	*Date(s)*	*Assessment Type* [a]	*Appendices*
Buttahatchee River CU (0316-0103)			
010 Moore Creek	1990	B, H, C	F-6
010 Camp Creek	1999	H, C	F-2
010 Buttahatchee River	1998	H, C	F-7
020 Buttahatchee River	1996, 2001	B, H, C	F-2, F-9
020 Clark Creek	2001	B, H, C	F-1
020 Cantrell Mill Creek	2001	B, H, C	F-1
030 Unnamed tributary to Flurry Creek	1998	H, C	F-7
040 Buttahatchee River	1996, 2001	B, H, C	F-2, F-9
Luxapallila River CU (0316-0105)			
010 East Branch of Luxapallila Creek	1999	B, H, C	F-2
010 Luxapallila Creek	1999	B, H, C	F-2
010 Turkey Creek	1998	H, C	F-7
010 Luxapallila Creek	1996	C	F-9
030 Luxapallila Creek	1996, 1998-1999, 2001	B, H, C	F-2, F-4, F-7, F-9
030 Cooper Creek	1999	H, C	F-7
050 Yellow Creek	1997	H, C	F-7
060 Unnamed tributary to Cut Bank Creek	2001	H, C	F-7
Middle Tombigbee-Lubbub River CU (0316-0106)			
060 Coal Fire Creek	1996, 1998, 1999, 2001,	B, H, C	F-1, F-3, F-4, F-9
060 Tombigbee River	2001	B, C	F-3, F-4, F-5
070 Tombigbee River	1990-2001, 1992, 1995, 1997, 1998, 1999, 2001	B, C	F-3, F-4, F-5, F-8, ADEM 2003b
070 Blubber Creek	1993, 1995, 2001	B, H, C	F-1
070 Greer Creek	1999	H, C	F-7
070 Woolbank Creek	1996	C	F-9
090 Boguechitto Creek	2001	B, C	F-3
100 Lubbub Creek	1996	C	F-9
110 Bear Creek	1993, 1995, 2001	B, H, C	F-1
110 Little Bear Creek	1996, 2001	B, H, C	F-2, F-9
110 Unnamed Tributary to Sneads Creek	1997	H, C	F-7
120 Lubbub Creek	1990-1992, 1996, 1998, 1999, 2001	B, H, C	F-3, F-4, F-6, F-9
120 Cow Creek	1997	H, C	F-7
130 Tombigbee River	2001	B, C	F-3
140 Tombigbee River	1992, 1995, 1997, 1998, 1999, 2001	B, C	F-3, F-4, F-5, ADEM 2003b
160 Tombigbee River	2001	B, C	F-3
160 Trussels Creek	2001	B, H, C	F-2, F-3
160 Brush Creek	2001	B, C	F-3
170 Factory Creek	1986-1988, 2001	B, C	F-3, F-6
170 Jones Creek	1991, 1992, 1993, 1995, 2001	B, H, C	F-1
190 Tombigbee River	2001	B, C	F-3

Table 16a. List of other water quality assessments conducted on streams within the Upper Tombigbee Basin, 1990-2001. Data provided in the Appendices are listed. The appropriate reference is listed for data not provided in the report.

Waterbody	*Date(s)*	*Assessment Type* [a]	*Appendices*
Sipsey River CU (0316-0107)			
030 Stud Horse Creek	1996	C	F-9
040 Sipsey River	2001	B, H, C	F-7
050 Sipsey River	1998	H, C	F-7
070 Sipsey River	1990-1992, 1996, 2001	B, H, C	F-2, F-6, F-9
070 Unnamed tributary to Sipsey River	1999	H, C	F-7
080 Tombigbee River	2001	B, C	F-3
080 Sipsey River	1990-1992, 1996, 1998-1999, 2001	B, H, C	F-2, F-3, F-4, F-6, F-9
Sipsey River CU (0316-0107)			
090 Noxubee River	1998-1999, 2001	B, C	F-3, F-4
140 Caney Creek	1997	H, C	F-7

a. B=Biological (Chlorophyll a, Macroinvertebrates, and/or Fish), H= Habitat, C=Chemical

Table 17a. List of stations assessed or attempted as part of the surface water quality NPS screening assessment within the Upper Tombigbee River accounting unit.

CU	Sub-watershed	Stream	Station	Basin Size (est. mi^2)	*Chemical Data Available* [b]	Subregion[b]	County	T / R / S
0101 Upper Tombigbee River CU								
	060	Bluegut Cr	BLGM-93	8	H, M, C	65i	Marion	9S/15W/16
	060	Bull Mountain Cr	BLMM-95a	3	H, M, C	65i	Marion	9S/15W/10
0103 Buttahatchee River CU								
	010	Barn Cr	BARM-82	20	H, M, C	68e	Marion	11S/12W/4
	010	Camp Cr	CMPM-84	18	H, M, C	65i	Marion	10S/13W/35
	010	Hobson Cr	HBSM-81	8	H, M, C	68e	Marion	11S/11W/6
	010	Stevens Cr	STVM-85	10	H, M, C	65i	Marion	10S/14W/23
	010	West Branch Buttahatchee Cr	WBTM-80	17	H, M, F, C	68e	Marion	10S/11W/17
	030	Beaver Cr	BVRM-79	19	H, M, C	65i	Marion	12S/13W/20
	030	Cannon Mill Cr	CNML-76	7	H, M, C	65i	Lamar	12S/13W/10
	050	Boardtree Cr	BRDM-89	17	H, B, C	65i	Marion	11S/15W/5
	050	Hurricane Cr	HRCM-87	18	H, B, C	65i	Marion	10S/15W/9
0105 Luxapallila River CU								
	010	East Br	EBRM-72	8	H, M, C	65i	Marion	12S/12W/33
	010	Sugar Cr	SGRF-70	9	H, M, C	65i	Fayette	13S/13W/36
0106 Middle Tombigbee - Lubbub River CU								
	120	Lubbub Cr	LBB-1	301	H, M, C	65i	Pickens	22S/15W/9
	120	Cow Cr	CWCP-59	9	H, M, F, C	65b	Pickens	22S/1W/28
	120	Seneca Cr	SNCP-60	9	NC	65i	Pickens	22S/15W/9-10
	130	Fenache Cr	FNCS-103	11	NC	65a	Sumter	23N/2W/18
	160	Brush Cr	BRHG-56	50	H, M, F, C	65b	Greene	21N/1E/7
	160	Pippen Cr	PIPG-54	11	C	65b	Greene	22N/1E/26
	170	Factory Cr	FCTS-41	35	H, M, F, C	65a	Sumter	20N/11W/6
	170	Toms Cr	TMSS-44	14	NC	65b	Sumter	21N/2W/36
0107 Sipsey River CU								
	020	Little New R	LNRM-75	48	H, M, C	65i	Marion	13S/11W/17
	040	Bear Cr	BRCF-64	24	H, M, F, C	65i	Fayette	17S/12W/33
	040	Boxes Cr	BXSF-67	11	H, M, F, C	65i	Fayette	16S/12W/10
	040	Davis Cr	DVSF-65	22	H, M, C	65i	Fayette	17S/12W/13
	080	Hughes Cr	HGHG-57	12	H, M, F, C	65p	Pickens	24N/1W/9
	080	Shambley Cr	SHMG-58	11	H, M, F, C	65p	Greene	24N/1W/25
0108 Noxubee River CU								
	110	Woodward Cr	WDWS-52	67	H, M, F, C	65b	Sumter	23N/3W/28
	140	Bodka Cr	BDKS-48	158	H, M, F, C	65a	Sumter	21N/3W/8
	140	Caney Cr	CNYS-47	6	NC	65p	Sumter	22N/3W/21
	140	Hatchet Cr	HCHS-46	9	NC	65a	Sumter	22N/3W/32

a. Assessment Type: C=Chemical; C*= Chemical Assessment attempted, stream dry or intermittant pools; H= Habitat; M=Aquatic Macroinvertebrate Assessment; F=Fish Community Assessment; *NC* = Assessment not conducted (dry/not flowing/beaver dam, etc)

b. Level IV Ecoregions of Alabama (Griffith, et al. 2001)

Table 18a. Summary of assessments conducted within the Upper Tombigbee River Basin as a part of the NPS assessment of the EMT Basin Group and other available biological and chemical data collected since 1995.

Sub-watershed	Station Number	*Habitat*	*Macroinv.*	*Fish*	*Chemical Data Available* [b]	*Lowest Assessment Score*
0101-060	BLGM-93	Excellent	Good		E	Good
0101-060	BLMM-95a	Excellent	Excellent		E	Excellent
0103-010	BARM-82	Excellent	Fair		E	Fair
0103-010	CMC-1	Excellent	Good		M	Good
0103-010	CMC-2	Excellent			M	---
0103-010	CMPM-84	Excellent	Excellent		E	Excellent
0103-010	HBSM-81	Good	Fair		E	Fair
0103-010	MR-1[a]	Excellent	Fair		M	Fair
0103-010	MR-2[a]	Excellent	Poor		M	Poor
0103-010	MR-3[a]	Excellent	Poor		M	Poor
0103-010	MR-4[a]	Excellent	Fair		M	Fair
0103-010	STVM-85	Excellent	Excellent		E	Excellent
0103-010	WBTM-80	Good	Good	Good/Fair	E	Good/Fair
0103-020	BUTL-2[c]				M	---
0103-020	BUTL-3	Excellent	Excellent		M	Excellent
0103-020	CLKM-4	Excellent	Excellent	Good	E	Good
0103-020	CTML-6	Excellent	Good	Fair	E	Fair
0103-030	BVRM-79	Excellent	Fair		E	Fair
0103-030	CNML-76	Excellent	Good		E	Good
0103-040	BUTL-1[c]				M	---
0103-050	BRDM-89	Excellent	Good		E	Good
0103-050	HRCM-87	Excellent	Fair	Good/Fair	E	Fair
0105-010	EBLC-1[a]	Good	Poor		M	Poor
0105-010	EBRM-72	Excellent	Fair	Fair	E	Fair
0105-010	LXC-1[a]	Excellent	Fair		M	Fair
0105-010	LXC-2	Good	Fair		M	Fair
0105-010	SGRF-70	Good	Good		E	Good
0105-030	LUXL-1	Excellent	Fair	Fair	M	Fair
0105-030	LUXL-2	Excellent	Good		M	Good
0106-060	CLFP-13	Excellent	Good	Fair	E	Fair
0106-110	BRP-1	Good	Fair		M	Fair
0106-110	LBRP-3[e]				M	---
0106-110	LBRP-1[c]				M	---
0106-110	LBRP-2[c]				M	---
0106-120	CWCP-59	Excellent	Good	Good	E	Good
0106-120	LBB-1	Excellent	Good		E	Good
0106-120	SNCP-60[d]					---
0106-130	FNCS-103[d]					---
0106-160	BRHG-56	Excellent	Good	Fair	E	Fair
0106-160	TRSG-1	Excellent	Good		M	Good
0106-160	TRSG-2	Excellent	Fair		M	Fair
0106-170	FCTS-41	Excellent	Fair	Poor	E	Poor
0106-170	JNS-1	Fair	Good		M	Good
0106-170	TMSS-44[d]					---

Table 18a. Summary of assessments conducted within the Upper Tombigbee River Basin as a part of the NPS assessment of the EMT Basin Group and other available biological and chemical data collected since 1995.

Sub-watershed	Station Number	*Habitat*	*Macroinv.*	*Fish*	*Chemical Data Available* [b]	*Lowest Assessment Score*
0107-020	LNRM-75	Excellent	Good		E	Good
0107-040	BRCF-64	Good	Fair	Good	E	Good
0107-040	BXSF-67	Good	Fair	Good/Fair	E	Good/Fair
0107-040	DVSF-65	Excellent	Fair		E	Fair
0107-070	SPYG-3[c]				M	---
0107-080	HGHG-57	Excellent	NG[f]	Fair/Poor	E	Fair/Poor
0107-080	SHMG-58	Excellent	NG[f]	Fair	E	Fair
0108-110	WDWS-52	Excellent	Fair	Fair/Poor	E	Fair/Poor
0108-140	BDKS-48	Good	Good	Poor	E	Poor
0108-140	CNYS-47[d]					---
0108-140	HCHS-46[d]					---

a. Urban
b. E=evaluated data; M=monitored data
c. Non-wadeable
d. No flow
e. Swamp
f. NG=no assessment guidelines

Table 19a. Estimates of animal concentrations, animal units (A.U.), percent aquaculture land use, and percent of acres where pesticides/herbicides applied in the Upper Tombigbee River Basin accounting unit (0316-01). Numbers of animals and pesticides/herbicides listed by acreage and sub-watershed were provided by the local SWCDs on Conservation Assessment Worksheets completed in 1998.

Cataloging Unit		0316-0101		*Chemical Data Available* [b]						0316-0105	
Sub-watershed		060	070	010	020	030	040		070	010	020
Cattle	# / Acre	0.06	0.08	0.03	0.03	0.05	0.03	0.06	0.05	0.05	0.05
	A.U./Acre	**0.06**	**0.08**	**0.03**	**0.03**	**0.05**	**0.03**	**0.06**	**0.05**	**0.05**	**0.05**
Dairy	# / Acre									0.01	
	A.U./Acre									**0.01**	
Swine	# / Acre			0.01							
	A.U./Acre			**<0.01**							
Poultry - Broilers	# / Acre	8.11	19.06	5.52						7.17	
	A.U./Acre	**0.06**	**0.15**	**0.04**						**0.06**	
Poultry - Layers	# / Acre	2.40	0.56	0.01							
	A.U./Acre	**0.02**	**<0.01**	**<0.01**							
Total	A.U./Acre	**0.14**	**0.23**	**0.07**	**0.03**	**0.05**	**0.03**	**0.06**	**0.05**	**0.12**	**0.05**
Potential NPS Impairment		M	M	L	L	L	L	L	L	L	L
Aquaculture	% Total Acres	0.05	0.11	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potential NPS Impairment		L	M	L	L	L	L	L	L	L	L

* No data reported for this subwatershed; nd = no data

Table 19a. Estimates of animal concentrations, animal units (A.U.), percent aquaculture land use, and percent of acres where pesticides/herbicides applied in the Upper Tombigbee River Basin accounting unit (0316-01). Numbers of animals and pesticides/herbicides listed by acreage and sub-watershed were provided by the local SWCDs on Conservation Assessment Worksheets completed in 1998.

Cataloging Unit		0316-0105					0316-0106				
Sub-watershed		030	040	050	060	100	020	040	060	070	090
Cattle	# / Acre	0.02	0.02	0.03	0.03	<0.01	0.01	0.01	0.01	0.02	0.10
	A.U./Acre	**0.02**	**0.02**	**0.03**	**0.03**	**<0.01**	**0.01**	**0.01**	**0.01**	**0.02**	**0.10**
Dairy	# / Acre	<0.01	<0.01	<0.01	0.01				<0.01		
	A.U./Acre	**<0.01**	**<0.01**	**<0.01**	**0.01**				**<0.01**		
Swine	# / Acre									0.19	0.24
	A.U./Acre									**0.07**	**0.09**
Poultry - Broilers	# / Acre	8.15		0.89		0.93	2.82		5.18		
	A.U./Acre	**0.07**		**0.01**		**0.01**	**0.02**		**0.04**		
Poultry - Layers	# / Acre										
	A.U./Acre										
Total	A.U./Acre	**0.09**	**0.03**	**0.03**	**0.04**	**0.01**	**0.03**	**0.01**	**0.05**	**0.10**	**0.19**
Potential NPS Impairment		L	L	L	L	L	L	L	L	L	M
Aquaculture	% Total Acres	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	<0.01	0.69
Potential NPS Impairment		L	L	L	L	L	L	L	M	L	H

* No data reported for this portion of the subwatershed; nd = no data

Table 19a. Estimates of animal concentrations, animal units (A.U.), percent aquaculture land use, and percent of acres where pesticides/herbicides applied in the Upper Tombigbee River Basin accounting unit (0316-01). Numbers of animals and pesticides/herbicides listed by acreage and sub-watershed were provided by the local SWCDs on Conservation Assessment Worksheets completed in 1998.

Cataloging Unit		0316-0106									
Sub-watershed		100	110	120	130	140	150	160	170	180	190
Cattle	# / Acre	0.02	0.03	0.09	0.10	0.04	0.05	0.04	0.21	0.01	0.04
	A.U./Acre	**0.02**	**0.03**	**0.09**	**0.10**	**0.04**	**0.05**	**0.04**	**0.21**	**0.01**	**0.04**
Dairy	# / Acre										
	A.U./Acre										
Swine	# / Acre					0.20			0.89		<0.01
	A.U./Acre					**0.08**			**0.35**		**<0.01**
Poultry - Broilers	# / Acre	5.86	179.45								
	A.U./Acre	**0.05**	**1.44**								
Poultry - Layers	# / Acre	1.34	1.84								
	A.U./Acre	**0.01**	**0.01**								
Total	A.U./Acre	**0.08**	**1.48**	**0.09**	**0.10**	**0.11**	**0.05**	**0.04**	**0.57**	**0.01**	**0.04**
Potential NPS Impairment		L	H	L	L	L	L	L	H	L	L
Aquaculture	% Total Acres	0.03	<0.01	0.40	1.65	0.01	<0.01	1.57	2.93	<0.01	1.58
Potential NPS Impairment		L	L	H	H	M	L	H	H	L	H

* No data reported for this portion of the subwatershed; nd = no data

Table 19a. Estimates of animal concentrations, animal units (A.U.), percent aquaculture land use, and percent of acres where pesticides/herbicides applied in the Upper Tombigbee River Basin accounting unit (0316-01). Numbers of animals and pesticides/herbicides listed by acreage and sub-watershed were provided by the local SWCDs on Conservation Assessment Worksheets completed in 1998.

Cataloging Unit		0316-0107								0316-0108		
Sub-watershed		010	020	030	040	050	060	070	080	090	110	140
Cattle	# / Acre	0.03	0.06	0.02	0.02	0.04	0.02	0.02	0.02	0.15	0.19	0.16
	A.U./Acre	**0.03**	**0.06**	**0.02**	**0.02**	**0.04**	**0.02**	**0.02**	**0.02**	**0.15**	**0.19**	**0.16**
Dairy	# / Acre			0.01	<0.01	0.02						0.25
	A.U./Acre			**0.01**	**<0.01**	**0.03**						**0.10**
Swine	# / Acre							0.09				
	A.U./Acre							**0.03**				
Poultry - Broilers	# / Acre	1.17	0.51		4.53	4.64	9.46	2.45				
	A.U./Acre	**0.01**	**<0.01**		**0.04**	**0.04**	**0.08**	**0.02**				
Poultry - Layers	# / Acre					0.53		0.00			0.03	
	A.U./Acre					**<0.01**		**111.00**			**<0.01**	
Total	A.U./Acre	**0.04**	**0.06**	**0.03**	**0.06**	**0.11**	**0.09**	**0.07**	**0.02**	**0.15**	**0.19**	**0.25**
Potential NPS Impairment		L	L	L	L	L	L	L	L	M	M	M
Aquaculture	% Total Acres	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.07	0.42	0.81	0.10
Potential NPS Impairment		L	L	L	L	L	L	L	L	H	H	M

* No data reported for this portion of the subwatershed; nd = no data

Table 20a. Sedimentation estimates by source, forest condition, septic tank information and resource concerns by sub-watershed in the Upper Tombigbee River Basin (0316-01) as provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets (ASWCC 1998). (* Indicates not reported)

Basin Code- Cataloging Unit	0101		0103						0105		
Sub-watershed	**060**	**070**	**010**	**020**	**030**	**040**	**050**		**010**	**020**	**030**
% Acres Reported	100	100	97	100	99	100	100			100	100
County/SWCD District	Franklin Marion	Franklin	Marion Winston	Lamar Marion	Fayette Lamar Marion	Lamar	Marion			Fayette	Fayette Lamar Pickens
Forest condition											
% Needing forest improvement[a]	ur	ur	ur	ur	ur	ur	ur			ur	ur
Potential for forestry NPS	---	---	---	---	---	---	---	---		---	---
Sedimentation rates (tons/acre/year)											
Cropland	0.1	0.1	0.2	0.1	<0.1	0.1	0.2	0.2	0.2	0.1	<0.1
Sand & gravel pits	0.4	<0.1	0.4	0.6	0.6	0.4	0.7	0.4	0.4	0.6	0.2
Mined land	0.0	0.0	0.1	0.6	<0.1	<0.1	0.0	0.1	0.3	0.5	0.3
Developing urban land	0.0	0.0	0.1	0.2	0.1	<0.1	0.0	0.0	0.1	0.0	0.4
Critical areas	1.0	0.0	2.1	0.4	0.4	0.2	0.4	0.4	0.2	0.0	0.2
Gullies	0.3	0.0	<0.1	0.3	0.3	0.4	0.4	0.5	0.3	0.0	0.2
Stream banks	0.2	0.2	0.1	0.3	0.5	0.7	0.1	0.4	0.9	1.2	0.7
Dirt roads and roadbanks	0.1	<0.1	0.1	0.6	0.5	0.9	0.1	0.5	1.3	2.7	0.9
Woodlands	6.7	4.0	11.3	7.3	4.6	0.9	11.3	6.3	4.9	0.2	0.8
Total sediment	8.6	4.4	14.2	10.3	6.9	3.6	13.3	8.5	8.4	5.4	3.6
Potential for sediment NPS	H	H	H	H	H	M	H	H	H	H	M
Septic Tanks											
# Septic tanks per acre	0.01	0.02	0.01	0.02	0.03	0.02	0.02	0.02	0.02	0.01	0.01
# Septic tanks failing per acre (Estimated)	0.003	0.008	0.002	0.003	0.004	0.002	0.003	0.002	0.003	<0.001	0.001
# of alternative septic systems	0.0002	0.0011	0.0003	0.0003	0.0004	0.0000	0.0004	0.0002	0.0003	0.0000	0.0000
Resource Concerns in the sub-watershed											
Excessive erosion on cropland							X				X
Gully erosion on agricultural land											
Road and roadbank erosion				X		X		X	X	X	X
Poor soil condition (cropland)											
Excessive animal waste applied to land	X		X								
Excessive pesticides applied to land											
Excessive sediment from cropland				X			X				
Excessive sediment from roads/road banks				X	X	X	X	X	X	X	X
Excessive sediment from urban development											
Inadequate management of animal wastes	X		X								
Nutrients in surface waters	X	X									
Pesticides in surface waters											
Bacteria and other organisms in surface waters											
Low dissolved oxygen in surface waters											
Livestock are overgrazing pastures	X	X		X	X	X	X	X	X	X	X
Livestock Commonly have access to streams	X	X	X	X	X	X	X	X	X	X	X

a. ur=unreported

Table 20a. Sedimentation estimates by source, forest condition, septic tank information and resource concerns by sub-watershed in the Upper Tombigbee River Basin (0316-01) as provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets (ASWCC 1998). (* Indicates not reported)

Basin Code- Cataloging Unit	0105					0106					
Sub-watershed	**040**	**050**	**060**	**100**	**120***	**020**	**040**	**060**	**070**	**090**	**100**
% Acres Reported	100	100	100	100	0	100	100	100	100	95	100
County/SWCD District	Fayette Lamar Marion	Lamar	Lamar	Pickens	Pickens	Pickens	Pickens	Fayette Lamar Pickens	Pickens	Pickens Sumter	Fayette Pickens
Forest condition											
% Needing forest improvement[a]	ur	ur	ur	ur	*	ur	ur	ur	ur	ur	ur
Potential for forestry NPS	---	---	---	---	*	---	---	---	---	---	---
Sedimentation rates (tons/acre/year)											
Cropland	<0.1	<0.1	0.1	0.2	*	0.1	0.1	0.1	0.2	0.5	0.1
Sand & gravel pits	0.2	0.1	0.2	0.4	*	0.0	0.1	0.4	3.8	5.9	0.4
Mined land	1.0	0.5	0.1	0.0	*	0.0	0.0	<0.1	0.0	0.0	0.0
Developing urban land	<0.1	<0.1	0.0	0.0	*	0.0	1.5	0.0	0.0	1.2	5.4
Critical areas	0.2	0.3	0.3	0.2	*	0.1	0.2	0.2	0.2	0.2	0.2
Gullies	0.4	0.3	0.1	0.5	*	0.0	0.5	0.5	0.5	0.5	0.5
Stream banks	0.7	0.7	0.9	0.6	*	0.2	0.5	0.6	0.3	1.1	0.3
Dirt roads and roadbanks	0.9	0.9	0.9	0.9	*	0.5	0.8	1.0	0.7	0.3	0.6
Woodlands	0.9	1.0	0.9	0.3	*	0.3	0.3	0.3	0.2	1.6	0.2
Total sediment	4.1	3.8	3.5	3.0	*	1.1	3.8	3.0	5.9	11.1	7.6
Potential for sediment NPS	H	M	M	M	*	L	M	M	H	H	H
Septic tanks											
# Septic tanks per acre	0.00	0.01	0.02	0.01	*	0.02	0.02	0.04	0.03	0.03	0.03
# Septic tanks failing per acre (Estimated)	<0.001	0.001	0.002	0.004	*	0.011	0.009	0.018	0.015	0.028	0.016
# of alternative septic systems	<0.0001	<0.0001	0.0000	0.0000	*	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Resource concerns in the sub-watershed											
Excessive erosion on cropland					*				X	X	
Gully erosion on agricultural land					*					X	
Road and roadbank erosion	X	X	X		*			X			
Poor soil condition (cropland)					*						
Excessive animal waste applied to land					*						X
Excessive pesticides applied to land					*					X	
Excessive sediment from cropland					*			X			
Excessive sediment from roads/roadbanks	X	X		X	*	X	X	X	X		X
Excessive sediment from urban development			X		*					X	X
Inadequate management of animal wastes				X	*	X		X			X
Nutrients in surface waters					*						X
Pesticides in surface waters					*						
Bacteria and other organisms in surface waters					*		X	X	X	X	X
Low dissolved oxygen in surface waters					*						
Livestock are overgrazing pastures	X	X	X		*			X	X	X	X
Livestock commonly have access to streams	X	X	X		*			X	X	X	X

a. ur=unreported

Table 20a. Sedimentation estimates by source, forest condition, septic tank information and resource concerns by sub-watershed in the Upper Tombigbee River Basin (0316-01) as provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets (ASWCC 1998). (* Indicates not reported)

Basin Code- Cataloging Unit	0106									0107	
Sub-watershed	**110**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**010**	**020**
% Acres Reported	101	100	100	100	100	100	100	100	100	100	99
County/SWCD District	Pickens	Pickens	Pickens Sumter	Greene	Sumter	Greene	Sumter	Sumter	Greene	Fayette Marion Walker Winston	Fayette Marion
Forest condition											
% Needing forest improvement[a]	ur	ur	36	28	56	3	9	54	14	12	ur
Potential for forestry NPS	---	---	M	M	H	L	L	H	L	L	---
Sedimentation rates (tons/acre/year)											
Cropland	0.1	0.3	0.6	0.4	0.1	0.2	0.9	0.1	0.2	<0.1	<0.1
Sand & gravel pits	0.4	0.6	0.3	1.6	0.9	0.1	0.0	0.0	0.6	0.3	0.4
Mined land	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.9
Developing urban land	3.6	6.4	0.0	0.0	0.6	2.1	0.9	0.0	2.4	0.0	0.2
Critical areas	0.2	0.2	0.1	1.0	1.1	<0.1	3.1	3.3	0.1	0.5	0.3
Gullies	0.5	0.5	0.4	0.1	2.5	0.1	4.4	2.8	0.1	1.2	0.3
Stream banks	0.3	0.4	0.4	0.6	0.5	0.6	0.4	0.6	0.6	0.1	0.1
Dirt roads and roadbanks	0.9	0.8	0.8	0.2	0.3	0.4	0.3	0.1	0.3	0.1	<0.1
Woodlands	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.1	7.5	11.3
Total sediment	6.2	9.4	2.8	4.0	6.2	3.7	10.1	7.2	4.4	10.2	13.4
Potential for sediment NPS	H	H	M	M	H	M	H	H	H	H	H
Septic tanks											
# Septic tanks per acre	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.04
# Septic tanks failing per acre (Estimated)	0.012	0.007	0.009	0.003	0.011	0.002	0.006	0.008	0.004	0.001	0.005
# of alternative septic systems	0.0000	0.0000	0.0001	0.0002	0.0004	0.0002	0.0004	0.0000	0.0001	0.0001	0.0006
Resource concerns in the sub-watershed											
Excessive erosion on cropland			X			X	X		X		
Gully erosion on agricultural land			X		X	X	X		X		
Road and roadbank erosion			X	X	X	X	X	X	X	X	
Poor soil condition (cropland)							X				
Excessive animal waste applied to land	X										
Excessive pesticides applied to land									X		
Excessive sediment from cropland			X			X	X		X		
Excessive sediment from roads/roadbanks	X	X	X	X	X	X	X	X	X		
Excessive sediment from urban development	X	X									
Inadequate management of animal wastes	X										
Nutrients in surface waters	X			X		X			X	X	
Pesticides in surface waters									X		
Bacteria and other organisms in surface waters	X	X	X	X		X	X		X	X	
Low dissolved oxygen in surface waters											
Livestock are overgrazing pastures	X	X	X	X		X	X	X	X	X	
Livestock commonly have access to streams	X	X	X	X		X	X		X	X	X

a. ur=unreported

Table 20a. Sedimentation estimates by source, forest condition, septic tank information and resource concerns by sub-watershed in the Upper Tombigbee River Basin (0316-01) as provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets (ASWCC 1998). (* Indicates not reported)

Basin Code- Cataloging Unit	0107						0108		
Sub-watershed	**030**	**040**	**050**	**060**	**070**	**080**	**090**	**110**	**140**
% Acres Reported	91	97	98	100	100	100	100	100	100
County/SWCD District	Fayette Marion Walker	Fayette Pickens Tuscaloosa	Fayette Pickens Tuscaloosa	Pickens Tuscaloosa	Greene Pickens Tuscaloosa	Greene Pickens	Sumter	Pickens Sumter	Sumter
Forest condition									
% Needing forest improvement[a]	ur	ur	ur	ur	15	21	27	14	21
Potential for forestry NPS	---	---	---	---	L	L	M	L	L
Sedimentation rates (tons/acre/year)									
Cropland	0.1	0.2	0.1	0.1	0.2	0.2	0.5	1.0	0.8
Sand & gravel pits	0.3	0.2	0.2	0.1	0.3	0.2	0.1	0.4	0.2
Mined land	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Developing urban land	0.0	2.9	0.1	0.1	0.3	0.0	0.4	0.0	0.6
Critical areas	0.1	<0.1	0.3	0.1	0.1	0.1	3.8	1.7	6.2
Gullies	0.2	0.1	0.3	0.1	0.3	0.4	24.6	2.4	6.0
Stream banks	1.2	1.3	0.1	0.1	0.8	0.5	0.5	0.2	0.3
Dirt roads and roadbanks	1.6	1.5	0.4	0.6	0.6	0.4	0.3	0.2	0.2
Woodlands	0.3	0.2	1.3	1.2	0.4	1.3	0.1	0.1	0.1
Total sediment	3.8	6.6	2.8	2.3	2.9	3.2	30.3	6.0	14.3
Potential for sediment NPS	M	H	M	M	M	M	H	H	H
Septic tanks									
# Septic tanks per acre	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.00
# Septic tanks failing per acre (Estimated)	0.001	0.001	0.003	0.002	0.003	0.004	0.005	0.015	0.004
# of alternative septic systems	0.0000	0.0000	0.0002	0.0001	0.0001	0.0002	0.0001	0.0004	0.0001
Resource concerns in the sub-watershed									
Excessive erosion on cropland					X		X	X	X
Gully erosion on agricultural land					X	X	X	X	X
Road and roadbank erosion	X	X	X	X	X	X	X	X	X
Poor soil condition (cropland)							X		X
Excessive animal waste applied to land			X	X					
Excessive pesticides applied to land								X	
Excessive sediment from cropland					X	X	X	X	X
Excessive sediment from roads/roadbanks	X	X		X	X	X	X	X	X
Excessive sediment from urban development			X						
Inadequate management of animal wastes		X	X	X					
Nutrients in surface waters			X	X					
Pesticides in surface waters		X						X	
Bacteria and other organisms in surface waters			X	X	X	X	X	X	X
Low dissolved oxygen in surface waters				X					
Livestock are overgrazing pastures	X	X	X	X	X	X	X	X	X
Livestock commonly have access to streams	X	X	X	X	X	X	X	X	X

a. ur=unreported

Table 21a. Physical characteristics and habitat quality of sites assessed in the Upper Tombigbee (0316-0101), Buttahatchee (0316-0103), Luxapallila (0316-0105), Middle Tombigbee-Lubbub (0316-0106), Sipsey (0316-0107), and Noxubee (0316-0108) River basins.

CU		0101	0101	0103	0103	0103	0103	0103	0103	0103
Sub-watershed		060	060	010	010	010		010	030	030
Station		BLGM-93	BLMM-95a	BARM-82	CMPM-84	HBSM-81			BVRM-79	CNML-76
Date (YYMMDD)		010628	010628	010627	010627	010627			010626	010627
Subecoregion		65i	65i	68e	65i	68e			65i	65i
Drainage area (mi^2)		8	3	20	18	8	10			
Width (ft)		20	35	35	25	15	25	30	35	15
Canopy cover[b]		MS	MS	MO	50/50	50/50	MS	MO	MS	MS
Depth (ft)	Riffle	0.3	0.3	0.8	0.5	0.5	0.3	---	0.3	---
	Run	1.5	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5
	Pool	2.5	3.0	1.5	2.0	3.0	2.5	2.5	3.5	3.0
Substrate (%)	Bedrock			45	10		15	36		
	Boulder			15	10		5	5		
	Cobble	10	30	10	20	5	10	5		
	Gravel	40	45	5	34	15	40	5	41	
	Sand	43	15	16	15	70	22	42	41	78
	Silt	3	5	3	5	4	3	3	5	2
	Detritus	4	5	5	6	5	5	3	3	20
	Clay		5	1		1		1	10	
	Organic silt									
Habitat assessment form[c]		RR	RR	RR	RR	RR	RR	RR	RR	GP
Habitat survey (% maximum)										
	Instream habitat quality	70	83	68	88	54	72	47	62	59
	Sediment deposition	53	58	69	73	63	54	34	46	65
	Sinuosity	78	85	83	80	40	80	43	50	70
	Bank and vegetative stability	65	56	81	73	49	80	71	63	53
	Riparian measurements	93	66	90	86	78	79	58	81	95
Habitat assessment score		171	169	189	196	141	175	135	155	152
% Maximum		71	70	79	82	59	73	56	65	69
Assessment[d]		Excellent	Excellent	Excellent	Excellent	Good	Excellent	Good	Excellent	Excellent

a. No flow; Assessment not conducted

b. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open

c. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)

d. NG=no assessment guidelines

Table 21a. Physical characteristics and habitat quality of sites assessed in the Upper Tombigbee (0316-0101), Buttahatchee (0316-0103), Luxapallila (0316-0105), Middle Tombigbee-Lubbub (0316-0106), Sipsey (0316-0107), and Noxubee (0316-0108) River basins.

CU		0103	0103	0105	0105	0106	0106	0106	0106	0106
Sub-watershed		050	050	010	010	120	120	120	130	160
Station		BRDM-89	HRCM-87	EBRM-72	SGRF-70	CWCP-59	LBB-1	SNCP-60[a]	FNCS-103[a]	BRHG-56
Date (YYMMDD)		010627	010627	010626	10627	010509	010510	010509	010509	010508
Subecoregion		65i	65i	65i	65i	65b	65i	65i	65a	65b
Drainage area (mi^2)		17	18	8	9	9	301	9	11	50
Width (ft)		25	20	17	15	12	50			15
Canopy cover[b]		S	MS	50/50	S	MS	MS			MO
Depth (ft)	Riffle	0.5	0.5	0.3		0.4	---			0.5
	Run	1.5	2.0	1.5	1.0	1.0	2.0			1.0
	Pool	>3.5	3.5	>4.0	2.0	2.0	3.5			>3.0
Substrate (%)	Bedrock	---	---	---	---	---	---			2 (Clay)
	Boulder	---	---	---	---	---	---			---
	Cobble	5	---	1	---	---	---			---
	Gravel	50	50	4	25	25	40			10
	Sand	35	40	85	50	60	35			65
	Silt	5	5	2	12	10	7			16
	Detritus	5	3	8	13	5	17			6
	Clay	---	2	2	---	---	1			1
	Organic silt	---	---	---	---	---	---			---
Habitat assessment form[c]		RR	RR	GP	GP	RR	GP			GP
Habitat survey (% maximum)										
	Instream habitat quality	80	73	52	52	65	83			51
	Sediment deposition	56	44	68	61	38	71			70
	Sinuosity	65	43	58	33	73	55			50
	Bank and vegetative stability	74	65	63	30	55	48			44
	Riparian measurements	90	70	81	46	78	91			85
Habitat assessment score		183	170	141	103	148	156			129
% Maximum		76	66	64	47	62	71			59
Assessment[d]		Excellent	Excellent	Excellent	Good	Excellent	Excellent			Excellent

a. No flow; Assessment not conducted

b. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open

c. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)

d. NG=no assessment guidelines

Table 21a. Physical characteristics and habitat quality of sites assessed in the Upper Tombigbee (0316-0101), Buttahatchee (0316-0103), Luxapallila (0316-0105), Middle Tombigbee-Lubbub (0316-0106), Sipsey (0316-0107), and Noxubee (0316-0108) River basins.

CU		0106	0106	0107	0107	0107	0107	0107	0107
Sub-watershed		170	170	020	040	040	040	080	080
Station		FCTS-41	TMSS-44[a]	LNRM-75	BRCF-64	BXSF-67	DVSF-65	HGHG-57	SHMG-58
Date (YYMMDD)		010503	010508	010626	010628	010627	'010628	010509	010510
Subecoregion		65a	65b	65i	65i	65i	65i	65p	65p
Drainage area (mi^2)		35	14	48	24	11	22	12	
Width (ft)		30		35	25	20	20	15	15
Canopy cover[b]		O		50/50	MS		MS	MS	MS
Depth (ft)	Riffle	0.3		0.5	---			0.3	---
	Run	1.5		1.5	---	1.0	1.0	1.5	0.8
	Pool	2.5		3.5	1.5	>4.0	4.0	2.5	1.2
Substrate (%)	Bedrock	60 (Clay)	---	---	---	---	---	40 (Clay)	4 (Clay)
	Boulder	2 (Clay)	---	5	---	---	---	---	---
	Cobble	1 (Clay)	---	30	---	---	---	2	---
	Gravel	10 (Clay)	---	30	---	7	---	7	5
	Sand	20	---	25	25	65	90	40	80
	Silt	5	---	2	10	5	1	7	5
	Detritus	2	---	5	5	18	9	4	6
	Clay	---	---	3	60	3	---	---	---
	Organic silt	---	---	---	---	---	---	---	---
Habitat assessment form[c]		GP		RR	GP	GP	GP	GP	GP
Habitat survey (% maximum)									
	Instream habitat quality	51		76	25	49	51	63	30
	Sediment deposition	75		56	58	66	71	66	56
	Sinuosity	38		78	23	40	40	45	40
	Bank and vegetative stability	50		59	41	20	48	65	60
	Riparian measurements	78		84	80	58	86	84	95
Habitat assessment score		127		171	102	110	134	149	118
% Maximum		58		71	46	50	61	68	54
Assessment[d]		Excellent		Excellent	Good	Good	Excellent	NG	NG

a. No flow; Assessment not conducted

b. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open

c. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)

d. NG=no assessment guidelines

Table 21a. Physical characteristics and habitat quality of sites assessed in the Upper Tombigbee (0316-0101), Buttahatchee (0316-0103), Luxapallila (0316-0105), Middle Tombigbee-Lubbub (0316-0106), Sipsey (0316-0107), and Noxubee (0316-0108) River basins.

CU		0108	0108	0108	0108
Sub-watershed		110	140	140	140
Station		WDWS-52	BDKS-48	CNYS-47[a]	HCHS-46[a]
Date (YYMMDD)		010509	010509	010509	010509
Subecoregion		65b	65a	65p	65a
Drainage area (mi^2)		67	158	6	9
Width (ft)		30	30		
Canopy cover[b]		MO	50/50		
Depth (ft)	Riffle	0.2	---		
	Run	2.0	3.0		
	Pool	3.0	3.0		
Substrate (%)	Bedrock	4 (Clay)	51 (Clay)		
	Boulder	---	---		
	Cobble	2 (Clay)	2 (Clay)		
	Gravel	6	1 (Clay)		
	Sand	70	40		
	Silt	9	1		
	Detritus	6	4		
	Clay	1	1		
	Organic silt	---	---		
Habitat assessment form[c]		GP	GP		
Habitat survey (% maximum)					
	Instream habitat quality	59	50		
	Sediment deposition	71	65		
	Sinuosity	43	35		
	Bank and vegetative stability	55	38		
	Riparian measurements	80	68		
Habitat assessment score		141	123		
% Maximum		64	56		
Assessment[d]		Excellent	Good		

a. No flow; Assessment not conducted

b. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open

c. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)

d. NG=no assessment guidelines

Table 22a. Physical characteristics and habitat quality of sites assessed in the Upper Tombigbee (0316-0101), Buttahatchee (0316-0103), Luxapallila (0316-0105), Middle Tombigbee-Lubbub (0316-0106), Sipsey (0316-0107), and Noxubee (0316-0108) River basins.

	0101	0101	0103	0103	0103	0103	0103	0103	0103	0103	0103
	060	060	010	010	010		010	030	030	050	050
Station	BLGM-93	BLMM-95a	BARM-82	CMPM-84	HBSM-81			BVRM-79	CNML-76	BRDM-89	HRCM-87
Subecoregion	65i	65i	68e	65i	68e			65i	65i	65i	65i
Drainage area (mi^2)	8	3	20	18	8					17	
Macroinvertebrate community											
Date (yymmdd)	010628	010628	010627	010627	010627	010628	010628	010626	010627	010627	010627
# EPT families	12	13	10	14	10	14	11	7	10	10	7
Assessment	Good	Excellent	Fair	Excellent	Fair	Excellent	Good	Fair	Good	Good	Fair
Fish community											
Date (yymmdd)							010711				10711
# species							16				22
# darter species							2				4
# minnow species							8				8
# sunfish species							2				3
# sucker species							1				1
# intolerant species							2				3
% sunfish							2				12
% omnivores and herbivores							18				14
% insectivorous cyprinids							63				40
% top carnivores							1				1
# collected per hour							219				218
% disease and anomalies							0				0
IBI score							46				46
Assessment							Good/Fair				Good/Fair

a. Low flow: assessment not conducted

Table 22a. Physical characteristics and habitat quality of sites assessed in the Upper Tombigbee (0316-0101), Buttahatchee (0316-0103), Luxapallila (0316-0105), Middle Tombigbee-Lubbub (0316-0106), Sipsey (0316-0107), and Noxubee (0316-0108) River basins.

	0105	0105	0106	0106	0106	0106	0106	0106	0106	0107	0107	0107	0107	0107	0107
	010	010	120	120	120	130	160	170	170	020	040	040	040	080	080
Station	EBRM-72	SGRF-70	CWCP-59	LBB-1	SNCP-60[a]	FNCS-103[a]	BRHG-56	FCTS-41	TMSS-44[a]	LNRM-75	BRCF-64	BXSF-67	DVSF-65	HGHG-57	SHMG-58
Subecoregion	65i	65i	65b	65i	65i		65b	65a	65b	65i	65i	65i	65i	65p	65p
Drainage area (mi^2)	8	9	9	301	9	11	50	35	14	48	24	11	22		
Macroinvertebrate community															
Date (yymmdd)	010626	010627	010509	10510	010509	010509	010508	010503	010508	010626	010628	010627	'010628	010509	010510
# EPT families	5	9	8	12			7	6		10	8	5	7	8	7
Assessment	Fair	Good	Good	Good			Good	Fair		Good	Fair	Fair	Fair	NG	NG
Fish community															
Date (yymmdd)	010711		010712				010718	010510			010712	010711		010712	010718
# species	16		18				16	11			19	12		16	15
# darter species	2		2				2	0			3	0		1	1
# minnow species	5		9				5	3			5	7		10	7
# sunfish species	3		3				3	2			4	2		1	3
# sucker species	2		1				1	1			3	1		1	1
# intolerant species	3		2				2	1			2	1		4	2
% sunfish	34		4				29	42			17	10		3	20
% omnivores and herbivores	7		27				11	30			2	8		20	12
% insectivorous cyprinids	39		55				49	21			63	77		69	27
% top carnivores	4		1				4	1			3	2		0	32
# collected per hour	185		265				344	135			286	250		237	154
% disease and anomalies	0		1				0	0			0	0		3	1
IBI score	44		48				44	32			50	46		38	44
Assessment	Fair		Good				Fair	Poor			Good	Good/Fair		Fair/Poor	Fair

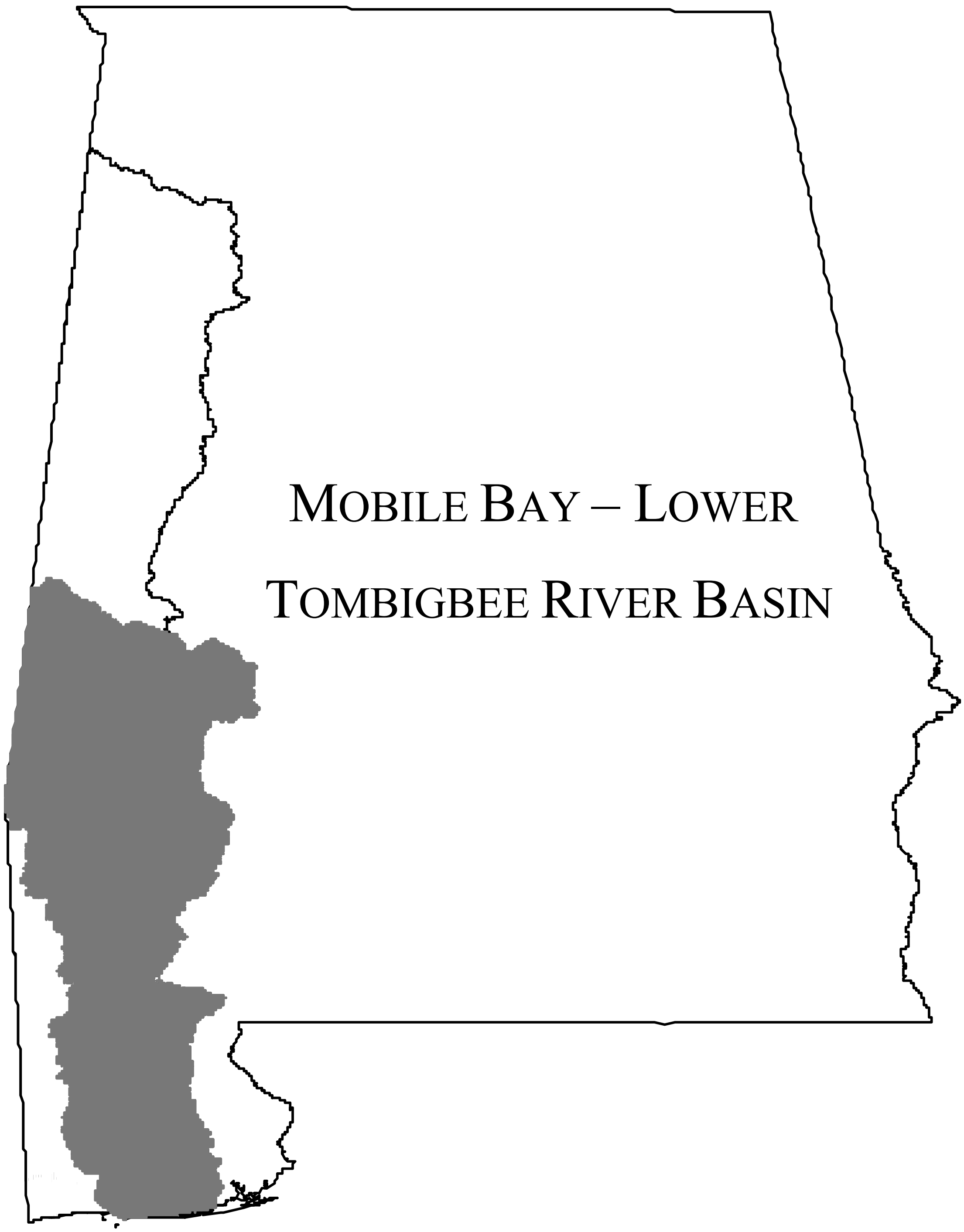
a. Low flow: assessment not conducted

Table 22a. Physical characteristics and habitat quality of sites assessed in the Noxubee River (0316-0108) CU.

	0108	0108	0108	0108
	110	140	140	140
Station	WDWS-52	BDKS-48	CNYS-47[a]	HCHS-46[a]
Subecoregion	65b	65a	65p	65a
Drainage area (mi^2)	67	158	6	9
Macroinvertebrate community				
Date (yymmdd)	010509	010509		
# EPT families	5	6		
Assessment	Fair	Good		
Fish community				
Date (yymmdd)	010718	010719		
# species	16	6		
# darter species	1	1		
# minnow species	6	1		
# sunfish species	3	2		
# sucker species	0	0		
# intolerant species	1	1		
% sunfish	7	48		
% omnivores and herbivores	51	0		
% insectivorous cyprinids	24	20		
% top carnivores	7	16		
# collected per hour	249	38		
% disease and anomalies	0	0		
IBI score	36	30		
Assessment	Fair/Poor	Poor		

a. Low flow: assessment not conducted

MOBILE BAY – LOWER TOMBIGBEE RIVER BASIN



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MOBILE BAY – LOWER TOMBIGBEE RIVER BASIN (0316-02)

The Mobile Bay-Lower Tombigbee River basin contains 56 sub-watersheds, draining approximately 5,880 mi^2 of west Alabama (Fig. 28). The Basin drains 9 subecoregions of the Southeastern Plains (65) and Southern Coastal Plain (75) Ecoregions (Fig. 29) (Griffith et al. 2001) and consists of the Coastal Plain, Blackland Prairie, Major Floodplains and Terraces, and the Coastal Marshes and Beaches soil areas (ACES 1997).

Landuse: Based on the conservation assessment worksheets completed (1998) by the local SWCDs, the Mobile Bay—Lower Tombigbee River Basin was primarily forest. Estimates of pasture and crop land comprised 14% of land cover. The number of acres of crops and pasture land treated with pesticides and/or herbicides was only reported for 9 of the 56 sub-watersheds. Weeks Bay within the Mobile Bay CU, is listed as an Outstanding National Resource Water (ADEM 2003). Nineteen stream or river segments within the Mobile-Tensaw River and Mobile Bay CUs are currently on ADEM's 2002 CWA §303(d) list of priority water bodies (Table 14b).

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
83%	2%	12%	<1%	1%	1%	1%

NPS impairment potential: Twenty sub-watersheds were estimated to have a *moderate* or *high* potential for impairment from nonpoint sources (Fig. 30). The primary nonpoint source concerns within the Mobile Bay-Lower Tombigbee River Basin were runoff from pasture (Fig. 31) and crop lands (Fig. 32), forestry (Fig. 33), and sedimentation (Fig. 35). Seven sub-watersheds rated *high* in at least one category or *moderate* in at least 2 categories (Table 15b). The Tombigbee River (080) and Landrums Creek (170) sub-watersheds had *low* potentials for impairment from all rural and urban nonpoint source categories (Table 15b). Both are small sub-watersheds draining portions of the Southern Hilly Gulf Coastal Plain (65d) and Southeastern Floodplains and Low Terraces (65p) subecoregions. Their potential as ecoregional reference sites should be investigated.

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15b).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	18	4	2	9	8	6	10	8
High	2	0	4	3	5	2	13	26

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Fig. 28. Sub-watersheds located within the Mobile Bay – Lower Tombigbee River Basin.

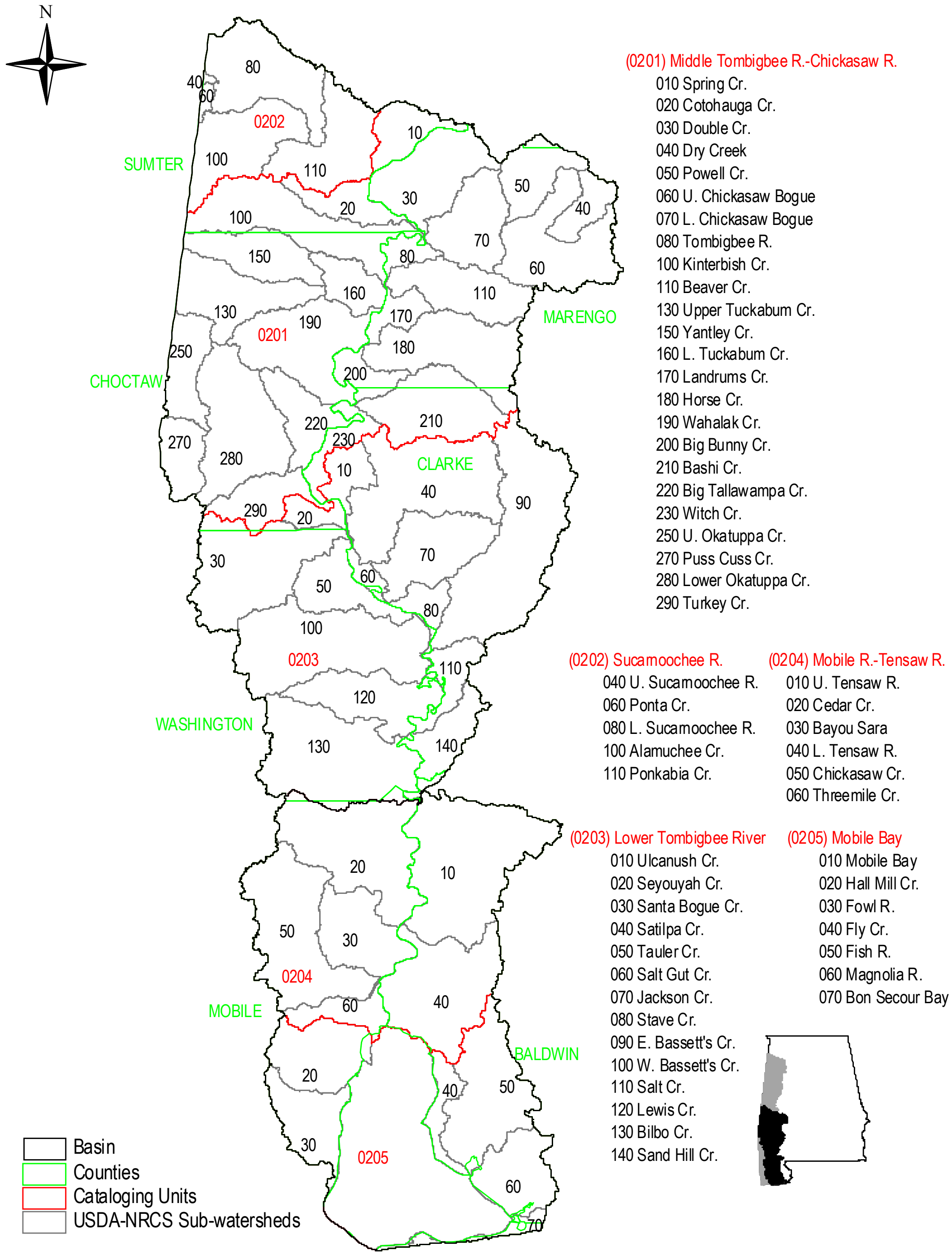

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Fig. 29. Level IV Ecoregions located within the Upper Tombigbee River Basin.

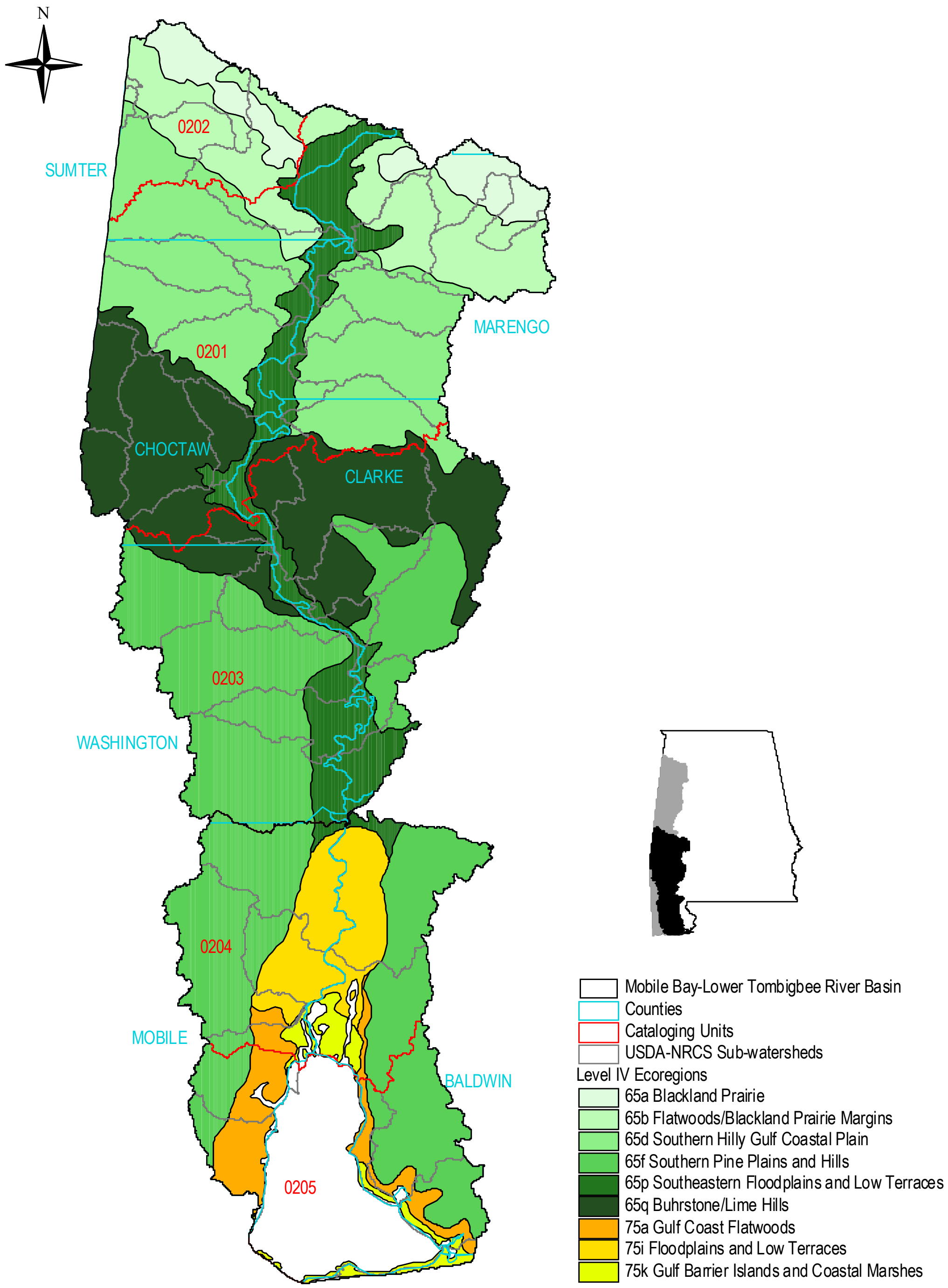

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Fig. 30. NPS impairment potential estimated for the Mobile Bay-Lower Tombigbee River Basin.

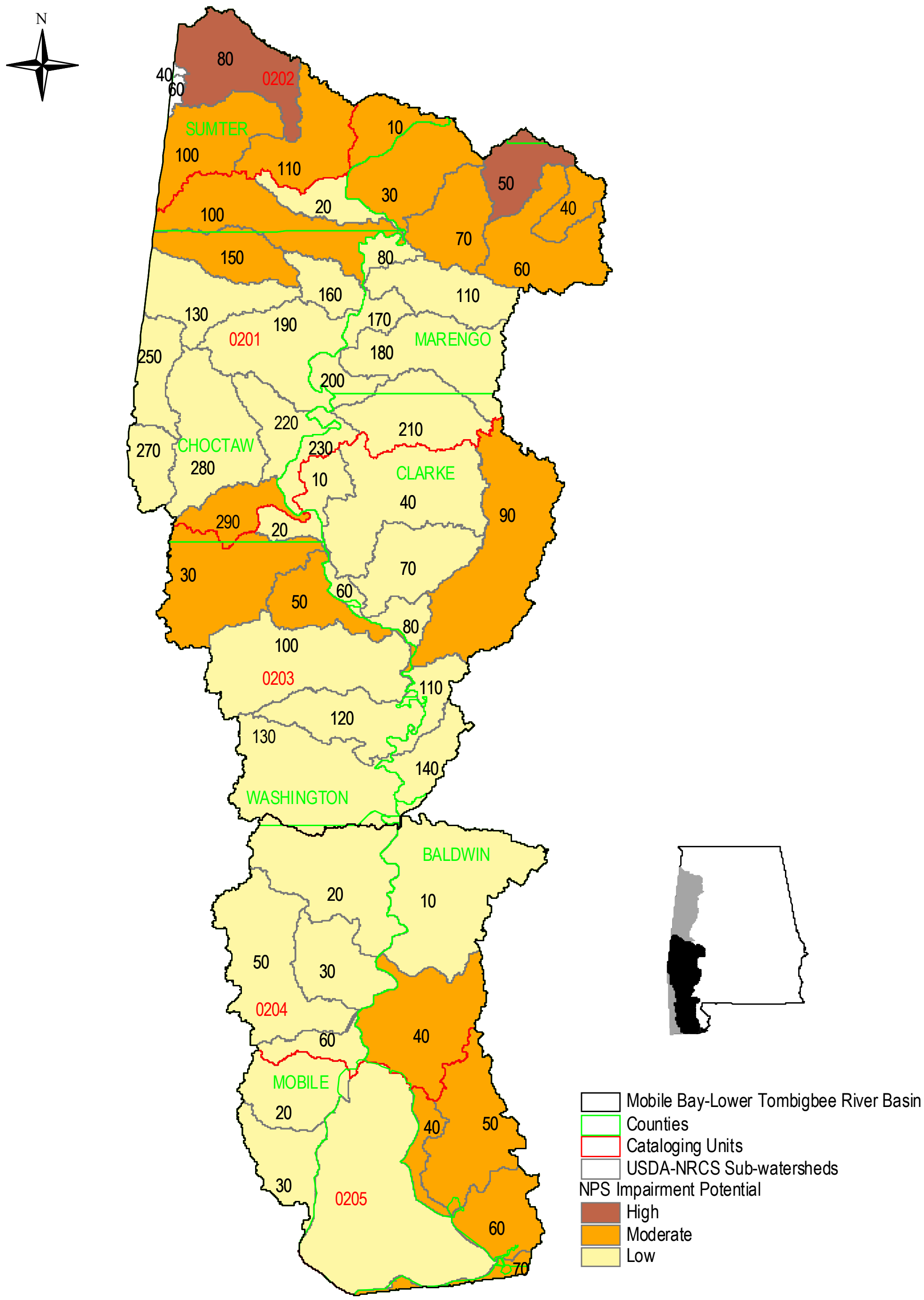

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Fig. 31. NPS impairment potential estimated for runoff from pasture land.

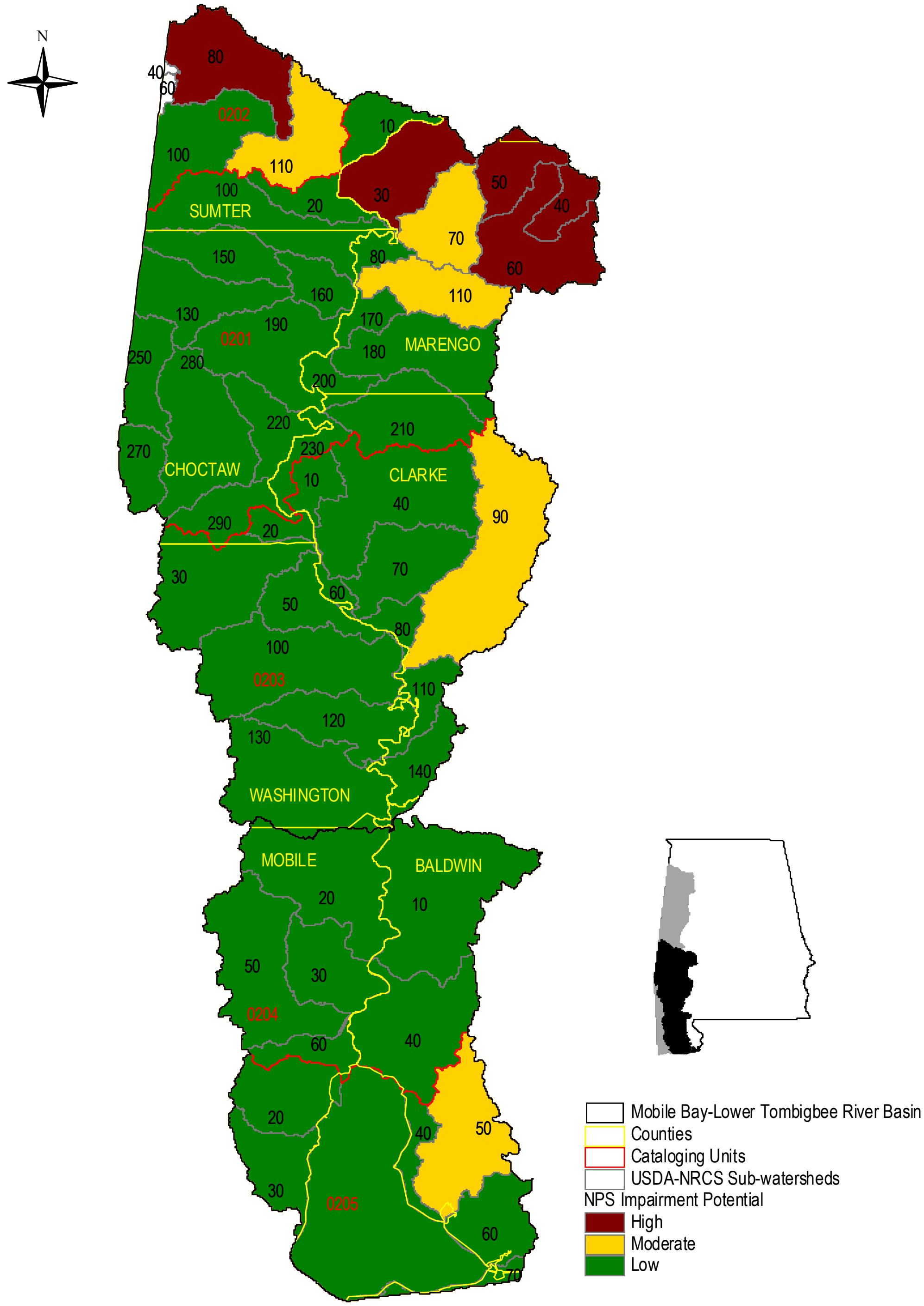

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Fig. 32. The estimated potential for NPS impairment from crop land runoff.

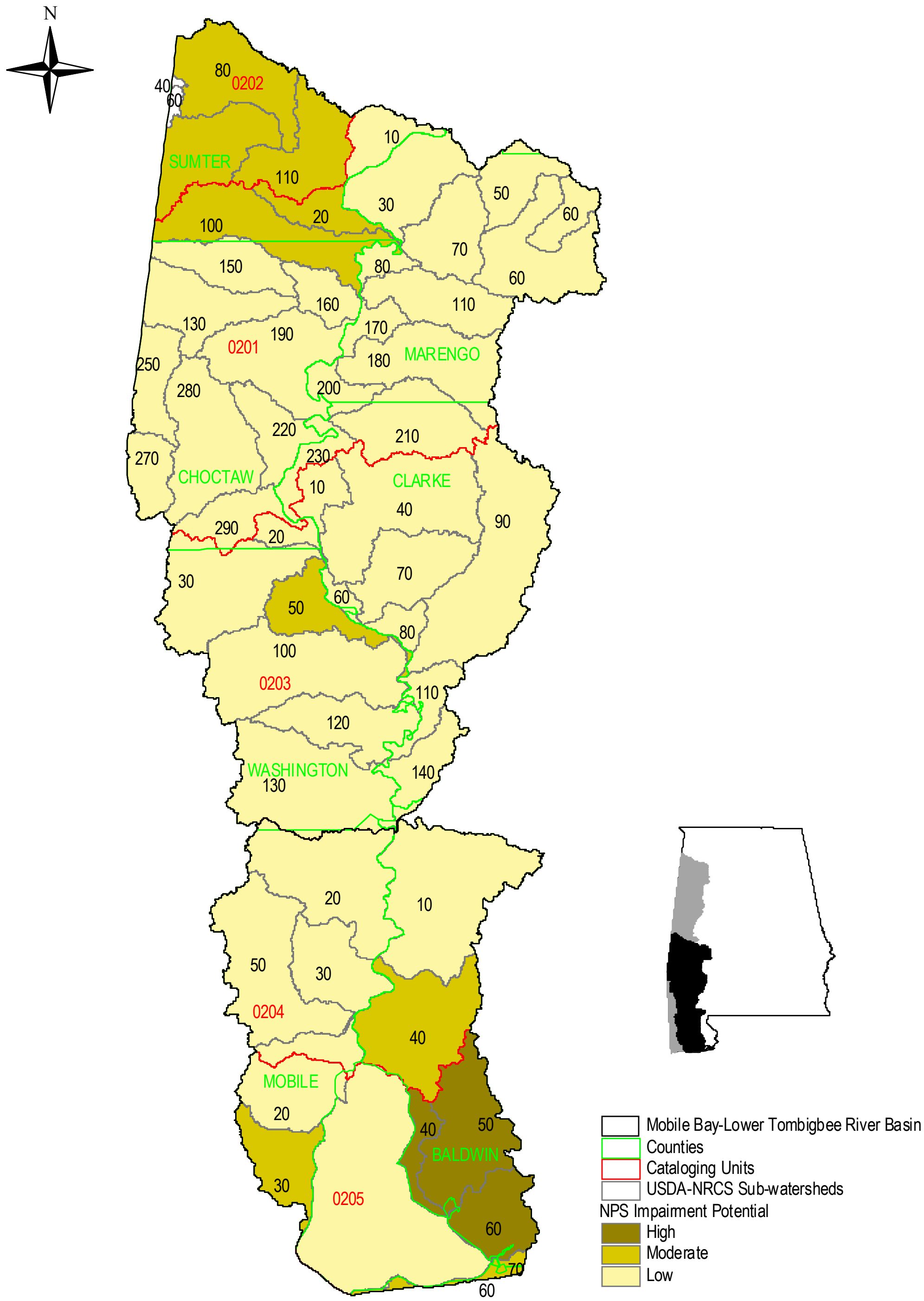

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Fig. 33. The estimated potential for impairment associated with forestry.

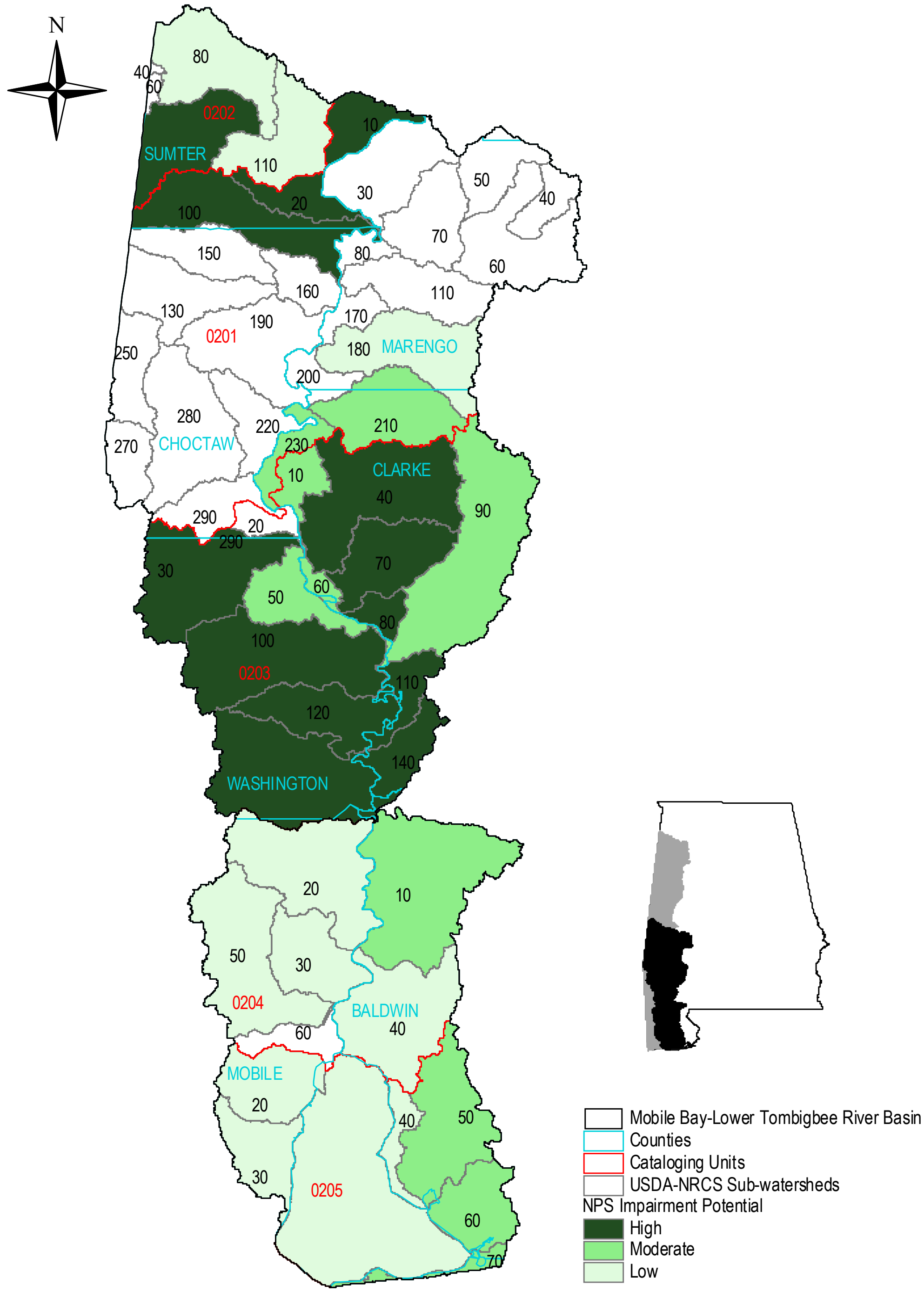

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Fig. 34. The estimated potential for impairment associated with mining.

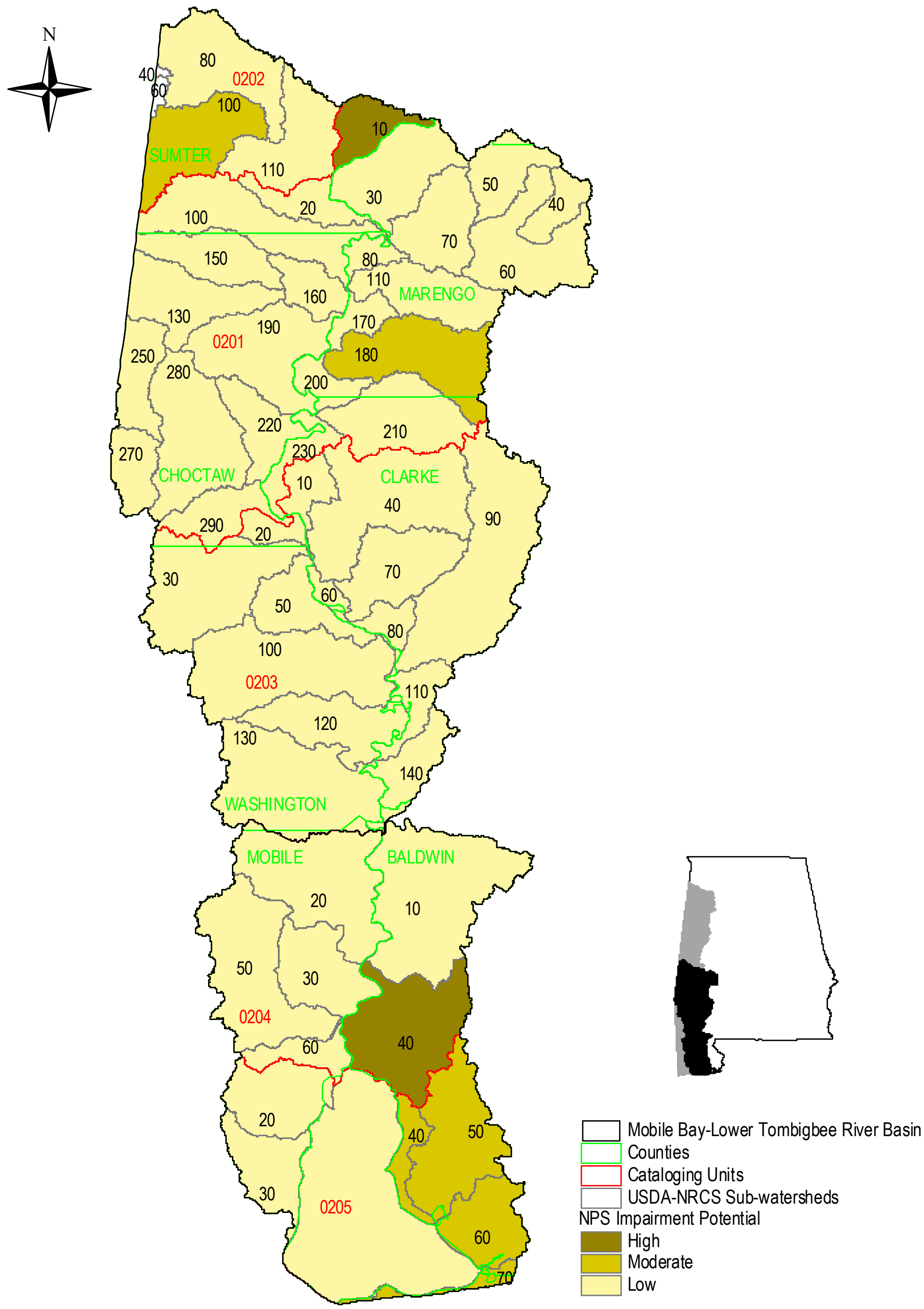

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Fig. 35. The estimated potential for impairment associated with sedimentation.

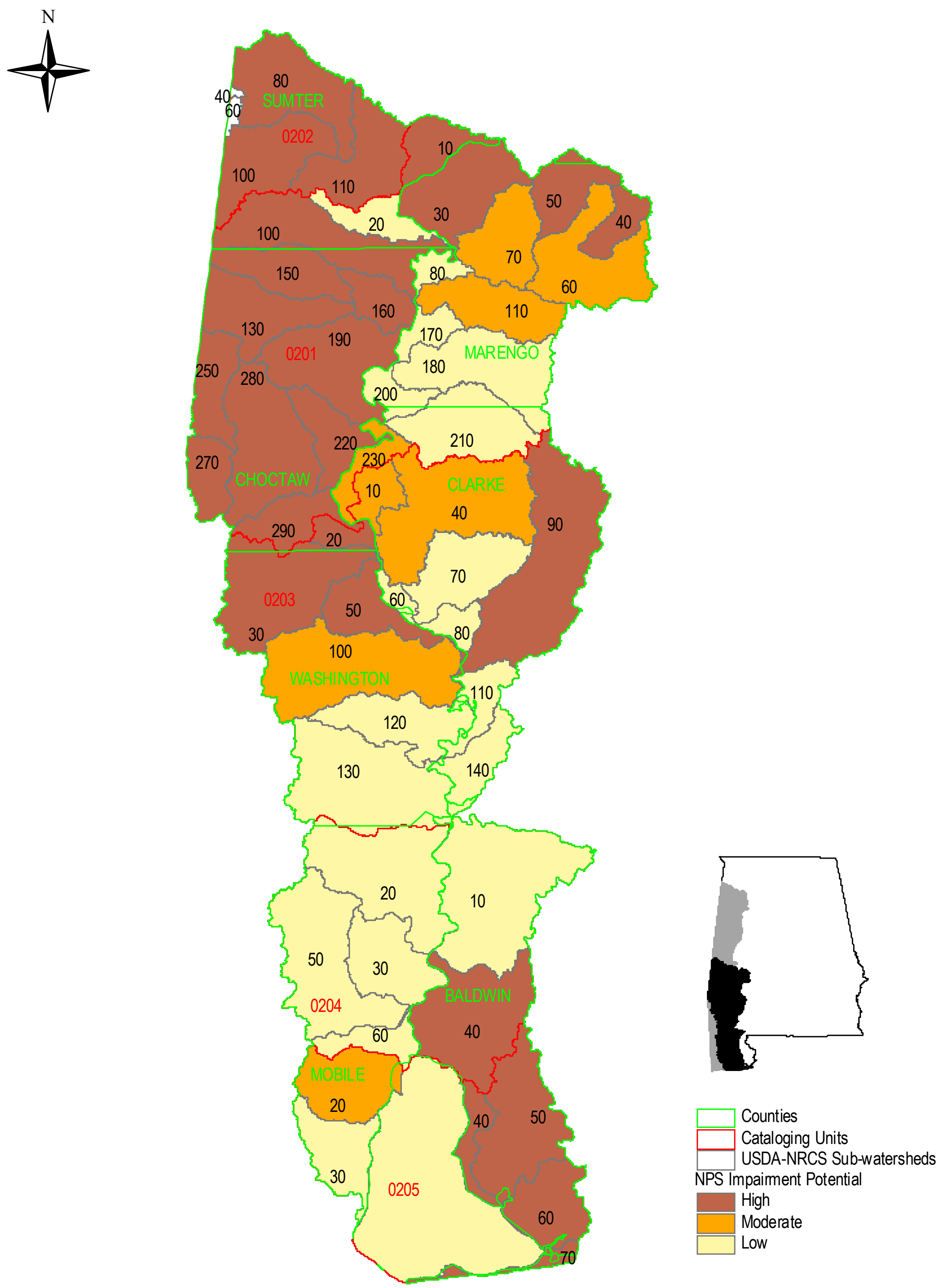

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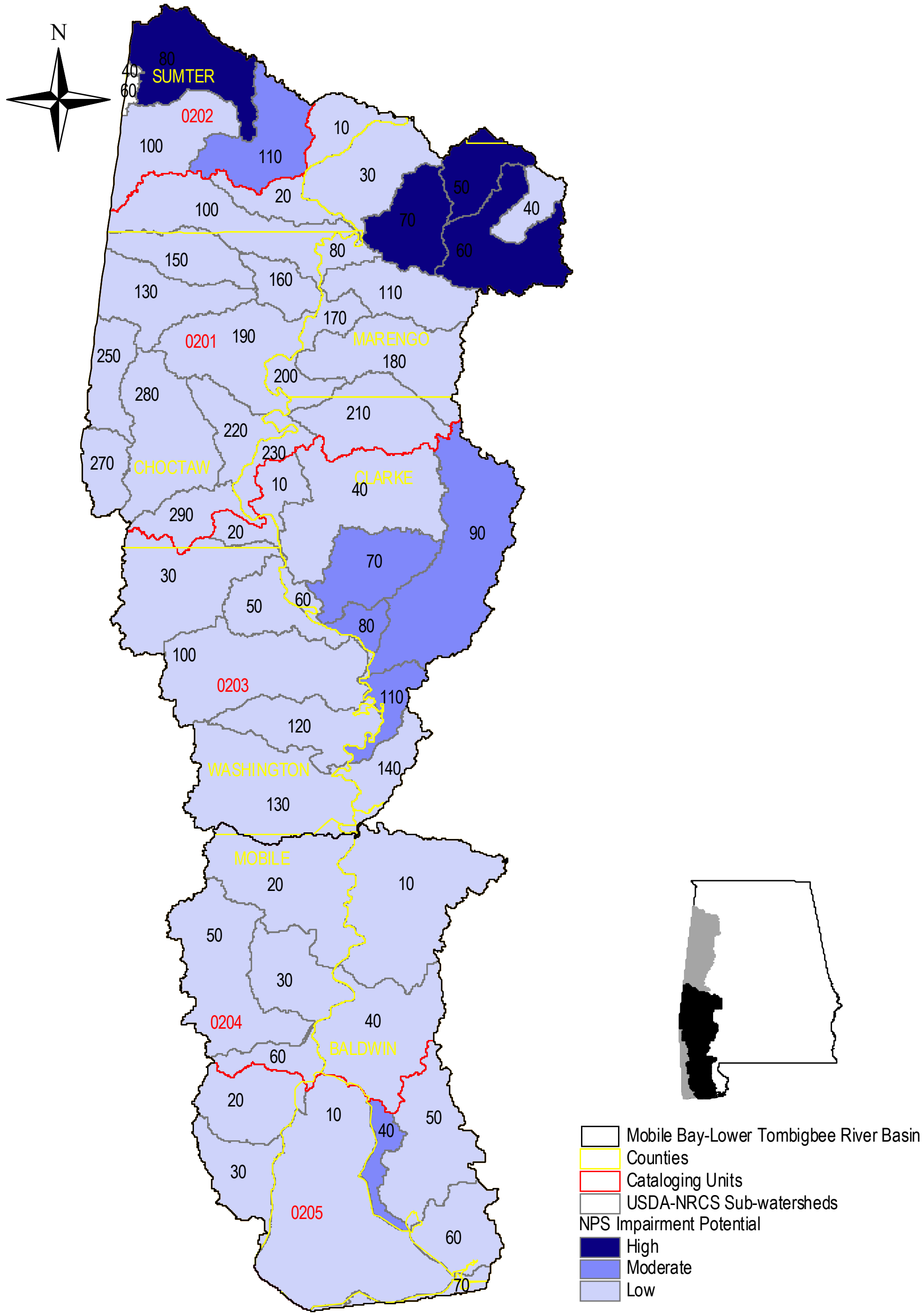
Fig. 36. The estimated impairment potential for aquaculture.



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Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15b).

Category	Urban	Development	Septic tank failure
Moderate	5	18	8
High	2	3	0

Historical data/studies: Table 16b lists the sub-watersheds and waterbodies in which data have been previously collected in conjunction with other monitoring programs and the appendices where these data are provided. The majority of assessments conducted within the Mobile Bay-Lower Tombigbee River Basin and presented in this report were from 17 major projects and programs conducted by ADEM, the Geological Survey of Alabama (GSA), the U.S. Environmental Protection Agency (USEPA), the University of Alabama, and Auburn University. Fig. 37 shows the locations sampled during other programs and projects.

2001 NPS screening assessment: Fig. 38 shows the location of 10 sub-watersheds targeted for assessment. Table 17b lists the stations assessed.

Sub-watershed summaries: A summary of the information available for each of the 56 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. ADEM's assessment of habitat, biological, and chemical conditions within each sub-watershed are based on long-term data from ADEM's Ecroegional Reference Site Program. Assessments conducted by GSA during the Weeks Bay Longterm Monitoring Project are based on assessment guidelines developed by GSA (O'Neil et al. 2003). Tables referenced in the summaries are located at the end of the summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Habitat, chemical/physical, and biological indicators of water quality were monitored in 18 sub-watersheds (Table 18b). Habitat and macroinvertebrate assessments were conducted at 45 stations. Results showed habitat quality to be *excellent* or *good* at 28 (64%) stations and *fair* or *fair/good* condition at 6 (14%) stations. Results of macroinvertebrate assessments indicated the macroinvertebrate community to be in excellent condition at 1 (2%) station, *good* condition at 7 (16%), *fair* condition at 13 (29%), and *poor* or *very poor* at 12 (27%) stations. Fish IBI assessments conducted at 11 stations indicated the fish community to be in *good* condition at 2 (18%) stations, *fair* condition at 8 (73%) stations, and *poor* condition at 1 (9%) station. Low flow or nonwadeable conditions prevented assessment at 9 stations. Eleven sites could not be assessed because of the lack of evaluation guidelines for some subecoregions.

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Fig. 37. Location of stations assessed during other projects within the Mobile Bay-Lower Tombigbee River Basin.

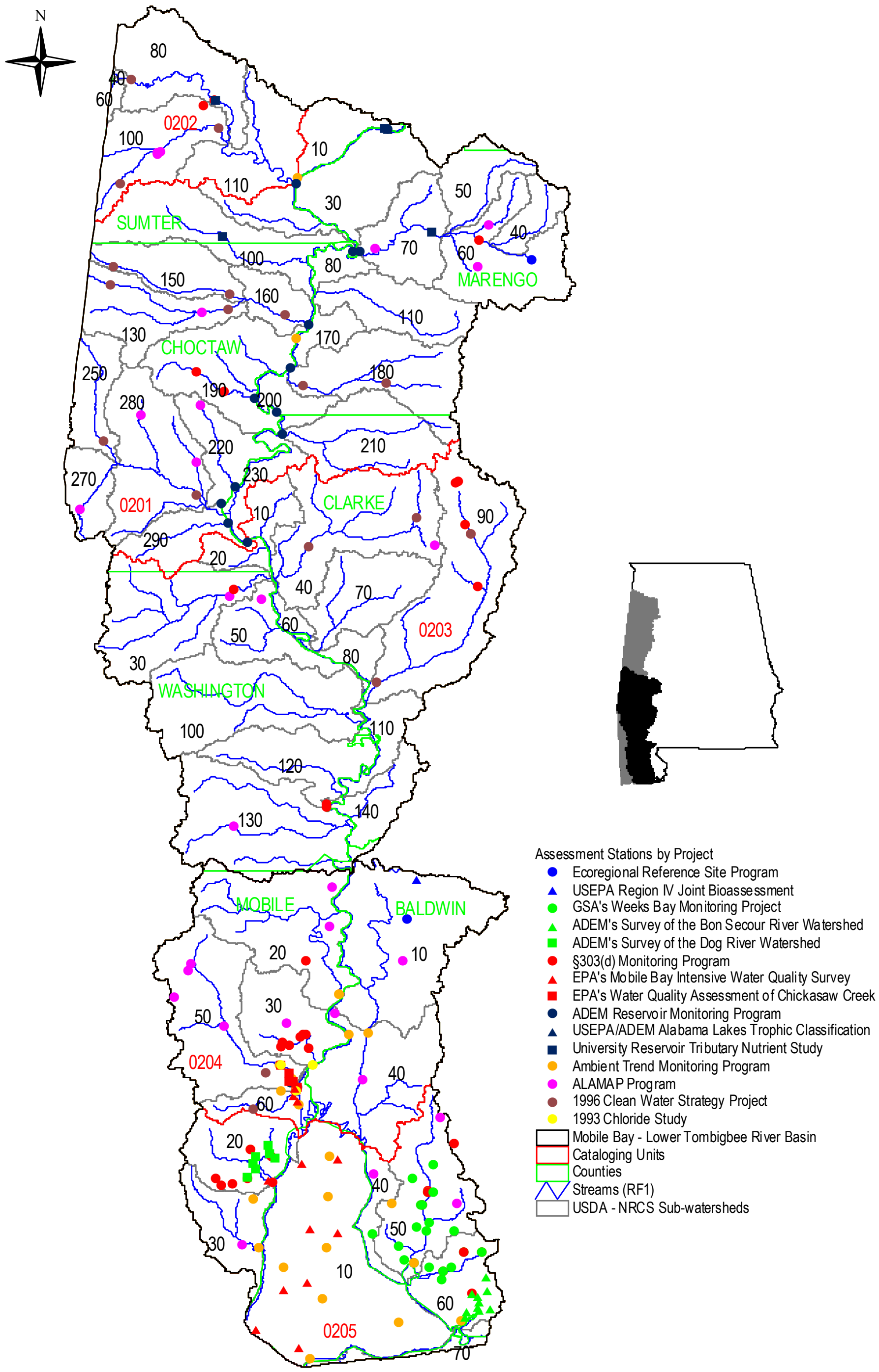

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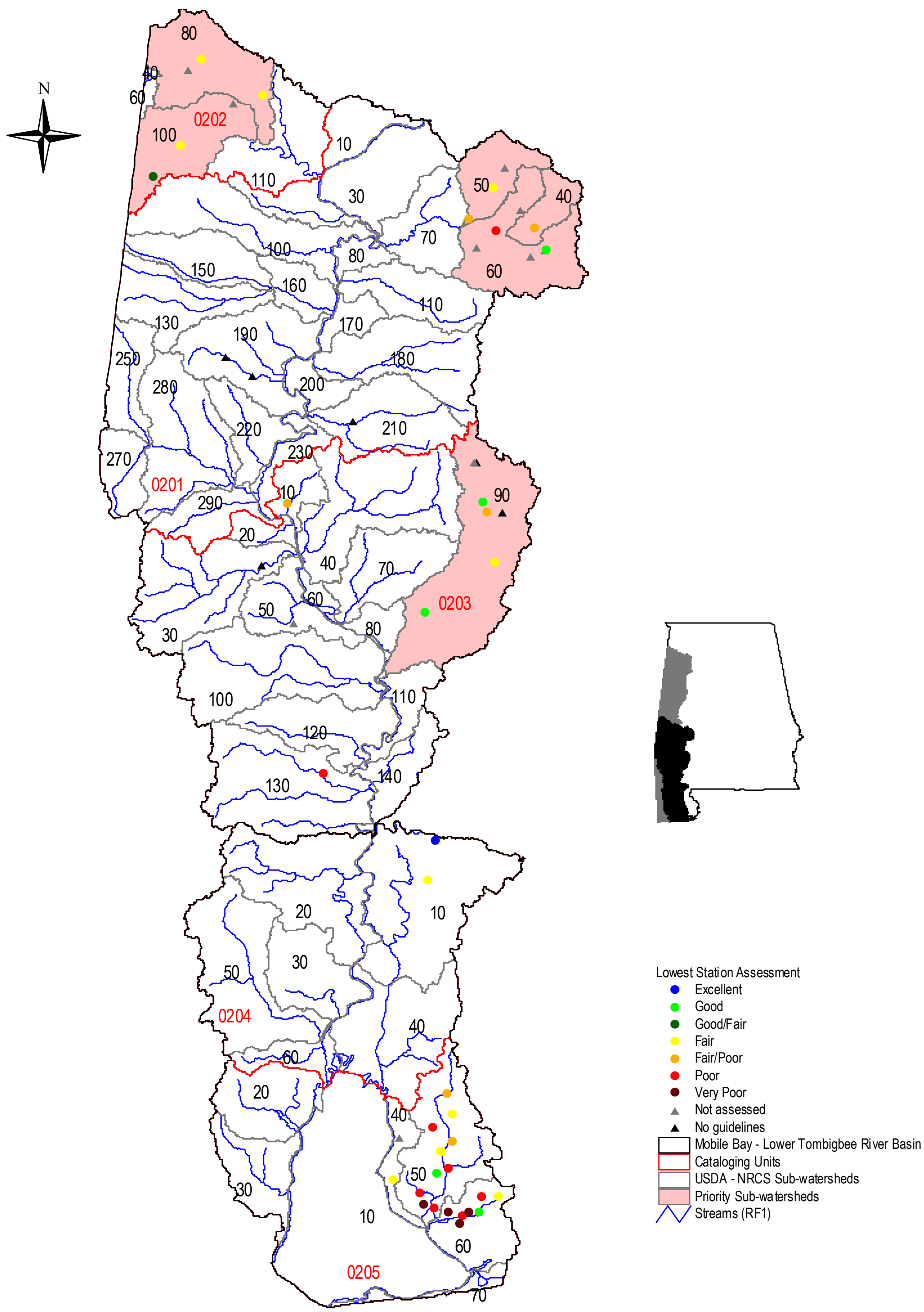
Fig. 38. Location of target sub-watersheds and assessment stations established during the 2001 NPS Screening Assessment of the EMT Basin Group.



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Overall condition for each station was rated as the lowest assessment result obtained (Table 18b). One (2%) station was assessed as *excellent* and 7 (16%) stations were assessed as *good*. Nineteen (42%) stations were assessed as *fair* and 13 (29%) were assessed as *poor* or *very poor*. The 32 stations assessed as *fair* or *poor* were located in 11 sub-watersheds.

NPS priority sub-watersheds: Based on these results, 6 NPS priority sub-watersheds were recommended (Fig. 39).

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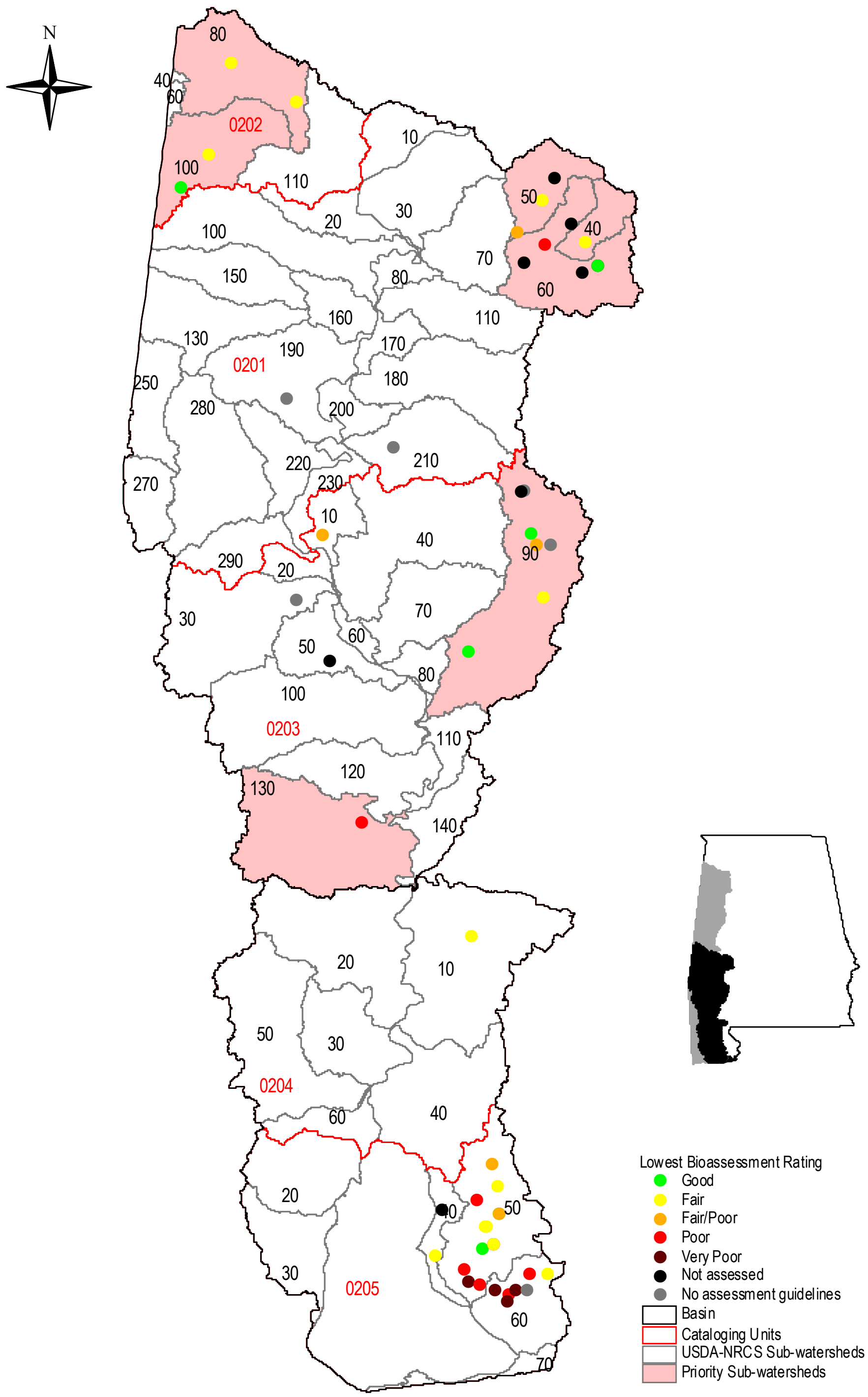
Fig. 39. Location of priority sub-watersheds identified within the Mobile Bay-Lower Tombigbee River Basin. The lowest assessment obtained by stations within each priority sub-watershed is also shown.



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Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed		Lowest Station Assessment	Suspected Cause(s)	Suspected nonpoint source(s)
Middle Mobile-Chickasaw River CU (0201)				
040	Dry Creek	Fair	Nutrient enrichment, Sedimentation	Pasture runoff, Animal husbandry
050	Powell Creek	Fair/poor	Nutrient enrichment, Sedimentation	Animal husbandry, Aquaculture, Pasture runoff
060	Upper Chickasaw Bogue	Poor	Nutrient enrichment, Sedimentation, Pathogens	Aquaculture, Pasture runoff
Sucarnoochee River CU (0202)				
080	Lower Sucarnoochee River	Fair	Sedimentation, Nutrient enrichment, Habitat degradation	Pasture and crop land runoff, Aquaculture, Animal husbandry
100	Alamuchee Creek	Fair	Nutrient enrichment, Sedimentation	Crop land runoff, Forestry, Mining
Lower Tombigbee River CU (0203)				
090	East Bassett's Creek	Fair	Nutrient enrichment, Sedimentation	Forestry, Pasture runoff

Dry Creek (0201-040): Biological conditions of Dry Creek were assessed as *fair*. SWCD landuse estimates indicated cattle and pasture to be potential sources of NPS impairment within the sub-watershed. Screening level water quality data collected after a storm event suggested sedimentation and nutrient loading to be sources of impairment at the site.

Powell Creek (0201-050): NPS concerns identified during the SWCD sub-watershed assessment included animal husbandry, pasture runoff, and aquaculture. Sedimentation, primarily from streambank erosion, was also a concern. Chemical sampling after a rainstorm event suggest nutrient and sediment loading at Powell and Rocky Creeks.

Upper Chickasaw Bogue (0201-060): The fish community was assessed as *poor* at one location on Chickasaw Bogue Creek. Habitat degradation was observed at Little Dry Creek. Access of livestock to streams was noted at Poplar Creek and cited as a concern by the local SWCD. Intensive water quality sampling suggested nutrient enrichment, sedimentation, and pathogens to be potential causes of impairment within the sub-watershed. SWCD landuse estimates indicated aquaculture and pasture runoff to be potential sources of NPS impairment.

Lower Sucarnoochee River (0202-080): Runoff from pasture and crop lands, sedimentation, aquaculture, and animal husbandry (primarily cattle) were identified as NPS concerns during the SWCD sub-watershed assessment. The macroinvertebrate community was assessed as *fair* at one location on Sicolocco Creek. Habitat condition was impaired at Sicolocco and Cedar Creeks. The presence of filamentous algae and high biochemical oxygen demand suggest some nutrient enrichment at both sites. Intensive water quality monitoring indicated nutrient enrichment at a downstream location as well.

Alamuchee Creek (0202-100): Runoff from crops, mining, and forest harvesting were identified as NPS concerns during the SWCD sub-watershed assessment. An IBI survey indicated the fish community of one location on Toomsuba Creek to be in *fair* condition. Although macroinvertebrate assessment guidelines have not been developed for the subecoregion, only half as many EPT families were collected at this site in comparison to a similar site located on Alamuchee Creek. Intensive monitoring at Yellow Creek indicated nutrient enrichment.

East Bassett's Creek (0203-090): Biological impairment was detected at Little Bassett Creek and James Creek. Water quality data indicated nutrient enrichment at James Creek. The fish community at one location on Bassett's Creek was assessed as *fair/poor*, but was affected by urban sources of pollution. Intensive chemical sampling indicated nutrient enrichment and high concentrations of fecal coliform at several locations on Bassett's Creek.

Middle Tombigbee - Chickasaw Creek CU (0316-0201)

The Middle Tombigbee-Chickasaw Creek CU of the Lower Tombigbee River Basin contains 24 sub-watersheds, draining approximately 2,040 mi^2 of west Alabama (Fig. 39). A significant portion of the CU lies within the Southern Hilly Gulf Coastal Plain (65d), Southereastern Floodplains and Low Terraces (65p), and Buhrstone/Lime Hills (65q) subecoregions of the Southeastern Plains (65) Ecoregion (Fig. 40). Delineated in 2001, reference conditions that can be used as the basis of habitat and macroinvertebrate assessments have not been developed for these subecoregions (Griffith et al. 2001). These subecoregions consist of the Coastal Plain, Major Floodplains and Terraces, and the Blackland Prairie soil areas (ACES 1997).

Landuse: Based on the conservation assessment worksheets completed (1998) by the local SWCDs, the primary landuses throughout the Middle Tombigbee-Chickasaw River cataloging unit were forest and pasture.

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
83%	2%	12%	<1%	1%	1%	1%

NPS impairment potential: The primary nonpoint source concerns within the Middle Tombigbee-Chickasaw Creek CU were sedimentation, pasture, and forestry. Nine sub-watersheds were estimated to have a *moderate* or *high* potential for impairment from nonpoint sources. Six of these sub-watersheds had a *moderate* potential for impairment from urban sources (Table 15b). The Tombigbee River (080) and Landrums Creek (170) sub-watersheds were assigned *low* potentials for impairment from all rural and urban nonpoint source categories (Table 15b).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15b).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	8	3	0	2	5	1	2	4
High	1	0	3	0	4	1	3	14

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15b).

Category	Urban	Development	Septic tank failure
Moderate	0	7	4
High	0	0	0

Historical data/studies: Table 16b lists the sub-watersheds and water bodies in which data has been previously collected in conjunction with other monitoring programs and the Appendices where these data are provided. Recent monitoring data have been collected in 15 sub-watersheds.

2001 NPS screening assessments: Three sub-watersheds were targeted for assessment during this project because they had a *moderate* or *high* potential for impairment from nonpoint sources. These included the Dry Creek (040), Powell Creek (050), and Upper Chickasaw Bogue (060) (Table 17b).

Sub-watershed summaries: A summary of the information available for each of the 24 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. Assessment of habitat, biological, and chemical conditions within each sub-watershed are based on long-term data from ADEM's Ecoregional Reference Site Program. Tables 12b-22b are located at the end of the Mobile Bay-Lower Tombigbee Basin summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Table 18b summarizes the results of habitat, chemical, and biological assessments conducted within the CU. Assessments could not be conducted at 4 stations due to severely low flow conditions during 2001.

Fig. 40 shows the location of 8 habitat and macroinvertebrate assessments conducted within the CU. Habitat quality was assessed as *excellent* or *good* at 5 stations. Results of macroinvertebrate assessments indicated the macroinvertebrate community to be in *good* condition at 3 (60%) stations and *fair* at 2 (40%) stations (Fig. 40). Three stations located within the Southern Hilly Gulf Coastal Plain (65d), delineated in 2001 (Griffith et al. 2001) could not be assessed.

Results of fish IBI assessments conducted at 3 of these stations indicated the fish community to be in *fair* or *fair/poor* condition at 2 stations (66%), and *poor* condition at one station (33%) (Fig. 41).

Overall condition for each station was rated as the lowest assessment result obtained (Table 18b). One (20%) station was assessed as *good*. Three (60%) stations were assessed as *fair* or *fair/poor* and one (20%) station was assessed as *poor*. The 4 stations assessed as *fair* or *poor* were primarily impacted by nonpoint sources and located in the Dry Creek (040), Powell Creek (050), or Upper Chickasaw Bogue (060) sub-watersheds.

NPS priority sub-watersheds: Figure 42 shows the location of the three sub-watersheds recommended as priority sub-watersheds.

Fig. 40. Habitat and macroinvertebrate assessments conducted within the Middle Tombigbee-Chickasaw Creek CU.

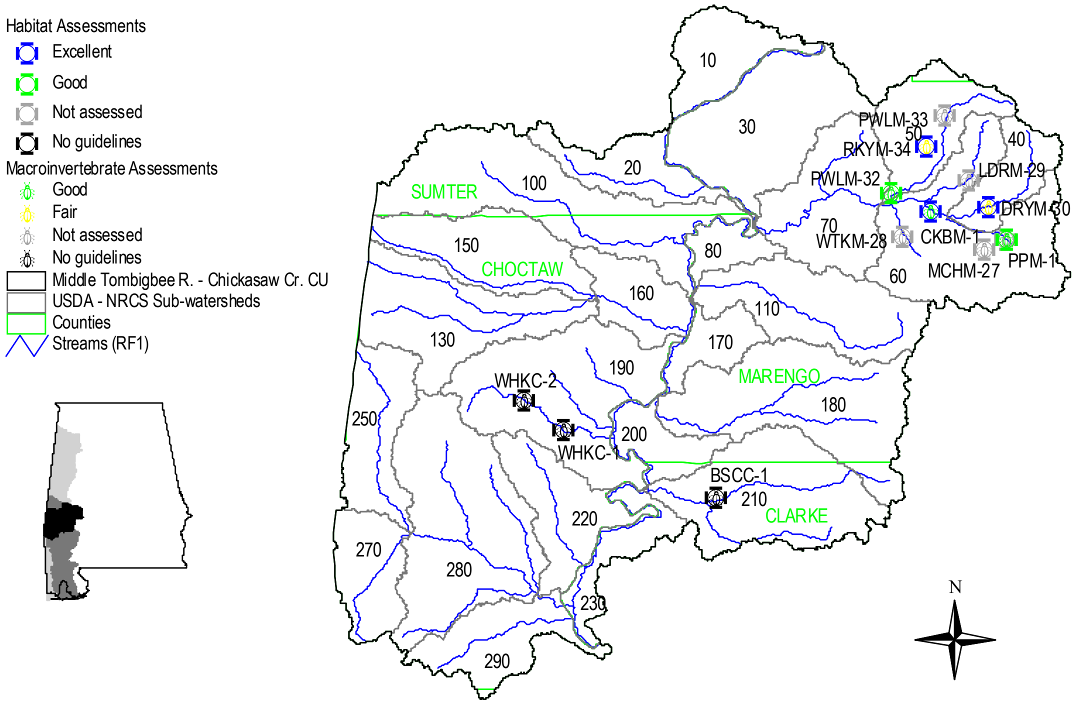

Fig. 41. Results of fish community assessments conducted within the Middle Tombigbee-Chickasaw Creek CU.

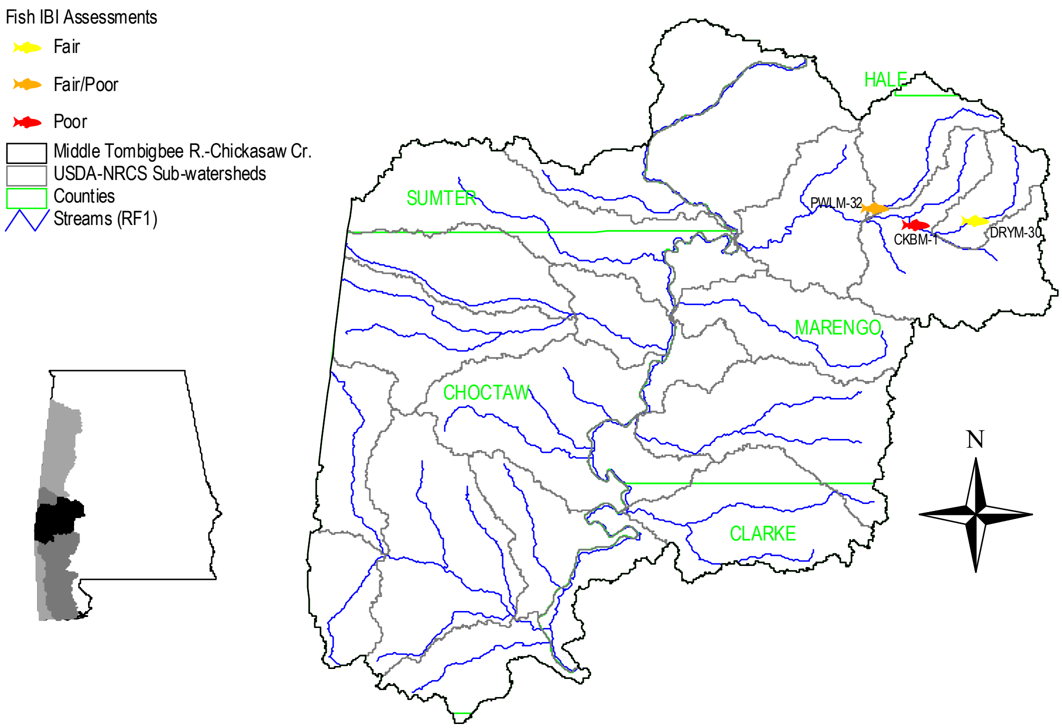

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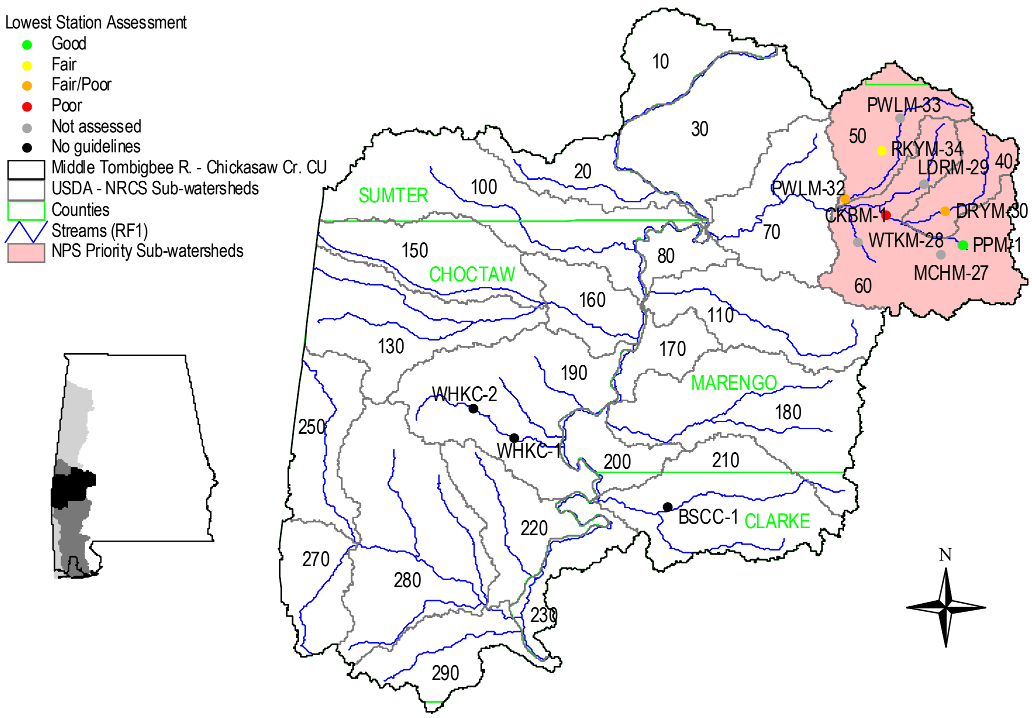
Fig. 42. Recommended NPS priority sub-watersheds within the Middle Tombigbee-Chickasaw Creek CU. Lowest bioassessment result obtained by each station is also shown.



Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed		**Lowest Station Assessment**	**Suspected Cause(s)**	**Suspected nonpoint source(s)**
040	Dry Creek	Fair/Poor	Nutrient enrichment, Sedimentation	Pasture runoff, Animal husbandry
050	Powell Creek	Fair/poor	Nutrient enrichment, Sedimentation	Animal husbandry, Aquaculture, Pasture runoff
060	Upper Chickasaw Bogue	Poor	Nutrient enrichment, Sedimentation, Pathogens	Aquaculture, Pasture runoff

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Sub-Watershed: Spring Creek NRCS Sub-Watershed Number 010

Landuse: The Spring Creek sub-watershed drains approximately 53 mi^2 in Sumter County. Percent land cover was mainly forest and open water. Two current construction/ stormwater authorizations and 1 non-coal mining/stormwater authorization (<5 acres) have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
70%	2%	5%	1%	0%	20%	2%

NPS impairment potential: The overall potential for nonpoint source impairment was *moderate.* The main NPS concerns within the sub-watershed were mining, and forestry. Sedimentation, primarily from sand and gravel pits (3.5 tons/ac/yr), was also a concern.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	19	0.07 AU/ac	<0.01%	2%	5%	1%	55%	4.6 tons/ac/yr
NPS Potential	M	L	L	L	L	H	H	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: An assessment was not conducted during the 2001 NPS Screening Assessment.

NPS priority status: The Spring Creek sub-watershed has not been assessed. Mining, forestry, and sedimentation were NPS concerns within the subwatershed. Spring Creek should be considered for assessment during the 2006 EMT Basin Screening Assessment.

Sub-Watershed: Cotohauga Creek NRCS Sub-Watershed Number 020

Landuse: The Cotohauga Creek sub-watershed drains approximately 50 mi^2 in Choctaw and Sumter Counties. The sub-watershed was primarily forested. One current construction/stormwater authorization has been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
88%	6%	4%	0%	0%	1%	1%

NPS impairment potential: The potential for impairment from activities associated with forestry was estimated as *high*. There was a *moderate* potential for impairment from crop land runoff. The overall potential for impairment from nonpoint sources was estimated as *low*, however.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	13	0.02 AU/ac	<0.01%	6%	4%	0%	68%	1.2 tons/ac/yr
NPS Potential	L	L	L	M	L	L	H	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: An assessment of the sub-watershed was not conducted during the 2001 NPS Screening Assessment.

NPS priority status: Although SWCD estimates indicated forestry and crop land runoff to be concerns, Cotohauga Creek has not been assessed. It should be considered for assessment during the 2006 NPS Screening Assessment.

Sub-Watershed: Double Creek NRCS Sub-Watershed Number 030

Landuse: The Double Creek sub-watershed drains approximately 121 mi^2 in Marengo County. Land cover was primarily forest and pasture. A total 14 stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
59%	2%	38%	0%	0%	<1%	2%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate*. The main NPS concerns were pasture runoff and sedimentation. Double Creek was given a 3rd priority sub-watershed rating by the local SWCD for resource concerns listed in Table 20b. There was a *moderate* potential for impairment from septic tank failure (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	14	0.05 AU/ac	0.07%	2%	38%	0%	ur	4.2 tons/ac/yr
NPS Potential	M	L	L	L	H	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Intensive water quality data have been collected in conjunction with ADEM's Reservoir Monitoring Program (Appendix F-3) and a statewide tributary monitoring project (Appendix F-4). Water quality data were collected 1962-1973 at 02467000 and 1969-1990 at 02467001. Peak flow data were collected 1993-2001at 02467000 and 1972-2001 at 02467001 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
Demopolis1	Chemical, Biological	1985, 1989, 1992, 1995, 1997, 1999, 2001	Tombigbee R. at deepest point of dam forebay	15,385	S/F&W
TORUA01	Chemical	1998-1999	Tombigbee R. at the Demopolis Dam tailrace	15,385	F&W
02467000	Chemical	1962-1973, 1993-2001	Demopolis Lock and Dam	15,385	S/F&W
02467001	Chemical	1969-1990, 1972-2001	Tombigbee R. at RM 171.1, ds of Demopolis Lock and Dam	15,385	F&W

Tombigbee River: The Tombigbee River was intensively monitored at TORUA01 from November 1998 through October of 1999 (Appendix F-4a). The site is located within the Southeastern Floodplains and Low Terraces (65p) subecoregion (Appendix E-1).

ADEM monitored the Tombigbee River at Demopolis1 monthly from April through October of 2001 (Appendix F-3a). The mean phosphorus concentration (0.054 mg/L) was the lowest measured within the Demopolis Reservoir and its tributaries. The mean total nitrogen concentration was also relatively low. The mean chlorophyll a concentration during 2001 was 6.1 μg/L, resulting in a mean TSI value of 48.

Comparison with historical data suggest that nitrogen and chlorophyll a concentrations have decreased while phosphorus concentrations have increased since 1995 (ADEM 1996—res 5 yr rep).

NPS priority status: NPS priority status could not be determined from available data, but intensive water quality data collected during 2001 showed total nitrogen and phosphorus concentrations to be among the lowest observed throughout the Tombigbee River Basin (ADEM 2003, Part II).

Sub-Watershed: Dry Creek NRCS Sub-Watershed Number 040

Landuse: The Dry Creek sub-watershed encompasses 40 mi^2 in Marengo County. The sub-watershed contained the highest proportion of pasture within the EMT study area. Two current construction/stormwater authorizations and 1 CAFO registration have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
30%	1%	66%	0%	0%	<1%	3%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate*. The main NPS concerns were animal operations, primarily cattle, and pasture runoff. Sedimentation, primarily from stream banks (4.0 tons/ac/yr), was also a potential source of impairment. Dry Creek was given a 2nd priority sub-watershed rating within the Marengo County SWCD. Resource concerns, including overgrazed pastures and livestock in streams, are listed in Table 20b. There was a *moderate* potential for impairment caused by septic tank failure (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	16	0.33 AU/ac	<0.01%	1%	66%	0%	ur	6.0 tons/ac/yr
NPS Potential	M	M	L	L	H	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Dry Creek was monitored at DRYM-30 during the 2001 NPS Screening Assessment (Table 17b).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
DRYM-30	Chemical, Habitat, Biological	2001	Dry Cr. at AL Hwy 25	30	F&W

Dry Creek: At DRYM-30, Dry Creek is a clay-bottomed, low-gradient stream located in the Flatwoods/Blackland Prairie Margins (65b) subecoregion. Habitat condition was assessed as *excellent* for this stream type (Table 21b). The macroinvertebrate and fish communities were assessed as *fair* and *fair/poor*, respectively (Table 22b).

Chemical sampling conducted during May and September 2001 (Appendix D-1). Flow was 1.5 cfs in May; in September, it was measured at 73.7 cfs. The increased flow was reflected in increased turbidity (91.1 ntu), fecal coliform concentrations (>600 colonies/100 mL), and concentrations of total suspended solids (93 mg/L), total Kjeldahl nitrogen (1.00 mg/L), and total phosphorus (0.30 mg/L).

NPS priority status: Dry Creek is recommended as a NPS priority sub-watershed. Biological conditions of Dry Creek were assessed as *fair*. SWCD landuse estimates indicated cattle and pasture to be potential sources of NPS impairment within the sub-watershed. Screening level water quality data collected after a storm event suggested sedimentation and nutrient loading to be sources of impairment at the site.

Sub-Watershed: Powell Creek **NRCS Sub-Watershed Number 050**

Landuse: The Powell Creek sub-watershed drains approximately 68 mi^2 in Hale and Marengo Counties. The SWCD estimated percent land cover as 52% pasture and 40% forest. Three construction/stormwater authorizations and 3 non-coal mining/stormwater authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
40%	2%	52%	0%	0%	5%	1%

NPS impairment potential: Cattle and some dairy and swine operations constituted a *moderate* potential for impairment from animal husbandry. There was a *high* potential for impairment from sedimentation, pasture runoff, and aquaculture. Streambank erosion was the dominant sediment source (2.6 tons/ac/yr; Table 20b). The overall potential for impairment from nonpoint sources was estimated as *high.* There was a *moderate* potential for impairment from urban development (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	20	0.33 AU/ac	5.44%	2%	52%	0%	ur	4.1 tons/ac/yr
NPS Potential	H	M	H	L	H	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Powell Creek (PWLM-32) and Rocky Branch (RKYM-34) were monitored during the 2001 NPS Screening Assessment. A second location on Powell Creek (PWLM-33) could not be assessed due to low flow conditions (Table 17b).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
PWLM-32	Chemical, Habitat, Biological	2001	Powell Cr. at Marengo CR 44	68	F&W
PWLM-33	None conducted	2001	Powell Cr. at Marengo CR 54	13	F&W
RKYM-34	Chemical, Habitat, Biological	2001	Rocky Br. at AL Hwy 69	7	F&W

Powell Creek: At PWLM-32, Powell Creek is a low-gradient, clay-bottomed stream located in the Flatwoods/Blackland Prairie Margins (65b) subecoregion (Table 21b). Habitat quality was assessed as *good*. However, highly eroded banks were noted and a slightly green water color were noted during the site visit. Six EPT families were collected, indicating the macroinvertebrate community to be in *good* condition (Table 22b). A fish IBI assessment indicated the fish community to be in *fair/poor* condition.

Water quality data were collected at PWLM-32 during May and September (Appendix D-1). Flow was 93 times greater in September than in May. Nutrient concentrations (NH_3-N, TKN, and TP), sedimentation (turbidity and TSS), and fecal coliform were higher during the high flows measured in September.

Rocky Creek: At RKYM-34, Rocky Creek is a clay-bottomed, low-gradient Blackland Prairie stream (Table 21b). Habitat quality was assessed as *excellent*. Three EPT families were collected, indicated the macroinvertebrate community to be in *fair* condition (Table 22b). The fish community was not assessed.

Water quality data were collected at RKYM-34 during May and September (Appendix D-1). Flow was 12 times greater in September than in May. Filamentous algae was present over much of the bedrock during May. In May, the dissolved oxygen concentration was 14.1 mg/L. Fecal coliform and nutrient concentrations (NH_3-N, TKN, and NO_3/NO_2-N) were higher in September.

NPS priority status: Powell Creek is recommended as a NPS priority sub-watershed. NPS concerns within the sub-watershed included animal husbandry, pasture runoff, and aquaculture. Sedimentation, primarily from streambank erosion, was also a concern. Chemical sampling after a rainstorm event suggest nutrient and sediment loading at Powell and Rocky Creeks.

Sub-Watershed: Upper Chickasaw Bogue NRCS Sub-Watershed Number 060

Landuse: The Upper Chickasaw Bogue sub-watershed drains approximately 141 mi^2 in Marengo County. Land cover was mainly forest and pasture lands. Two construction/stormwater and 3 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
56%	1%	40%	0%	<1%	1%	1%

NPS impairment potential: The potential for impairment from nonpoint sources was estimated as *moderate.* However, Upper Chickasaw Bogue was given a 1st priority sub-watershed rating by the SWCD. Resource concerns included excessive sediment from roadbanks, overgrazed pasture, and livestock in streams (Table 20b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	16	0.08 AU/ac	0.47%	1%	40%	0%	ur	2.6 tons/ac/yr
NPS Potential	M	L	H	L	H	L	ur	M
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Monitoring stations were established on Chickasaw Bogue (CHBM-26), Little Dry Creek (LDRM-29), Michigan Creek (MCHM-27), and Watkins Creek (WTKM-28) during the 2001 NPS Screening Assessment, but could not be monitored due to low flow conditions (Table 17b). Chickasaw Bogue was assessed at a second location in conjunction with ADEM's 303(d) Monitoring Program (Appendix F-2). Poplar Creek has been monitored since 1991 in conjunction with ADEM's Ecoregional Reference Site Program (Appendix F-1). Little Dry Creek (LT6U5-56) and a tributary to Sandy Branch (LT4U4-49) were evaluated in conjunction with ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
CHBM-26	None conducted	2001	Chickasaw Bogue at unnamed Marengo CR	31	F&W
CKBM-1	Chemical, Habitat, Biological	2001	Chickasaw Bogue at Marengo CR 39	111	F&W
LDRM-29	None conducted	2001	Little Dry Cr. at Marengo CR 44	15	F&W
LT6U5-56	Chemical, Habitat	2001	Little Dry Cr. approx. 2.5 mi us of confluence with Chickasaw Bogue	20	F&W
MCHM-27	None conducted	2001	Michigan Cr. at AL Hwy 28	21	F&W
WTKM-28	None conducted	2001	Watkins Cr. at AL Hwy 28	25	F&W
PPM-1	Chemical, Habitat, Biological	1991-1995, 1997, 2000-2001	Poplar Cr. at Marengo CR 53	14	F&W
LT4U4-49	Chemical, Habitat	2000	Tributary to Sandy Branch at 15N/4E/17	1	F&W

Chickasaw Bogue: At CKBM-1, Chickasaw Bogue is a low-gradient, clay- and sand-bottomed stream located in the Flatwoods/Blackwood Prairie Margins (65b) subecoregion (Appendix F-2a). Although most of the watershed is rural, a small tributary runs through Thomaston. Habitat quality was assessed as *excellent*. The macroinvertebrate and fish communities were assessed as *good* and *poor*, respectively (Appendix F-2b).

Intensive water quality sampling was conducted at the site from May 2001 through February 2002 (Appendix F-2c). The fecal coliform concentration was 1,000 colonies/100 ml during February 2002. Biochemical oxygen demand was >4.0 mg/L during the October of 2001 sampling event. The nitrate/nitrite-nitrogen concentration was 1.43 mg/L during October, 4.6 times higher than concentrations measured at ecoregional reference sites.

Little Dry Creek: At LT6U5-56, Little Dry Creek is a low-gradient, clay and gravel stream located within the Flatwoods/Blackwood Prairie Margins (65b) subecoregion (Appendix F-7a). Habitat quality was assessed as *fair* due to low sinuousity, poor bank stability, and the lack of an adequate buffer.

Screening level water quality data was collected during August 2001 (Appendix F-7b). Conductivity (698 μmhos) and the concentration of total dissolved solids (636 mg/L) were relatively high for this stream type.

Poplar Creek: Since 1991, Poplar Creek at PPM-1 has been monitored as an ecoregional reference site (Appendix F-1). It is a low-gradient, sandy-bottomed stream within the within the Flatwoods/Blackland Prairie Margins (65b) subecoregion (Appendix F-1a). During 2001, habitat quality was *good* for this stream type. Although habitat quality and the macroinvertebrate community have been consistently assessed as *good*, access of cattle to the creek has increased in recent years (Appendix F-1b).

Water quality data were collected during May and September 2001 (Appendix F-1c and F-1d). Measured at 21.9 cfs, flow during September was 24 times greater than during May. Concentrations of total Kjeldahl nitrogen and total suspended solids were elevated during the September sampling event.

NPS priority status: Upper Chickasaw Bogue is recommended as a NPS priority sub-watershed. The fish community was assessed as *poor* at one location on Chickasaw Bogue Creek. Habitat degradation was observed at Little Dry Creek. Access of livestock to streams was noted at Poplar Creek and cited as a concern by the local SWCD. Intensive water quality sampling suggested nutrient enrichment, sedimentation, and pathogens to be potential causes of impairment within the sub-watershed. SWCD landuse estimates indicated aquaculture and pasture runoff to be potential sources of NPS impairment.

Sub-Watershed: Lower Chickasaw Bogue NRCS Sub-Watershed Number 070

Landuse: The Lower Chickasaw Bogue sub-watershed drains approximately 94 mi^2 in Marengo County. Land cover was estimated as mainly forest mixed with pasture. One construction/stormwater aurthorization, 1 non-coal mining/stormwater authorization (<5 acres), and 1 municipal NPDES permit have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
75%	<1%	20%	0%	3%	1%	2%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate*. The primary NPS concerns were aquaculture, pasture runoff, and sedimentation. Lower Chickasaw Bogue was given a 4th priority sub-watershed rating by the local SWCD. Resource concerns included excessive sediment from roadbanks, overgrazed pasture, and livestock in streams (Table 20b). There was a *moderate* potential for impairment from septic tank failure (Table 15b). The sub-watershed also drains several small municipalities, including Thomaston, Providence, and Dayton.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	14	0.01 AU/ac	0.38%	<1%	20%	0%	ur	3.2 tons/ac/yr
NPS Potential	M	L	H	L	M	L	ur	M
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Intensive water quality data have been collected within the Lower Chickasaw Bogue sub-watershed in conjunction with ADEM's Reservoir Monitoring Program (Appendix F-3) and a statewide tributary monitoring project (Appendix F-4).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
Coffeeville5	Chemical, Biological	2001	Chickasaw Bogue at deepest point of embayment, approx. 0.5 mi. us of confluence with the Tombigbee R.	344	F&W
CHBUA01	Chemical	2001	Chickasaw Bogue at US Hwy 43	257	F&W

<u>Chickasaw Bogue</u>: At CHBUA01, Chickasaw Bogue is located within the Flatwoods/Blackland Prairie Margins (65b) subecoregion (Appendix E-1). Intensive water quality data were collected at the site during November 1998 through October of 1999 (Appendix F-4a). Flows ranged from <1 cfs in August 1999 to 273 cfs in March 1999. Total dissolved solids were elevated during December 1998. Turbidity and total phosphorus concentrations were elevated during January 1999. The concentration of total

suspended solids, total Kjeldahl nitrogen, and total phosphorus were elevated during February 1999.

Intensive water quality data were collected monthly at Coffeeville5 to determine the sediment and nutrient loading to Coffeeville Reservoir from Chickasaw Bogue. The site is located within the Southeastern Floodplains and Low Terraces (65p) subecoregion. The mean concentrations of total nitrogen and total phosphorus were 0.621 mg/L and 0.87 mg/L, respectively. Mean concentrations of chlorophyll *a* and total suspended solids were the 2nd and 3rd highest within the Tombigbee River Basin during ADEM's 2001 Reservoir Monitoring Program (Appendix F-3a). The mean TSI value was 62, indicating eutrophic conditions at the mouth of Chickasaw Bogue.

NPS priority status: Intensive water quality data suggest Chickasaw Bogue to be a potential source of nutrient and sediment loading to Coffeeville Reservoir. NPS concerns within the sub-watershed included aquaculture and pasture runoff.

Sub-Watershed: Tombigbee River NRCS Sub-Watershed Number 080

Landuse: The Tombigbee River sub-watershed drains approximately 23 mi^2 in Marengo County. The SWCD estimated percent land cover as 97% forest. Two construction/ stormwater authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
97%	0%	2%	0%	0%	0%	<1%

NPS impairment potential: The potential for impairment from rural and urban nonpoint sources was estimated as *low* (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	6	0.01 AU/ac	<0.01	0%	2%	0%	ur	0.6 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: An assessment of the Tombigbee River sub-watershed was not conducted during the 2001 NPS Screening Assessment.

NPS priority status: The potential for NPS impairment within the Tombigbee River sub-watershed was estimated as *low*. Given the low potential for impairment from point and nonpoint sources, Tombigbee River should be investigated as a potential reference sub-watershed for the region.

Sub-Watershed: Kinterish Creek NRCS Sub-Watershed Number 100

Landuse: The Kinterbish Creek sub-watershed drains approximately 158 mi^2 in Choctaw and Sumter Counties. The SWCD estimated percent land cover as 87% forest. Two construction/stormwater authorizations, 2 non-coal mining/stormwater aurthorizations (<5 acres), and 2 industrial process wastewater NPDES permits have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
87%	6%	6%	0%	0%	1%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* The main NPS concerns were runoff from crop and forestry lands and sedimentation.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	17	0.02 AU/ac	<0.01%	6%	6%	0%	47%	4.4 tons/ac/yr
NPS Potential	M	L	L	M	L	L	H	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Two stations have been monitored within the Kinterbish Creek sub-watershed. Kinterbish Creek was sampled intensively during a statewide water quality monitoring project (Appendix F-4). The Tombigbee River was assessed during ADEM's Reservoir Monitoring Program (Appendix F-3).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
Coffeeville3	Chemical, Biological	2001	Deepest point of main channel of Tombigbee R. approx. 2 mi. ds of Chicksaw Bogue Cr.	16,924	F&W
KBCUA01	Chemical	1999	Kinterbish Cr. at AL Hwy 17	72	S/F&W

Kinterbish Creek: Intensive water quality sampling was conducted at KBCUA01, located within the Southern Hilly Gulf Coastal Plain (65d) subecoregion (Appendix E-1) from November 1998 through October of 1999 (Appendix F-4a). Assessment guidelines have not been developed for this subecoregion. Dissolved oxygen concentrations and pH values supported "Fish & Wildlife" Water Use Classification criteria.

Tombigbee River: Intensive water quality data were collected monthly at Coffeeville3 to monitor water quality of Coffeeville Reservoir below the confluence with Chickasaw Bogue (Appendix F-3). Data are summarized in Appendix F-3a. The station is located within the Southeastern Floodplains and Low Terraces (65p) subecoregion (Appendix E-1). ADEM (2003, Part II) reported chlorophyll *a* concentrations at this site to be lower than at any other Tombigbee River location sampled during 2001. The mean concentration of total suspended solids was relatively high, however.

NPS priority status: Intensive water quality sampling within the Chickasaw Bogue embayment (0201-070), upstream of Coffeeville3, indicated the tributary to be a potentially significant source of nutrient and sediment loading to the Coffeeville Reservoir. Although nutrient concentrations were relatively low, the mean concentration of total suspended solids was the highest measured within any of the Tombigbee River Reservoirs.

Sub-Watershed: Beaver Creek NRCS Sub-Watershed Number 110

Landuse: The Beaver Creek sub-watershed drains approximately 100 mi^2 in Marengo County. Forest was the dominant land cover category within the sub-watershed. One construction/stormwater and 1 non-coal mining/stormwater authorization have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
86%	1%	11%	0%	1%	<1%	1%

NPS impairment potential: The potential for impairment from pasture runoff and sedimentation was estimated as *moderate.* The overall potential for impairment was *low*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	<0.01 AU/ac	<0.01%	1%	11%	0%	ur	2.8 tons/ac/yr
NPS Potential	L	L	L	L	M	L	ur	M
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: A water quality assessment has not been conducted within the Beaver Creek sub-watershed.

NPS priority status: Beaver Creek has not been assessed. However, it was estimated to have a *low* potential for impairment from nonpoint sources.

Sub-Watershed: Upper Tuckabum Creek NRCS Sub-Watershed Number 130

Landuse: The Upper Tuckabum Creek sub-watershed drains approximately 110 mi^2 in Choctaw County. The SWCD estimated percent land cover as 94% forest. Two construction/stormwater authorizations, 1 non-coal mining/stormwater authorization, and 1 semi public/private NPDES permit have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
94%	1%	3%	0%	1%	<1%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *low* (Table 15b). However, the sedimentation rate within the Upper Tuckabum Creek sub-watershed was estimated to be the highest within the EMT study area (Table 20b). Gully erosion contributed 87% (46.2 tons/ac/yr) of the annual sediment load (Table 20b). The sub-watershed was given a 1st priority rating by the local SWCD. Resource concerns included roadbank erosion and livestock in streams (Table 20b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	0.01 AU/ac	<.01%	1%	3%	0%	ur	52.8 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: The Upper Tuckabum Creek sub-watershed was not monitored during the 2001 NPS Screening Assessment. Tuckabum Creek has been previously evaluated in conjunction with ADEM's ALAMAP Program (Appendix F-7) and 1996 Clean Water Strategy Project (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
LT02U2-24	Chemical, Habitat	1998	Tuckabum Cr. approx. 9.0 mi. us of confluence with Yantley Cr.	110	F&W
LT05	Chemical	1996	Tuckabum Cr. at AL Hwy 10	9	F&W
LT06	Chemical	1996	Tuckabum Cr. at AL Hwy 17	115	F&W

Tuckabum Creek: Habitat assessment and physical characterization data collected from Tuckabum Creek at LT02U2-24 are presented in Appendix F-7a. It is a low-gradient, sand-bottomed stream located in the Southern Hilly Gulf Coastal Plain (65d) subecoregion. Water quality data collected during 1998 did not indicate impairment (Appendix F-7b). Two additional locations were evaluated during 1996 (Appendix F-9a).

NPS priority status: The NPS priority status of Upper Tuckabum Creek cannot be determined from existing data. Although the potential for NPS impairment was relatively *low*, the estimated sedimentation rate was the highest within the EMT Basin Group. Upper Tuckabum Creek should be considered for monitoring during the 2006 EMT Basin Screening Assessment.

Sub-Watershed: Yantley Creek NRCS Sub-Watershed Number 150

Landuse: The Yantley Creek sub-watershed drains approximately 84 mi^2 in Choctaw and Sumter Counties. The SWCD estimated percent land cover as 86% forest. One construction/stormwater and 1 non-coal mining/stormwater authorization have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
86%	3%	8%	0%	0%	1%	2%

NPS Impairment Potential: The potential for impairment from pasture runoff was estimated as *moderate.* The potential for impairment from sedimentation, primarily gullies, streambanks, and critical areas, was estimated as *high*. Yantley Creek was given a 4th priority sub-watershed rating by the local SWCD. Resource concerns are listed in Table 20b.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	12	0.02 AU/ac	<0.01%	3%	8%	0%	ur	10.4 tons/ac/yr
NPS Potential	M	L	L	L	M	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Water quality within the sub-watershed was not monitored during the 2001 NPS Screening Assessment. Yantley Creek was evaluated at 2 locations during ADEM's 1996 Clean Water Strategy Project (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
LT16	Chemical	1996	Yantley Cr. at Choctaw CR 1	10	F&W
LT17	Chemical	1996	Yantley Cr. at AL Hwy 17	84	F&W

Yantley Creek: Water quality data was collected at 2 locations on Yantley Creek during 1996. Both sites are located within the Southern Hilly Gulf Coastal Plain (Appendix E-1). At LT16, 3 of 5 (60%) of the dissolved oxygen concentrations were below the Fish and Wildlife water use classification criteria of 5.0 mg/L (Appendix F-9a). Subecoregion-specific assessment guidelines have not been developed.

NPS priority status: Data to evaluate impairment status was not available. However, intensive water quality sampling during 1996 detected low dissolved oxygen concentrations at one location. Impairment from pasture runoff and sedimentation were concerns within the sub-watershed.

Sub-Watershed: Lower Tuckabum Creek NRCS Sub-Watershed Number 160

Landuse: The Lower Tuckabum Creek sub-watershed encompasses 47 mi^2 in Choctaw County. The SWCD estimated percent land cover as 86% forest. Three construction/stormwater and 5 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
86%	2%	2%	0%	4%	3%	4%

NPS impairment potential: The overall potential for NPS impairment was estimated as *low*. However, the potential for impairment from sedimentation was estimated as *high*. Erosion from gullies contributed 67% (18.4 tons/ac/yr) to the total annual sediment load (Table 20b). There was a *moderate* potential for impairment from urban development (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	<0.01 AU/ac	<0.01%	2%	2%	0%	ur	27.4 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Lower Tuckabum Creek was monitored at the embayment during ADEM's 2001 Reservoir Monitoring Program (Appendix F-3). It was evaluated at a second location in conjunction with ADEM's 1996 Clean Water Strategy Project (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
Coffeeville6	Chemical, Biological	2001	Deepest point of main channel within Tuckabum Cr. embayment approx. 0.5 mi us of Tombigbee R.	257	F&W
LT07	Chemical	1996	Tuckabum Cr. at AL Hwy 114	239	F&W

<u>Tuckabum Creek</u>: Tuckabum Creek was intensively monitored at Coffeeville6, April-October of 2001 (Appendix F-3a). The tributary is located in the Southeastern Floodplains and Low Terraces (65p) subecoregion and flows into the Upper Coffeeville Reservoir. Tuckabum Creek was characterized by relatively low nutrient and chlorophyll *a* concentrations. However, the mean concentration of total suspended solids was higher than in the mainstem stations, ranging from 15 mg/L in October to 28 mg/L in July, (Appendix F-3a). The mean TSI value was 45, indicating mesotrophic conditions in the

Tuckabum Creek embayment. Dissolved oxygen concentrations ranged from 4.9 mg/L in June to 7.9 mg/L in April.

Data collected at LT07 did not indicate violations to Fish and Wildlife water use classification (Appendix F-9a), but region-specific assessment guidelines have not yet been developed for this region, however.

NPS priority status: Intensive water quality data collected in the embayment suggest Tuckabum Creek to be a potential source of sediment loading to the Coffeeville Reservoir. These finding are supported by SWCD sedimentation and landuse estimates.

Sub-Watershed: Landrums Creek NRCS Sub-Watershed Number 170

Landuse: The Landrums Creek sub-watershed drains approximately 31 mi^2 in Marengo County. The SWCD estimated percent land cover as 93% forest. One construction/stormwater and 2 non-coal mining/stormwater authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
93%	1%	5%	0%	0%	<1%	1%

NPS impairment potential: The potential for impairment from rural and urban nonpoint sources was estimated as *low* (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	6	0.04 AU/ac	<0.01%	1%	5%	0%	ur	1.6 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: An assessment of Landrums Creek has not been conducted. Water quality data were collected at a USGS Surface Water Monitoring Station, 1970-2000 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
02469525	Chemical	1990-2000	Tombigbee R. at AL Hwy 10	17,487	F&W

NPS priority status: Given the *low* potential for impairment from both urban and rural nonpoint sources, Landrums Creek should be monitored to evaluate its potential as a least-impaired reference sub-watershed.

Sub-Watershed: Horse Creek NRCS Sub-Watershed Number 180

Landuse: The Horse Creek sub-watershed drains approximately 149 mi^2 in Clarke and Marengo Counties. The SWCD estimated percent land cover as 96% forest. Three current construction/stormwater authorizations, 3 non-coal mining/stormwater authorizations, and one semi-public/private NPDES permits have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
96%	<1%	3%	<1%	0%	0%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *low.* The potential for impairment from mining was estimated as *moderate*. There was a *moderate* potential for impairment from urban development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	9	<0.01 AU/ac	<0.01%	<1%	3%	<1%	3%	0.9 tons/ac/yr
NPS Potential	L	L	L	L	L	M	L	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Horse Creek embayment was intensively monitored in conjunction with ADEM's Reservoir Monitoring Program (Appendix F-3). It was also evaluated at 2 locations during ADEM's Clean Water Strategy Project (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
Coffeeville7	Chemical, Biological	2001	Deepest point of main channel within Horse Cr. embayment approx. 0.5 mi us of Tombigbee R.	149	S/F&W
LT08	Chemical	1996	Horse Cr. at Marengo CR 7	60	S/F&W
LT09	Chemical	1996	Horse Cr. at AL Hwy 69	137	S/F&W

Horse Creek: Intensive water quality samples were collected at Coffeeville7 from April-October of 2001 (Appendix F-3a). The station is located within the Southeastern Floodplains and Low Terraces (65p) subecoregion (Appendix E-1). The mean concentrations of total phosphorus, chlorophyll *a*, and total suspended solids were among the lowest seen among the Coffeeville Reservoir tributaries. The mean concentration of total nitrogen was the 2nd highest of the Coffeeville Reservoir tributaries and higher than the mainstem reservoir stations.

Monthly water quality data were collected at LT08 and LT09 from June through

October of 1996 (Appendix F-9a). Both sites are located within the Southern Hilly Gulf Coastal Plain (65d) (Appendix E-1). Dissolved oxygen, pH, and water temperature were within criteria established for Alabama's Fish and Wildlife water use classification. Assessment guidelines specific to subecoregion 65d have not been established.

NPS priority status: Based on SWCD estimates, Horse Creek was assigned a low potential for NPS impairment. Intensive water quality monitoring showed relatively low nutrient and sediment concentrations, supporting SWCD information. Given the *low* potential for impairment from rural nonpoint sources, Horse Creek should be considered as a least-impaired reference sub-watershed.

Sub-Watershed: Wahalak Creek NRCS Sub-Watershed Number 190

Landuse: The Wahalak Creek sub-watershed drains approximately 150 mi^2 in Choctaw County. The sub-watershed was almost completely forested. A total of 9 stormwater authorizations and NPDES permits have been issued (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
91%	2%	3%	0%	3%	1%	1%

NPS impairment potential: The potential for impairment from nonpoint sources was estimated as *low* (Table 15b). However, it was assigned a *high* potential for impairment from sedimentation. Gully erosion contributed 4.5 tons/ac/yr to the annual sediment load (Table 20b). Wahalak Creek was given a 3rd priority sub-watershed rating by the local SWCD. Resource concerns are listed in Table 20b. The potential for impairment from urban development was estimated to be *moderate*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	<0.01 AU/ac	<0.01%	2%	3%	0%	ur	10.8 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Four locations were monitored within the Wahalak Creek sub-watershed during 2001 in conjunction with ADEM's Reservoir (Appendix F-3) and CWA §303(d) (Appendix F-2) Monitoring Programs.

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
Coffeeville2	Chemical, Biological	2001	Deepest point of Tombigbee River channel approx. 1.5 mi. us of Big Bunny Cr. confluence.	17,670	F&W
Coffeeville8	Chemical, Biological	2001	Deepest point of Wahalak Cr. embayment approx. 0.5 mi. us of Tombigbee R.	69	F&W
T-2	Chemical		Tombigbee R. at AL Hwy 10	17,492	F&W
WHKC-1	Chemical, Habitat, Biological	2001	Wahalak Cr. at Choctaw CR 43	52	F&W
WHKC-2	Chemical, Habitat, Biological	2001	Wahalak Cr. at AL Hwy 17	24	F&W

Wahalak Creek: At both WHKC-1 and WHKC-2, Wahalak Creek is a low-gradient, sand-bottomed stream located within the Southern Hilly Gulf Coastal Plain (65d) subecoregion (Appendix F-2a). Eleven and 9 EPT families were collected at WHKC-1 and WHKC-2, respectively. Assessment guidelines have not been developed for this subecoregion (Appendix F-2b).

Intensive water quality data were monitored from September 2001 to January 2002 (Appendix F-2c). Violations of Fish and Wildlife water use classification criteria were not detected.

Wahalak Creek was intensively monitored at its confluence with Tombigbee River from April through October of 2001 (Appendix F-3a). At this location (Coffeeville8), Wahalak Creek is located within the Southeastern Floodplains and Low Terraces (65p) subecoregion (Appendix E-1). The mean concentrations of total nitrogen and total phosphorus were 0.522 mg/L and 0.088 mg/L, respectively. The mean concentrations of chlorophyll *a* and total suspended solids were 17.9 μg/L and 25.9 mg/L, respectively, the 2nd highest values within the Coffeeville Reservoir drainage.

Tombigbee River: Intensive water quality data was collected monthly at Coffeeville2 from April through October of 2001 (Appendix F-3a). The mean total nitrogen concentration was 0.467 mg/L; the mean total phosphorus concentration was 0.089 mg/L. The mean TSI value was 42, indicating mesotrophic conditions at the site.

NPS priority status: Changes to Alabama's subecoregion delineations make it difficult to interpret the results of macroinvertebrate assessments conducted on Wahalak Creek. However, intensive water quality monitoring suggest that Wahalak Creek to be a source of nutrient enrichment and sediment loading along this section of the Tombigbee River.

Sub-Watershed: Big Bunny Creek NRCS Sub-Watershed Number 200

Landuse: The Big Bunny Creek sub-watershed drains approximately 35 mi^2 in Clarke and Marengo Counties. The SWCD estimated percent land cover as 92% forest. Two construction/stormwater and 2 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
92%	0%	8%	0%	0%	0%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *low* (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	8	0.01 AU/ac	<0.01%	0%	8%	0%	ur	1.0 tons/ac/yr
NPS Potential	L	L	L	L	M	L	ur	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Water quality within the Big Bunny Creek sub-watershed has not been assessed.

NPS priority status: Given the *low* potential for impairment from both urban and rural nonpoint sources, Big Bunny Creek should be considered as a least-impaired reference sub-watershed.

Sub-Watershed: Bashi Creek **NRCS Sub-Watershed Number 210**

Landuse: The Bashi Creek sub-watershed drains approximately 127 mi^2 in Clarke and Marengo Counties. The SWCD estimated percent land cover as 95% forest. Four current construction/stormwater and 3 non-coal mining/stormwater authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
95%	<1%	4%	0%	<1%	<1%	1%

NPS Impairment Potential: The potential for impairment from runoff from forestry areas was estimated as *moderate.* The overall potential for nonpoint source impairment was *low*. The potential for impairment from urban development was estimated as *moderate*. During site reconnaissance, the upper sub-watershed was noted to have been clear cut and replanted with pines within the last 5-10 years.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	9	0.01 AU/ac	0.01%	<1%	4%	0%	39%	1.6 tons/ac/yr
NPS Potential	L	L	L	L	L	L	M	L
Table	1b	19b	19b	12b	12b	12b	20b	20b

Assessments: Bashi Creek was intensively monitored at 2 locations in conjunction with ADEM's 2001 Reservoir (Appendix F-3) and 303(d) (Appendix F-2) Monitoring Programs.

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
Coffeeville9	Chemical, Biological	2001	Deepest point of Bashi Cr. embayment approx. 0.5 mi. us of confluence with Tombigbee R.	128	S/F&W
BSCC-1	Chemical, Habitat, Biological	2001	Bashi Cr. at AL Hwy 69	77	S/F&W

<u>Bashi Creek</u>: Bashi Creek at BSCC-1 is a low-gradient, stream in the Southern Hilly Gulf Coastal Plain (65d) subecoregion (Appendix F-2a). Bottom substrates were comprised of sand, detritus, and silt. Assessment guidelines have not been established for streams within this subecoregion, but runoff from pastures on both sides of the creek was noted at the site. The site was also characterized by large sand bars and highly eroded banks (Appendix F-2a). Nine EPT families were collected at the site (Appendix F-2b).

Bashi Creek was intensively monitored at Coffeeville9 to assess the stream as a source of nutrient and sediment loading to the Coffeeville Reservoir (ADEM 2003b). The site is located within the Southeastern Floodplains and Low Terraces (65p) subecoregion. Mean nutrient concentrations were similar to concentrations observed within the mainstem reservoir stations. The mean TSI value was 56, indicating eutrophic conditions within the Bashi Creek embayment.

NPS priority status: Based on SWCD landuse estimates and site reconnaissance, forestry was the main NPS concern within the Bashi Creek sub-watershed. Although Bashi Creek was assigned a low potential for NPS impairment, site assessments suggested pasture runoff, sedimentation, and habitat degradation to be problems on Bashi Creek approximately 8 mi upstream of the confluence with the Tombigbee River. Intensive monitoring of Bashi Creek at the embayment showed nutrient concentrations to be similar to those observed within Tombigbee River.

Sub-Watershed: Big Tallawampa Creek NRCS Sub-Watershed Number 220

Landuse: The Big Tallawampa Creek sub-watershed drains approximately 67 mi^2 in Choctaw County. The SWCD estimated percent land cover as 97% forest. One non-coal mining/stormwater authorization has been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
97%	1%	1%	0%	0%	<1%	1%

NPS impairment potential: The potential for impairment from sedimentation was estimated as *high.* The major sources of sediment were gullies, stream banks, and developing urban lands (Table 20b). The potential for impairment from other rural and urban nonpoint source categories was estimated as *low* (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	0.01 AU/ac	<0.01%	1%	1%	0%	ur	10.3 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: The Tallawampa Creek embayment was intensively monitored during ADEM's 2001 Reservoir Monitoring Program (Appendix F-3). Middle Tallawampa Creek and Big Tallawampa Creek were evaluated during ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
Coffeeville10	Chemical, Biological	2001	Deepest point of Tallawampa Cr. embayment approx. 0.5 mi. us of confluence with Tombigbee R.	48	F&W
LT02U3-21	None conducted	1999	Middle Tallawampa Cr. approx. 0.5 mi. NE of unnamed Choctaw CR	3	F&W
LT4U5-35	Chemical, Habitat	2001	Big Tallawampa Cr. approx. 4.5 mi. us of confluence with Middle Tallawampa Cr.	8	F&W

<u>Tallawampa Creek</u>: Tallawampa Creek was intensively monitored at its embayment to evaluate the nutrient and sediment load to Coffeeville Reservoir (ADEM 2003 rep). The site is located within the Southeastern Floodplains and Low Terraces (65p) subecoregion (Appendix E-1). The mean concentration of total nitrogen was 0.699 mg/L (Appendix F-3a). The mean concentrations of total phosphorus and chlorophyll *a* were relatively low (Appendix F-3a).

Big Tallawampa Creek: Big Tallawampa Creek at LT4U5-35 is a small, riffle-run stream located within the Southern Hilly Gulf Coastal Plain (65d) subecoregion (Appendix F-7a). The substrates are primarily sand, gravel, and cobble. Assessment guidelines have not been established for this subecoregion.

Results of one-time water quality sampling are summarized in Appendix F-7b. The biochemical oxygen demand was 2.0 mg/L. The concentration of nitrate/nitrite-nitrogen was 0.070 mg/L. The concentration of total phosphorus was <0.004 mg/L.

Middle Tallawampa Creek: Middle Tallawampa Creek at LT02U3-21 consisted of standing pools only at the time of the ALAMAP sampling event in 1999. No assessment was conducted (Appendix F-7b).

NPS priority status: Big Tallawampa Creek was a assigned a low potential for NPS impairment. These estimates are supported by results of intensive water quality monitoring which indicated relatively low nutrient concentrations and sediment loading at the Big Tallawampa Creek embayment.

Sub-Watershed: Witch Creek NRCS Sub-Watershed Number 230

Landuse: The Witch Creek sub-watershed drains approximately 38 mi^2 in Clarke County. The SWCD estimated percent land cover as 94% forest. One construction/stormwater and 1 non-coal mining/stormwater authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
94%	1%	2%	0%	0%	1%	2%

NPS impairment potential: The potential for impairment from forestry and sedimentation was estimated as *moderate.* Overall potential for nonpoint source impairment was estimated as *low*. Witch Creek was given a 5th priority sub-watershed rating by the local SWCD. Resource concerns are listed in Table 20b.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	11	0.01 AU/ac	<0.01%	1%	2%	0%	46%	2.9 tons/ac/yr
NPS Potential	L	L	L	L	L	L	M	M
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: An assessment of Witch Creek was not conducted during the 2001 NPS Screening Assessment.

NPS priority status: An assessment has not been recently conducted within the Witch Creek sub-watershed. However, the potential for NPS impairment was estimated to be relatively *low*.

Sub-Watershed: Upper Okatuppa Creek NRCS Sub-Watershed Number 250

Landuse: The Upper Okatuppa Creek sub-watershed drains approximately 66 mi^2 of mainly forested land in Choctaw County. Two current construction/stormwater and 2 non-coal mining/stormwater authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
95%	1%	2%	0%	0%	<1%	2%

NPS impairment potential: The potential for impairment from sedimentation was estimated as *high.* Gullies, streambanks, and critical areas were the main sources of sedimentation (Table 20b). The overall potential for impairment from nonpoint sources was estimated as *low*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	0.00 AU/ac	<0.01%	1%	2%	0%	ur	10.0 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Okatuppa Creek was evaluated at 1 location during ADEM's Clean Water Strategy Project (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
LT14	Chemical	1996	Okatuppa Cr. at Choctaw CR 18	71	F&W

<u>Okatuppa Creek</u>: Okatuppa Creek was evaluated at LT14 during ADEM's 1996 Clean Water Strategy Project (Appendix F-9a). The site is located within the Buhrstone/Limestone Hills (65q) subecoregion. Habitat assessment guidelines have not been established for this subecoregion. Results are summarized in Appendix F-9a.

NPS priority status: The NPS priority status of Okatuppa Creek cannot be determined from available data. However, the potential for NPS impairment was estimated as *low*.

Sub-Watershed: Puss Cuss Creek NRCS Sub-Watershed Number 270

Landuse: The Puss Cuss Creek sub-watershed drains approximately 53 mi^2 in Choctaw County. The SWCD estimated percent land cover as 93% forest. Two construction/storm-water and 1 non-coal mining/stormwater authorization have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
93%	2%	3%	0%	0%	<1%	1%

NPS impairment potential: The potential for impairment from animal operations, primarily poultry broilers, was estimated as *moderate.* The potential for nonpoint source impairment from sedimentation was estimated as *high*. The main sources of sediment were estimated as gullies, stream banks, and developing urban lands (Table 20b). The overall potential for NPS impairment was estimated as *low*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	12	0.21 AU/ac	0.00%	2%	3%	0%	ur	10.3 tons/ac/yr
NPS Potential	L	M	L	L	L	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Puss Cuss Creek was evaluated during ADEM's 2000 ALAMAP Program (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
LT3U4-32	Chemical, Habitat	2000	Puss Cuss Cr. at Choctaw CR 39	13	F&W

<u>Puss Cuss Creek</u>: Puss Cuss Creek was evaluated at LT3U4-32 during October of 2000 (Appendix F-7). It was a small, low-gradient, sand-bottomed stream located within the Buhrstone/Lime Hills (65q) subecoregion (Appendix F-7a). Assessment guidelines have not been established for this subecoregion. Results of one-time water quality sampling are summarized in Appendix F-7b.

NPS priority status: The NPS priority status of Puss Cuss Creek could not be estimated from available data. The local SWCD landuse estimates indicated poultry and sedimentation to be the main NPS concerns within the sub-watershed.

Sub-Watershed: Lower Okatuppa Creek NRCS Sub-Watershed Number 280

Landuse: The Lower Okatuppa Creek sub-watershed drains approximately 169 mi^2 in Choctaw County. The SWCD estimated percent land cover as 91% forest. Three current construction/stormwater and 2 non-coal mining/stormwater authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
91%	1%	5%	0%	1%	<1%	2%

NPS impairment potential: The potential for impairment from sedimentation was estimated as *high* (Table 15b). Erosion and gullies contributed 72% (8.5 tons/ac/yr) of the annual sediment load. Although Lower Okatuppa Creek was assigned a *low* potential for NPS impairment, the sub-watershed was given a 2nd priority sub-watershed rating by the local SWCD for resource concerns listed in Table 20b. There was a *moderate* potential for impairment from urban development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	0.01 AU/ac	<0.01%	1%	5%	0%	ur	11.8 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Okatuppa Creek (LT15), Surveyors Creek (LT2U4-28), and Bogueloosa Creek (LT3U5-18) have been recently evaluated in conjunction with ADEM's ALAMAP Program (Appendix F-7) and Clean Water Strategy Project (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
LT15	Chemical	1996	Okatuppa Cr. at Choctaw CR 14	263	F&W
LT2U4-28	Chemical, Habitat	2000	Surveyors Cr. at unnamed Choctow CR	18	F&W
LT3U5-18	Chemical, Habitat	2001	Bogueloosa Cr. approx. 0.1 mi. ds of Choctaw CR 18	20	F&W

Okatuppa Creek: Okatuppa Creek was evaluated at LT15 during ADEM's 1996 Clean Water Strategy Project (Appendix F-9a). The site is located within the Southeastern Floodplains and Low Terraces (65p) subecoregion for which assessment guidelines have not been established. Results of water quality sampling are located in Appendix F-9a. Although the site was characterized by higher conductivity and nitrogen conentrations than an upstream station (LT14), the 2 sites are located in different subecoregions.

Surveyors Creek: Surveyors Creek at LT2U4-28 is located within the Buhrstone/Lime Hills (65q) subecoregion (Appendix F-7a). The site was characterized by intermittent pools during the site visit in October of 2000. A habitat assessment was not conducted (Appendix F-7a), but results of water quality sampling are located in Appendix F-7b.

Bogueloosa Creek: Bogueloosa Creek at LT3U5-18 is located within the Buhrstone/Lime Hills (65q) subecoregion (Appendix F-7a). Assessment guidelines have not been developed for this region. The site is a low-gradient sand bottomed stream with small areas of more stable substrates. Results of water quality sampling are provided in Appendix F-7b.

NPS priority status: The NPS priority status of Lower Okatuppa Creek cannot be estimated from available data.

Sub-Watershed: Turkey Creek NRCS Sub-Watershed Number 290

Landuse: The Turkey Creek sub-watershed drains approximately 63 mi^2 in Choctaw and Washington Counties. Land cover was primarily forest. Three construction/stormwater authorizations, 2 non-coal mining/stormwater authorizations (<5 acres), and 1 semi-public/private NPDES permit have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
86%	2%	8%	0%	2%	1%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate* due to the potential for impairment from sedimentation and pasture runoff. Turkey Creek was given a 5th priority sub-watershed rating by the local SWCD for resource concerns listed in Table 20b. The potential for impairment from urban development was estimated as *moderate*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	12	0.05 AU/ac	<0.01%	2%	8%	0%	ur	11.6 tons/ac/yr
NPS Potential	M	L	L	L	M	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Three locations within the sub-watershed were assessed during ADEM's 2001 Reservoir Monitoring Program. Eighty years of peak stream flow data from the Tombigbee River at Coffeeville Dam are available at http://waterdata.usgs.gov/nwis/inventory.

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
Coffeeville1	Chemical, Biological	1992, 1995, 1997, 1999, 2001	Deepest point of Tombigbee R. embayment at Coffeeville dam.	18,417	S/F&W
02469761	Chemical	1974-1996, 1966-1979	Coffeeville dam	18,417	S/F&W
Coffeeville11	Chemical, Biological	2001	Deepest point of Okatuppa Cr. embayment approx. 0.5 mi us of Tombigbee R.	312	F&W
Coffeeville12	Chemical, Biological	2001	Deepest point of Turkey Cr. embayment approx. 0.5 mi us of Tombigbee R.	50	F&W

Okatuppa Creek: Okatuppa Creek was monitored at its embayment (Coffeeville11) to evaluate its potential as a source of nutrients and sedimentation to Coffeeville Reservoir. The site is located within the Southeastern and Floodplain Terraces (65p) subecoregion

(Appendix E-1). Data are summarized in Appendix F-3a. Mean total phosphorus and total suspended solid concentrations were the lowest measured within the Coffeeville Reservoir during 2001.

Turkey Creek: Turkey Creek was monitored at its embayment (Coffeeville12), which is located within the Choctaw National Wildlife Refuge, to evaluate its potential as a source of nutrients and sedimentation to Coffeeville Reservoir. The site is located within the Southeastern and Floodplain Terraces (65p) subecoregion (Appendix E-1). The mean total nitrogen was similar to concentrations measured in Okatuppa Creek. Mean total phosphorus and total suspended solid concentrations were higher, however (Appendix F-3a).

Tombigbee River: The Tombigbee River was monitored monthly at Coffeeville1, April-October of 2001 (Appendix F-3a). The mean concentrations of total nitrogen and total phosphorus were 0.565 mg/L and 0.073 mg/L, respectively. Mean chlorophyll *a* concentration was the lowest observed within the Tombigbee River basin.

NPS priority status: The potential for NPS impairment within the Turkey Creek sub-watershed was estimated as *moderate*. However, intensive water quality monitoring indicated nutrient concentrations and sediment loading from Okatuppa Creek and Turkey Creek to be relatively low.

Sucarnoochee River CU (0316-0202)

The Sucarnoochee River CU contains 5 sub-watersheds, 3 of which are located primarily within Sumter County, Alabama (Fig. 28). They flow through Kemper and Lauderdale Counties, Mississippi before draining approximately 383 mi^2 in Sumter County, Alabama. The CU is located within the Blackland Prairie (65a), Flatwoods/Blackland Prairie Margins (65b), Southern Hilly Gulf Coastal Plain (65d), and Southeastern Floodplains and Low Terraces (65p) (Fig. 29) (Griffith et al. 2001). It flows through the Blackland Prairie and Major Floodplains and Terraces soil areas (ACES 1997).

Landuse: Based on the conservation assessment worksheets completed (1998) by the local SWCDs, the primary landuses throughout Sucarnoochee River CU were forest, pasture, and croplands. The number crop and pastureland acres treated with pesticides and/or herbicides was not reported for any of the 3 sub-watersheds located primarily within Alabama.

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	**Row crop**	**Pasture**	**Mining**	**Urban**	**Open Water**	**Other**
54%	8%	29%	<1%	4%	3%	2%

NPS impairment potential: Potential for nonpoint source impairment was *high* or *moderate* for the 3 sub-watersheds located primarily within Alabama (Fig. 30). Sedimentation (Fig. 35) and runoff from pasture (Fig. 31) and crop lands (Fig. 32) were the primary nonpoint source concerns. There was a *moderate* potential for impairment from urban sources within one (080) sub-watershed (Table 15b).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15b).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	2	1	1	3	1	1	0	0
High	1	0	1	0	1	0	1	3

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15b).

Category	**% Urban**	**Development**	**Septic tank failure**
Moderate	1	2	2
High	0	0	0

Historical data/studies: Table 16b lists the sub-watersheds and water bodies in which data have been previously collected in conjunction with other monitoring programs. The table

also lists the appendices where these data are provided. Recent assessment information has been collected in all 3 sub-watersheds primarily located in Alabama (Fig. 37).

2001 NPS screening assessments: The Lower Sucarnoochee River (080) and Kinterbish Creek (100) sub-watersheds were targeted for assessment during the 2001 NPS screening assessment because they had the highest potential for impairment from nonpoint sources within the CU (Fig. 38). Stations descriptions are provided in Table 17b.

Sub-watershed summaries: A summary of the information available for each of the 5 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. Assessment of habitat, biological, and chemical conditions are based on long-term data from ADEM's Ecroegional Reference Site Program. Tables referenced in the summaries are located at the end of the summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Habitat, chemical/physical, and biological assessments conducted in the CU are summarized in Table 18b. Habitat and macroinvertebrate assessments were attempted at 6 stations (Fig. 43), but assessments were prevented at 4 stations because of severe low flow conditions or assessment guidelines for rating habitat quality and EPT screening assessments have not yet been developed for the region. Habitat quality was assessed as *excellent* or *good* at the remaining 2 stations. Macroinvertebrate assessments conducted at 2 stations indicated the macroinvertebrate community to be in *good* condition. Fish IBI assessments were conducted at the 2 stations located within the Southern Hilly Gulf Coastal Plain (65d) subecoregion (Fig. 44). Results indicated the fish community to be in *good* condition at one station and *fair* condition at one station.

Overall condition for each station was rated as the lowest assessment result obtained (Table 18b). Assessment results indicated biological conditions to be *good* at 2 stations and *fair* at 2 stations.

NPS priority sub-watersheds: Lower Sucarnoochee River (080) and Alamuchee Creek (100) were recommended as priority sub-watersheds (Fig. 45).

Fig. 43. Habitat and aquatic assessments conducted in the Sucarnoochee River CU.

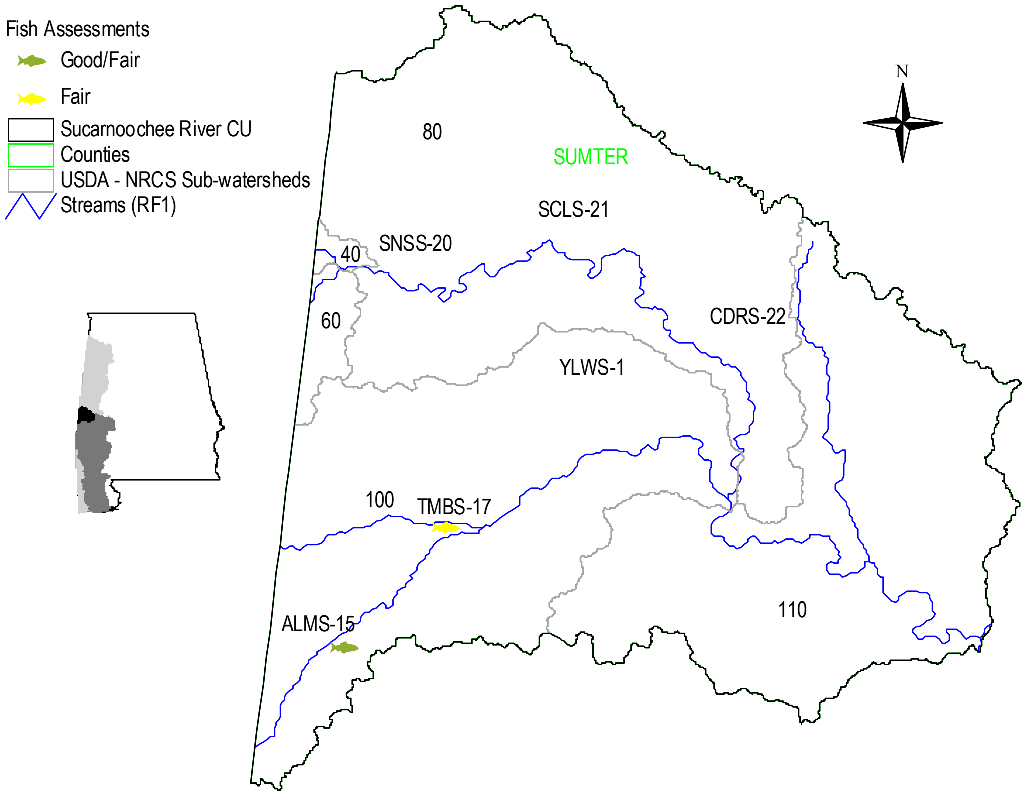

Fig. 44. Results of fish IBI assessments conducted in the Sucarnoochee River CU.

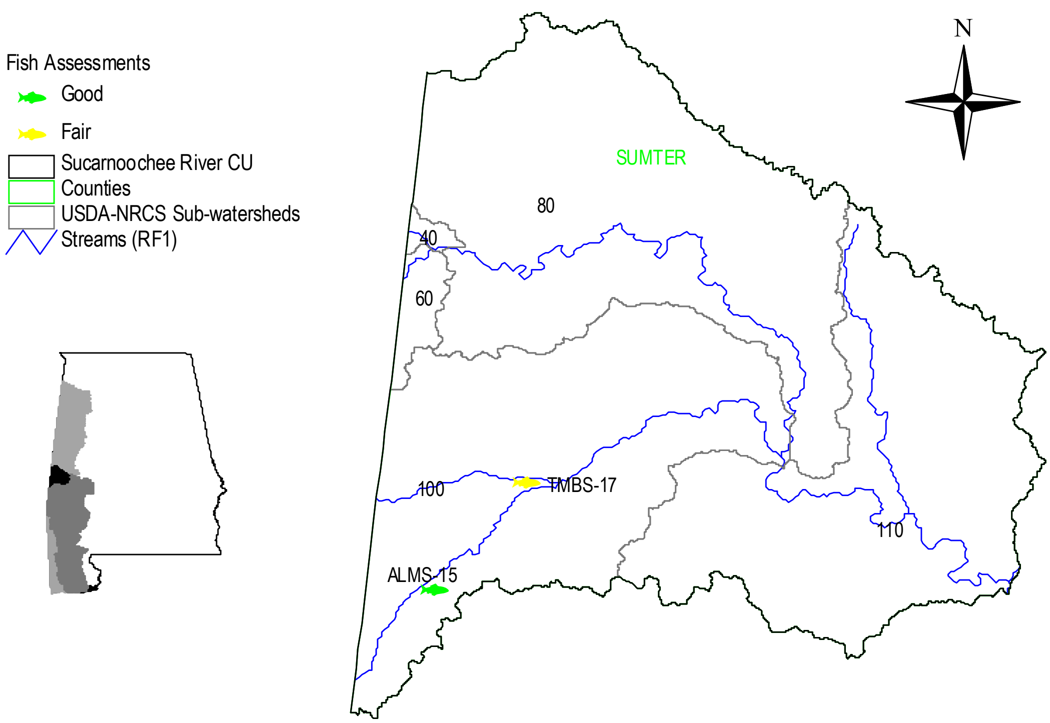

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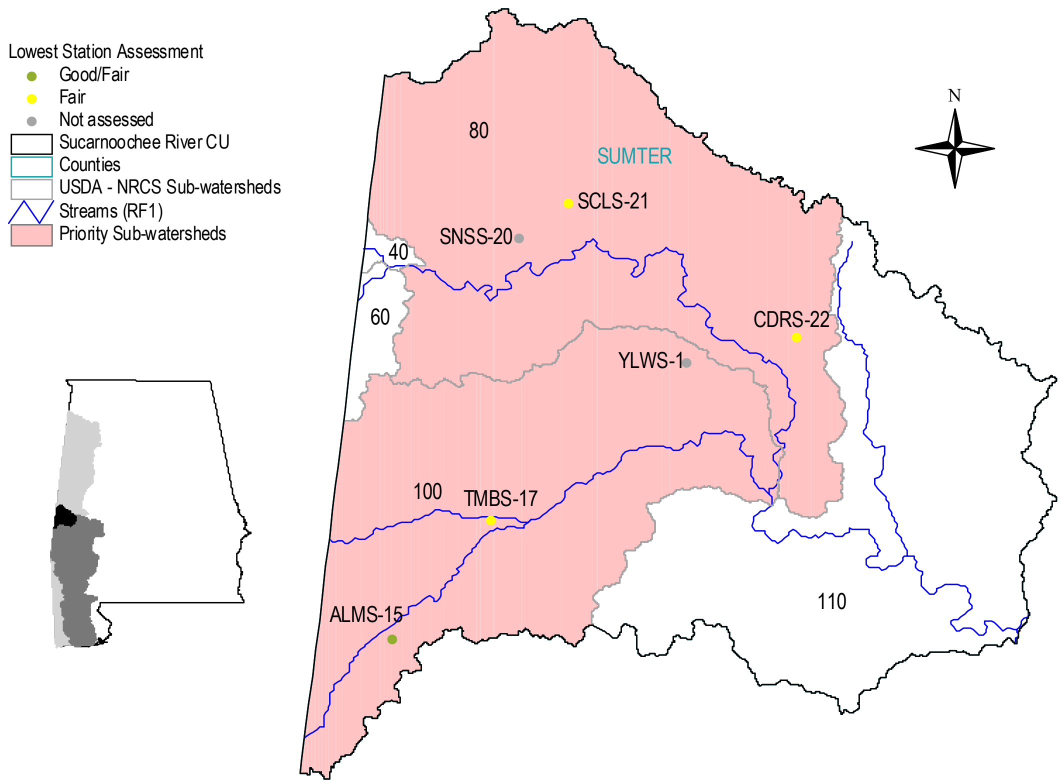
Fig. 45. Priority sub-watersheds located within the Sucarnoochee River CU. The lowest bioassessment rating obtained by each site is also shown.



Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed		**Lowest Station Assessment**	**Suspected Cause(s)**	**Suspected nonpoint source(s)**
080	Lower Sucarnoochee River	Fair	Sedimentation, Nutrient enrichment, Habitat degradation	Pasture and crop land runoff, Aquaculture, Animal husbandry
100	Alamuchee Creek	Fair	Nutrient enrichment, Sedimentation	Runoff from crop, forestry, and mining lands

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Sub-Watershed: Upper Sucarnoochee River NRCS Sub-Watershed Number 040

Landuse: The Upper Sucarnoochee River sub-watershed drains approximately 2 mi^2 in Sumter County. The SWCD did not estimate percent land cover for the sub-watershed. One construction/stormwater authorization has been issued in the sub-watershed (Table 13b).

NPS impairment potential: The potential for impairment nonpoint sources was not estimated for the Upper Sucarnoochee River sub-watershed.

Assessments: An assessment of the Upper Sucarnoochee River has not been conducted.

NPS priority status: The NPS priority status of Upper Sucarnoochee River was not assessed.

Sub-Watershed: Ponta Creek **NRCS Sub-Watershed Number 060**

Landuse: Sumter County, Alabama contains 7 mi^2 of the Ponta Creek headwaters before it flows into Mississippi. The SWCD did not estimate percent land cover for the sub-watershed. One construction/storm-water and 2 non-coal mining/stormwater authorizations have been issued in the sub-watershed (Table 13b).

NPS impairment potential: The potential for impairment nonpoint sources was not estimated for the Ponta Creek sub-watershed.

Assessments: An assessment of the Ponta Creek sub-watershed has not been conducted.

NPS priority status: The NPS priority status of Ponta Creek was not assessed.

Sub-Watershed: Lower Sucarnoochee River NRCS Sub-Watershed Number 080

Landuse: The Lower Sucarnoochee River sub-watershed drains approximately 140 mi^2 in Sumter County. Land cover within the sub-watershed was primarily pasture mixed with forest and crop land. Four construction/stormwater authorizations, 3 non-coal mining/stormwater authorizations, and 1 municipal NPDES permit have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
12%	10%	63%	0%	7%	6%	2%

NPS impairment potential: The overall potential for nonpoint source impairment was estimated as *high*. Runoff from pasture and crop lands, sedimentation, aquaculture, and animal husbandry (primarily cattle) were all NPS concerns within the sub-watershed. Percent pasture was the 2nd highest within the EMT accounting units. Erosion from developing urban land contributed 39% (4.2 tons/ac/yr) to the annual sediment load within the sub-watershed (Table 20b). Gully erosion was another major source of sediment, contributing 3.8 tons/ac/yr. There were *moderate* potentials for impairment from septic tank failure, urban development, and runoff from urban areas.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	23	0.21 AU/ac	0.45%	10%	63%	0%	9%	10.8 tons/ac/yr
NPS Potential	H	M	H	M	H	L	L	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Cedar Creek (CDRS-22) and Sicolocco Creek (SCLS-21) were monitored during the 2001 NPS Screening Assessment (Table 17b). A station established on Sanusi Creek (SNSS-20) could not be assessed due to low flow conditions. The Sucarnoochee River has been intensively monitored in conjunction with ADEM's Reservoir Monitoring Program (Appendix F-3) and a statewide tributary monitoring project (Appendix F-4). It has also been evaluated in conjunction with ADEM's Clean Water Strategy Project (Appendix F-9). Stream flow at the site has been monitored by USGS since 1938 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
CDRS-22	Chemical, Habitat, Biological	2001	Cedar Cr. at AL Hwy 28	8	F&W
SCLS-21	Chemical, Habitat, Biological	2001	Sicolocco Cr. at AL Hwy 28	20	F&W
SNSS-20	None conducted	2001	Sanusi Cr. at AL Hwy 17	17	F&W
SUCS-1	Chemicall	2001	Sucarnoochee R. at US Hwy 11	607	PWS/S/F&W
SURUA01	Chemical	1998-1999	Sucarnoochee R. at US Hwy 11	607	PWS/F&W
02467500	Chemical	1938-2001	Sucarnoochee R. at US Hwy 11	607	PWS/S/F&W
LT02	Chemical	1996	Sucarnoochee R. at US Hwy 11	607	PWS/S/F&W
LT01	Chemical	1996	Sucarnoochee R. at unnamed Sumter CR	486	F&W

Cedar Creek: At CDRS-22, Cedar Creek is a low-gradient, sand-bottomed stream located within the Blackland Prairie (65a) subecoregion (Table 21b). Habitat quality was greatly affected by sediment deposition. Cows had direct access to the creek. Filamentous algae was noted at bridge crossing downstream of stream reach, suggesting nutrient enrichment at the site. Habitat quality was assessed as *fair* due to sediment deposition, eroded streambanks, and the lack of a riparian buffer (Table 21b). Despite habitat impairment, 6 EPT families were collected at the site, indicating the macroinvertebrate community to be in *good* condition (Table 22b).

Screening level water quality data were collected in May and September 2001 (Appendix D-1). Conductivity was measured at 510 µmhos in September and 516 µmhos in May. Fecal coliform concentrations were 450 colonies/100 mL in September and >800 colonies/100mL in May. Alkalinity, hardness, and total dissolved solids were elevated during both sampling events. Nutrient concentrations were similar to reference conditions.

Sicolocco Creek: At SCLS-21, Sicolocco Creek is a low-gradient, clay-bottomed stream located within the Blackland Prairie (65a) subecoregion (Table 21b). Although habitat quality was assessed as *good*, the site lacked a good riparian buffer from pastures (Table 21b). Four EPT families were collected, indicating the macroinvertebrate community at the site to be in *fair* condition (Table 22b).

Screening level water quality data was collected in May and September 2001 (Appendix D-1). Conductivity was 502 µmhos during the May sampling event. The concentration of fecal coliform was >700 colonies/ 100 mL. In May, alkalinity and hardness were 217 mg/L and 225 mg/L, respectively. During the September sampling event, biochemical oxygen demand was 4.3 mg/L and total Keldahl nitrogen was 1.36 mg/L. The concentration of total dissolved solids was elevated during both sampling events.

Sucarnoochee River: At SURUA01 (SUCS-1, LT02), Sucarnoochee River is located within the Blackland Prairie (65a) subecoregion (Appendix E-1). The site was intensively monitored from November 1998 through October of 1999 (Appendix F-4a). Flow ranged from 87 cfs in September 1999 to 3,840 cfs in March 1999. Total suspended solids, total Keldahl nitrogen, and total phosphorus were elevated during high flows.

The site (SUCS-1) was intensively monitored by ADEM, April 2001 through February 2002 (Appendix F-2c). Nutrient concentrations were similar to reference conditions. Total suspended solids were 36 mg/L and 96 mg/L during August and September 2001. Fecal coliform concentration was 1,520 colonies/100 mL during September 2001. Flows were not measured during the study.

The site (LT02) was evaluated by ADEM during the 1996 Clean Water Strategy Project. Sucarnoochee River was also evaluated during the project at LT01. Data collected from both sites are presented in Appendix 9a.

NPS priority status: The Lower Sucarnoochee River was identified as a NPS priority sub-watershed. Runoff from pasture and crop lands, sedimentation, aquaculture, and animal husbandry (primarily cattle) were all NPS concerns within the sub-watershed. The macroinvertebrate community was assessed as *fair* at SCLS-21. Habitat condition was impaired at CDRS-22 and SCLS-21. The presence of filamentous algae and high biochemical oxygen demand suggest some nutrient enrichment at both sites. Intensive water quality monitoring indicated nutrient enrichment at a downstream location as well.

Sub-Watershed: Alamuchee Creek NRCS Sub-Watershed Number 100

Landuse: The Alamuchee Creek sub-watershed drains approximately 119 mi^2 in Sumter County. Land cover was forest with small areas of crop and pasture. A total of 7 stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
81%	7%	7%	1%	2%	1%	2%

NPS impairment potential: The potential for NPS impairment from crop and mining lands was estimated as *moderate*. The potential for impairment from forestry lands and sedimentation was estimated as *high.* Erosion from developing urban lands contributed 50% (5.5 tons/ac/yr) of the total annual sediment load (Table 20b). Alamuchee Creek was given a 5th priority sub-watershed rating by the local SWCD for resource concerns listed in Table 20b. The potential for impairment from septic failure was *moderate* (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	19	0.05 AU/ac	<0.01%	7%	7%	1%	59%	11.0 tons/ac/yr
NPS Potential	M	L	L	M	L	M	H	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Alamuchee Creek (ALMS-15) and Toomsuba Creek (TMBS-17) were monitored during ADEM's 2001 NPS Screening Assessment (Table 20b). Yellow Creek (YLWS-1) was assessed during ADEM's CWA §303(d) Monitoring Program (Appendix F-2). Alamuchee Creek has also been evaluated at several other locations in conjunction with ADEM's ALAMAP Program (Appendix F-7) and Clean Water Strategy Project (Appendix F-9).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
ALMS-15	Chemical, Habitat, Biological	2001	Alamuchee Cr. at Sumter CR 10	48	F&W
LT03	Chemical	1996	Alamuchee Cr. at Sumter CR 10	48	F&W
LT01U1	Chemical, Habitat	1997	Alamuchee Cr. approx. 1.0 mi us of confluence with Toomsuba Cr.	80	F&W
LT01U2-3	Chemical, Habitat	1998	Alamuchee Cr. approx. 20.8 mi. us of confluence with Sucarnoochee R.	78	F&W
LT01U3-3	Chemical, Habitat	1999	Alamuchee Cr. approx. 0.5 mi. us of AL Hwy 17	80	F&W
LT1U4-3	Chemical, Habitat	2000	Alamuchee Cr. approx. 0.8 mi. us of AL Hwy 17	79	F&W
LT1U5-3	Chemical, Habitat	2001	Alamuchee Cr. approx. 0.8 mi. us of AL Hwy 17	79	F&W
LT04	Chemical	1996	Alamuchee Cr. at Sumter CR 13	208	F&W
TMBS-17	Chemical, Habitat, Biological	2001	Toomsuba Cr. at US Hwy 11	84	PWS/F&W
YLWS-1	Chemical	2001	Yellow Cr. at US Hwy 11	5	F&W

Alamuchee Creek: At ALMS-15, Alamuchee Creek is a low-gradient, sandy-bottomed stream in the Southern Hilly Gulf Coastal Plain (65d) subecoregion (Table 21b). Snags and log jams were common. Erosion of banks and sediment deposition were noted during the site visit. Ten EPT families were collected at the site. However, reference conditions have not been developed for the subecoregion (Table 22b). A fish IBI survey conducted duing May 2001 assessed the site as *good/fair* (Table 22b).

In-situ parameters and water quality samples were collected in May and September 2001 (Appendix D-1). Dissolved oxygen, temperature, and pH met Fish and Wildlife water use classification criteria. Assessment guidelines for other parameters have not been developed.

The location LT03 was evaluated during ADEM's 1996 Clean Water Strategy Project. Alamuchee Creek at LT04 was also evaluated during the project. Data from both sites are summarized in Appendix F-9a.

Alamuchee Creek has been evaluated annually since 1997 in conjunction with ADEM's ALAMAP Program (Appendix F-7). Habitat assessment results are located in Appendix F-7a, but reference conditions have not been established for the Southern Hilly Gulf Coastal Plain. Dissolved oxygen, temperature, and pH met Fish and Wildlife water use classification criteria (Appendix F-7b).

Toomsuba Creek: Toomsuba Creek at TMBS-17 is a low-gradient, sand-bottomed stream located within the Southern Hilly Gulf Coastal Plain (65d) subecoregion (Table 21b). Assessment guidelines for habitat quality and macroinvertebrate communities have not been developed for this subecoregion. However, comparison with results obtained at ALMS-15 indicated a slightly lower habitat assessment score due to lower instream habitat quality and less riparian buffer. Only 5 EPT families were collected at the site in May 2001, half as many as were collected at ALMS-15 (Table 22b). A fish IBI survey conducted in July 2001 assessed the fish community as *fair* (Table 22b).

In-situ parameters and water quality samples were collected in May, July, and September 2001 (Appendix D-1). Dissolved oxygen, temperature, and pH met Fish and Wildlife water use classification criteria. Assessment guidelines for other parameters have not been developed.

<u>Yellow Creek</u>: Yellow Creek was intensively monitored at YLWS-1 from April 2001 through January 2002 (Apendix F-2c). The site is located within the Flatwoods/Blackland Prairie Margins (65b) subecoregion (Appendix E-1). Dissolved oxygen concentrations ranged from 1.3 mg/L during the July 2001 sampling event to 8.6 mg/L during February 2002. The pH was relatively low for the subecoregion. Turbidity and fecal coliform concentrations were periodically elevated. Biochemical oxygen demand and nutrient concentrations (ammonia-nitrogen, total Kjeldahl nitrogen, and total phosphorus) were also periodically elevated.

NPS priority status: Alamuchee Creek is recommended as a NPS priority sub-watershed. Runoff from crops, mining, and forest harvesting were NPS concerns within the sub-watershed. An IBI survey indicated the fish community of Toomsuba Creek at TMBS-17 to be in *fair* condition. Although macroinvertebrate assessment guidelines have not been developed for the subecoregion, only half as many EPT families were collected at this site in comparison to a similar site at ALMS-15. Intensive monitoring at Yellow Creek indicated nutrient enrichment.

Sub-Watershed: Ponkabia Creek NRCS Sub-Watershed Number 110

Landuse: The Ponkabia Creek sub-watershed drains approximately 115 mi^2 in Sumter County. Land cover was forest with some pasture and crop lands. Two construction/stormwater authorizations and 7 non-coal mining/stormwater authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
76%	5%	12%	0%	2%	3%	2%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* The main NPS concerns were runoff from crop and pasture lands, aquaculture, and sedimentation. Developing urban land and gullies were the primary sources of the annual sediment load.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	17	0.03 AU/ac	0.10%	5%	12%	0%	12%	4.6 tons/ac/yr
NPS Potential	M	L	M	M	M	L	L	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Sucarnoochee River embayment was intensively monitored during ADEM's 2001 Reservoir Monitoring Program (Appendix F-3). The Tombigbee River was historically evaluated during ADEM's Ambient Monitoring Program, 1974-1980 (ADEM, In press).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
T-1	Chemical	1974-1980	Tombigbee River at US Hwy 80		F&W
Coffeeville4	Chemical, Biological	2001	Deepest point of Sucarnoochee Cr. embayment approx. 0.5 mi us of Tombigbee	974	F&W

<u>Sucarnoochee River</u>: Sucarnoochee River was monitored at Coffeeville4 to evaluate the nutrient and sediment loading to Coffeeville Reservoir from this source. The site is located at the mouth of Sucarnoochee River in the Southeastern Floodplains and Low Terraces (65p) subecoregion (Appendix E-1). Results of monitoring conducted April through October of 2001 are summarized in Appendix F-3a. The mean total nitrogen at the site was the lowest concentration within the Tombigbee River basin. Mean total phosphorus was 0.081 mg/L. The mean TSI value was 45, indicating mesotrophic

conditions within the embayment. The mean total suspended solids was 42.4 mg/L, the highest value obtained within the Coffeeville Reservoir.

NPS priority status: The NPS priority status of Ponkabia Creek was not estimated from available data. The main NPS concerns were runoff from crop and pasture lands, aquaculture, and sedimentation. Intensive water quality data suggest Sucarnoochee River to be a potential source of sediment loading to the Coffeeville Reservoir.

Lower Tombigbee River CU (0316-0203)

The Lower Tombigbee River CU contains 14 sub-watersheds located within Washington and Clarke Counties in southwest Alabama (Fig. 28). The CU drains approximately 1,620 mi^2 of the Coastal Plain, Major Floodplains and Terraces, and the Blackland Prairie soil areas (ACES 1997). It is located in the Southern Pine Plains and Hills (65f), Southeastern Floodplains and Low Terraces (65p), and Buhrstone/Lime Hills (65q) subecoregions of the Southeastern Plains Ecoregion (65) (Fig. 29) (Griffith et al. 2001).

Landuse: Based on the conservation assessment worksheets completed (1998) by the local SWCDs, the Lower Tombigbee River CU was almost completely forested. The number of acres of crop and pasture treated with pesticides and/or herbicides was only estimated for 2 sub-watersheds. A 65-acre area of the Olin Basin is currently on ADEM's CWA §303(d) list of impaired waters for metals and pesticide contamination of sediments (Table 14b).

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
92%	1%	3%	0%	1%	<1%	2%

NPS impairment potential: Potential for nonpoint source impairment was generally *low*. Forestry (Fig. 33) and sedimentation (Fig. 35) were the primary nonpoint source concerns. Three sub-watersheds were estimated to have a *moderate* potential for impairment from nonpoint sources. None of the sub-watersheds rated a *high* for NPS impairment, but forestry was a significant nonpoint source concern throughout the CU.

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15b).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry (13 Reported)	Sediment
Moderate	3	0	1	1	1	0	4	3
High	0	0	0	0	0	0	9	3

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15b).

Category	% Urban	Development	Septic tank failure
Moderate	1	7	2
High	0	0	0

Historical data/studies: Table 16b lists the sub-watersheds and water bodies in which data have been previously collected in conjunction with other monitoring programs. The table

also lists the appendices where these data are provided. Recent assessment information has been collected in 6 of the 14 sub-watersheds in the CU (Fig. 37).

2001 NPS screening assessments: The Tauler Creek (050) and East Bassetts Creek (090) sub-watersheds were targeted for assessment because they had a *moderate* potential for impairment from nonpoint sources (Fig. 38). Station descriptions are summarized in Table 17b.

Sub-watershed summaries: A summary of the information available for each of the 14 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. Assessment of habitat, biological and chemical conditions are based on long-term data from ADEM's Ecroegional Reference Site Program. Tables referenced in the summaries are located at the end of the summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Table 18b summarizes habitat, chemical/physical, and biological assessments conducted at 11 stations in 5 sub-watersheds. Fig. 57 shows the results of habitat and macroinvertebrate assessments conducted within the CU. Habitat quality was assessed as *excellent* at 3 (100%) stations. Results of macroinvertebrate assessments indicated the macroinvertebrate community to be in *good* condition at one station (33%), *fair* at one station (33%), and *poor* condition at one (33%) station. Habitat quality and condition of the macroinvertebrate community could not be assessed at 6 stations because assessment guidelines have not been developed for the Southern Hilly Gulf Coastal Plain (65d) or the Buhrstone/Lime Hills (65q) subecoregions, delineated in 2001. Fish IBI assessments were conducted at 4 of the stations located within the Buhrstone/Lime Hills (Fig. 58). Results of these assessments indicated the fish community to be in *good* condition at one (25%) station, *fair* condition at one (25%) station, and fair/poor condition at 2 (50%) stations.

Overall condition for each station was rated as the lowest assessment result obtained (Table 18b). Two (28%) stations were assessed as *good*. Four (57%) stations were assessed as *fair* or *fair/poor* and 1 (14%) station was assessed as *poor*. Three of the 5 stations assessed as *fair* or *poor* were impacted by urban sources. Assessment results at one station on Ulcanush Creek (ULCC-1) may have been affected by the presence of beaver dams. One station located within East Bassett's Creek (090) sub-watershed was primarily impacted by nonpoint sources.

NPS priority sub-watersheds: Little Bassett Creek, located within East Bassett's Creek (090), was recommended as priority sub-watershed (Fig. 48).

Fig. 46. Habitat and macroinvertebrate assessments conducted within the Lower Tombigbee River CU.

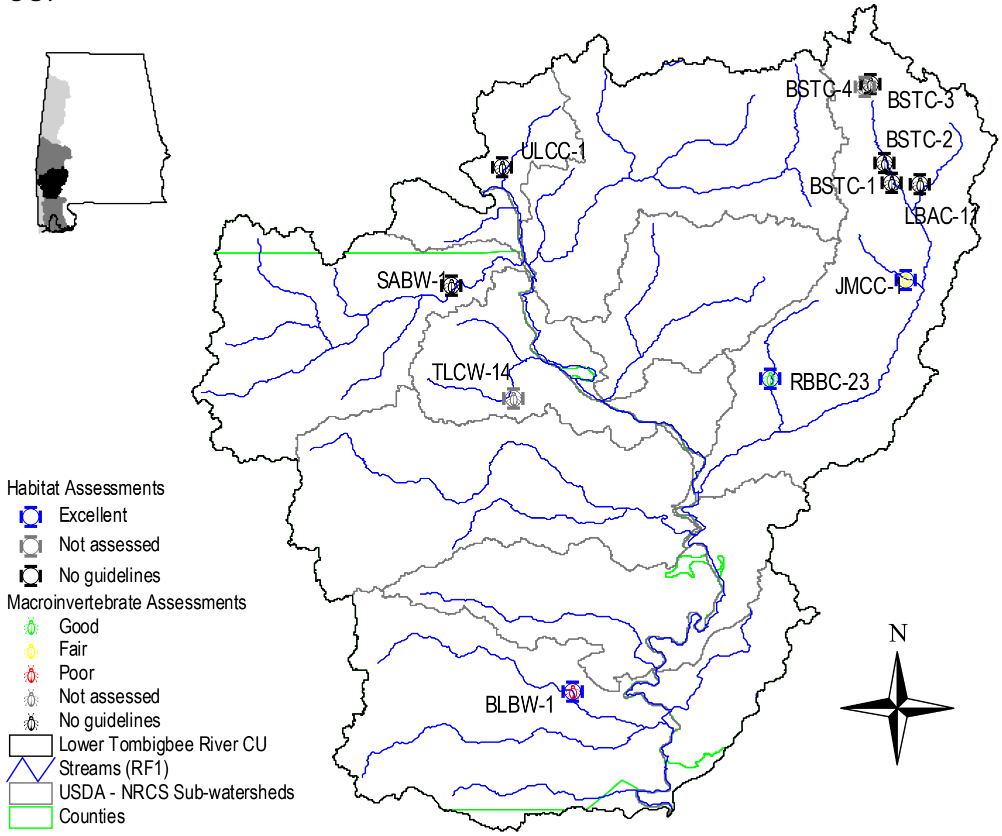

Fig. 47. Results of fish IBI assessments conducted in the Lower Tombigbee River CU.

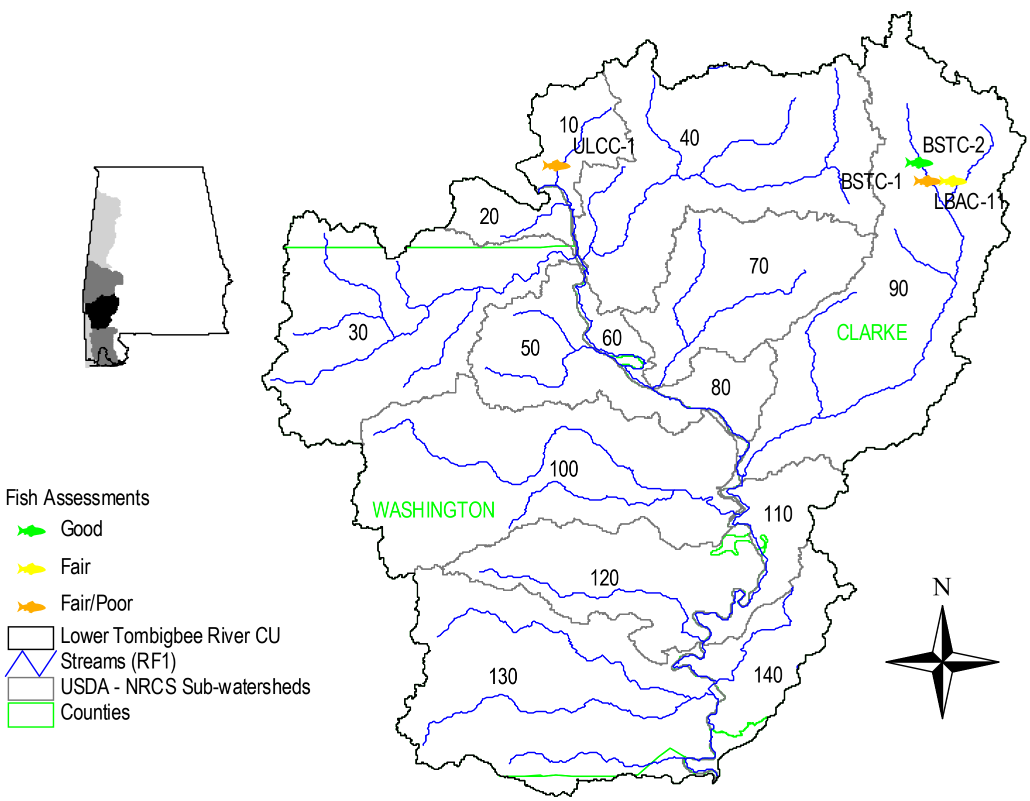

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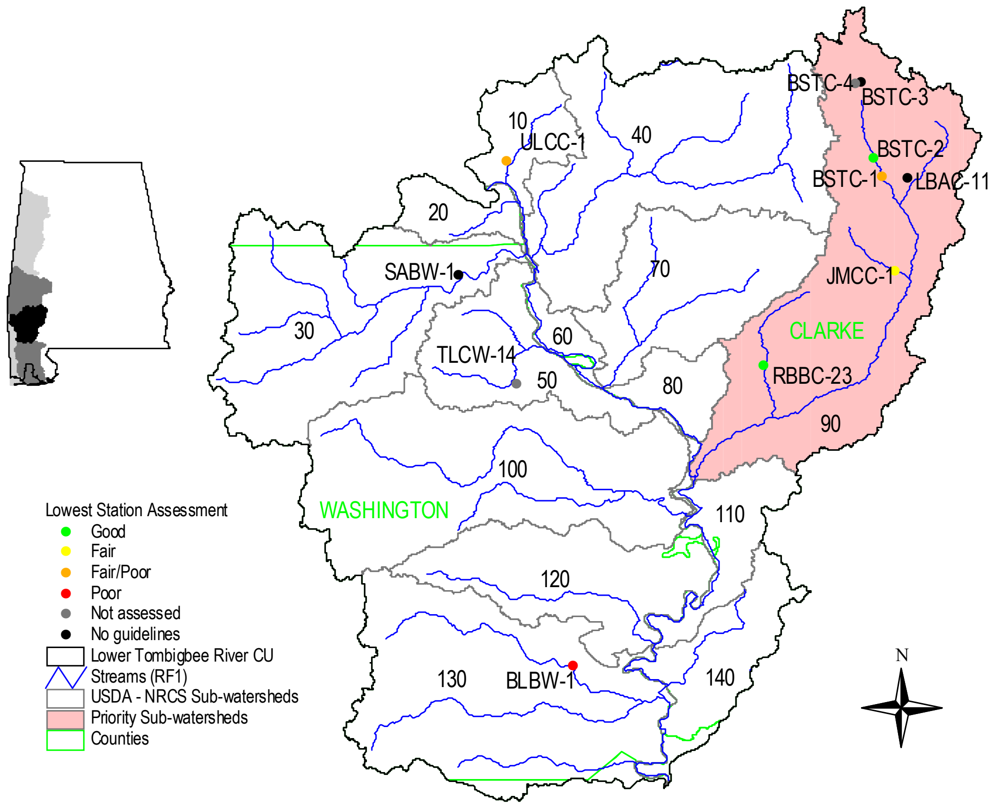
Fig. 48. Priority sub-watersheds within the Lower Tombigbee River CU. Lowest bioassessment result obtained at each station is also shown.



Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed		Lowest Station Assessment	Suspected Cause(s)	Suspected nonpoint source(s)
090	East Bassett's Creek	Fair/Poor	Nutrient enrichment, Sedimentation	Forestry, Pasture runoff

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Sub-Watershed: Ulcanush Creek NRCS Sub-Watershed Number 010

Landuse: The Ulcanush Creek sub-watershed drains approximately 40 mi^2 in Clarke County. Land cover within the sub-watershed was mainly forest. One current construction/stormwater and 2 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
88%	2%	6%	0%	3%	<1%	1%

NPS Impairment Potential: The potential for impairment from forestry activities and sedimentation was *moderate*. The overall potential for impairment from nonpoint sources was estimated as *low*. There was a *moderate* potential for impairment from septic tank failure.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	11	0.02 AU/ac	<0.01%	2%	6%	0%	43%	2.7 tons/ac/yr
NPS Potential	L	L	L	L	L	L	M	M
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: One station was monitored by ADEM (ULCC-1) on Ulcanush Creek during 1995 and 2001 in conjunction with ADEM's reference site program (Appendix F-1). Camp Creek was monitored during 2001 in conjunction with ADEM's 303(d) Monitoring Program (Appendix F-2).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
ULCC-1	Chemical, Habitat, Biological	1995, 2001	Ulcanush Cr. at Clarke CR31	33	F&W

<u>Ulcanush Creek</u>: Ulcanush Creek at ULCC-1 was sampled during 1995 and 2001 for use as an ecoregional reference site for streams in the Southeastern Pine Plains and Hills (65e) subecoregion. However, in 2001, the subecoregions of Alabama were modified, due in large part to data collected during ADEM's Ecoregional Reference Site Program. As a result, the site is now located within the Buhrstone/Lime Hills (65q) subecoregion (Appendix F-1a). At ULCC-1, Ulcanush Creek is a low gradient stream characterized by sand, gravel, and detritus substrates. Fourteen and 12 EPT families have been collected at the site (Appendix F-1b). Results from Ulcanush Creek and other reference stations will be used to develop reference conditions for the newly delineated subecoregion. A fish IBI

survey indicated the fish community to be in *fair/poor* condition (Appendix F-1b). Water quality data collected in 1995 and 2001 is provided in Appendix F-1c.

NPS priority status: SWCD landuse estimates indicated a low potential for NPS impairment within the sub-watershed, supporting ADEM's use of Ulcanush Creek as an Ecoregional Reference Site since 1995. However, the fish community was assessed as *fair/poor* during 2001.

Sub-Watershed: Seyouyah Creek NRCS Sub-Watershed Number 020

Landuse: The Seyouyah Creek sub-watershed drains approximately 25 mi^2 in Choctaw and Washington Counties. The sub-watershed was primarily forested. Three current construction/stormwater authorizations and 2 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 9b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
98%	1%	<1%	0%	0%	<1%	2%

NPS impairment potential: The potential for impairment from sedimentation was estimated as *high*. Gully erosion contributed 46% (4.8 tons/ac/yr) of the total annual sediment load within the sub-watershed. Streambanks and critical areas were also sustantial sources of sedimentation (Table 20b) Potential for impairment from other nonpoint source categories was estimated as *low*. There was a *moderate* potential for impairment from urban development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	10	<0.01 AU/ac	<0.01%	1%	<1%	0%	ur	10.4 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: The Seyouyah Creek sub-watershed has not been recently assessed.

NPS priority status: NPS priority status could not be determined with the available data. Seyouyah Creek was not at a high risk for impairment from nonpoint sources.

Sub-Watershed: Santa Bogue Creek NRCS Sub-Watershed Number 030

Landuse: The Santa Bogue Creek sub-watershed encompassess 181 mi^2 in Choctaw and Washington Counties. Land cover was primarily forest. Two current construction/ stormwater authorizations, 2 non-coal mining/stormwater (<5 acres) authorizations, and 1 municipal NPDES permit have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
90%	2%	5%	0%	<1%	1%	1%

NPS impairment potential: The potential for NPS impairment was rated as *moderate*, due to potential impairment associated with forestry activities and sedimentation. Santa Bogue was given a 2nd priority sub-watershed rating by the Washington County SWCD.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	15	0.07 AU/ac	0.01%	2%	5%	0%	55%	5.0 tons/ac/yr
NPS Potential	M	L	L	L	L	L	H	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Santa Bogue Creek was monitored during ADEM's 2001 CWA §303(d) Monitoring Program (Appendix F-2). A second location was evaluated during ADEM's 1997 ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
SABW-1	Chemical, Habitat, Biological	2001	Santa Bogue Cr. at Washington CR 31	167	S/F&W
LT02U1	Chemical, Habitat	1997	Santa Bogue approx. 7.0 mi. us of confluence with Tombigbee R.	150	S/F&W

Santa Bogue Creek: AT SABW-1, Santa Bogue Creek is a low-gradient, sand-bottomed stream located within the Buhrstone/Lime Hills (65q) subecoregion delineated in 2001 (Griffith et al. 2001). Ten EPT families were collected at the site. Assessment guidelines have not been developed for the subecoregion, however (Appendix F-2b).

Intensive water quality data were collected at SABW-1 from May 2001 through February 2002 (Appendix F-2c). Dissolved oxygen concentrations ranged from 6.0 mg/L in October of 2001 to 12.0 mg/L in February 2002. Fecal coliform was >1,000 colonies/100mL during 2 (4%) of 16 sampling events.

Santa Bogue Creek at LT02U1 is a glide-pool stream located within the Buhrstone/Lime Hills (65q) subecoregion. Data are provided in Appendix F-7a. Assessment guidelines have not been developed for the subecoregion.

Water quality was evaluated in August 1997 (Appendix F-7b). Temperature, dissolved oxygen, and pH met Fish and Wildlife water use classification criteria. Assessment guidelines for other parameters have not been developed.

NPS priority status: Forestry activities and sedimentation were the main NPS pollution concerns within the sub-watershed. Assessment guidelines have not been developed for the Buhrstone/Lime Hills subecoregion.

Sub-Watershed: Satilpa Creek NRCS Sub-Watershed Number 040

Landuse: The Satilpa Creek sub-watershed drains approximately 213 mi^2 in Clarke County. The SWCD estimated land cover within the sub-watershed to be 96% forest. Three current construction/stormwater authorizations, 2 non-coal mining/stormwater (<5 acres) authorizations, and 1 semi-public/private NPDES permits have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
96%	1%	1%	0%	1%	0%	2%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *low.* However, potential impairment from forestry activities and sedimentation was a concern within the sub-watershed. The potential for impairment from urban development was estimated as *moderate*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	13	0.01 AU/ac	<0.01%	1%	1%	0%	47%	2.7 tons/ac/yr
NPS Potential	L	L	L	L	L	L	H	M
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Three locations have been evaluated within the sub-watershed as part of ADEM's ALAMAP Program (Appendix F-7) and Clean Water Strategy Project (Appendix F-9). Longterm water quality and stream flow data have been collected at a USGS Surface Water Station located on Satilpa Creek (http://waterdata.usgs.gov/nwis/inventory). Peak stream flow data from Harris Creek have been collected at a USGS Surface Water Station, 1995-2001 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
LT5U5-47	Chemical, Habitat	2001	Tributary to Satilpa Cr. approx. 3.8 mi. us of confluence with Satilpa Cr.	2	F&W
02469800	Chemical	1956-2001	Satilpa Cr. at AL Hwy 84	164	S/F&W
LT12	Chemical	1996	Satilpa Cr. at US Hwy 84	164	S/F&W
LT13	Chemical	1996	Satilpa Cr. at Clarke CR 17	21	S/F&W
02469795	Chemical	1995-2001	Harris Cr. at AL Hwy 69	1	F&W

Satilpa Creek: Satilpa Creek was evaluated at 2 sites in conjunction with ADEM's 1996 Clean Water Strategy Project (Appendix F-9a). Both sites are located within the Buhrstone/Lime Hills (65q) subecoregion delineated in 2001 (Griffith et al. 2001). Data collected at both stations are summarized in Appendix F-9a.

Tributary to Satilpa Creek: At LT5U5-47, the tributary to Satilpa Creek is is a small, gravel riffle stream located within the Buhrstone/Lime Hills (65q) subecoregion delineated in 2001 (Griffith et al. 2001) (Appendix F-7a). Results of water quality data collected in August 2001 are presented in Appendix F-7b.

NPS priority status: Satilpa Creek and a tributary to Satilpa Creek were evaluated during 1996. Dissolved oxygen, temperature, and pH at both stations supported Fish and Wildlife Water Use Classification Criteria.

Sub-Watershed: Tauler Creek NRCS Sub-Watershed Number 050

Landuse: The Tauler Creek sub-watershed drains approximately 77 mi^2 in Clarke and Washington Counties. Land cover was primarily forest with some crop land and urban areas. Four current construction/stormwater and 2 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
78%	12%	2%	0%	6%	<1%	2%

NPS impairment potential: Overall potential for impairment from nonpoint sources was estimated as *moderate.* There was a *moderate* potential for impairment from forestry activities and crop land. Sedimentation estimates indicated a *high* potential for NPS impairment. Erosion from crop land and urban development each contributed 31% (3.5 tons/ac/yr) of the total annual sediment load within the sub-watershed (Table 20b). There was a *moderate* potential for impairment from urban runoff and development (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	15	0.05 AU/ac	0.01%	12%	2%	0%	39%	11.4 tons/ac/yr
NPS Potential	M	L	L	M	L	L	M	H
Table	15b	19b	15	12b	12b	12b	20b	20b

Assessments: Tauler Creek could not be monitored during the 2001 NPS Screening Assessment because of low flow conditions (Table 17b). A tributary to Nail Branch was evaluated during ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
TLCW-14	None conducted	2001	Tauler Cr. at Washington CR 34	19	F&W
LT2U5-11	Chemical, Habitat	2001	Tributary to Nail Br. approx. 0.5 mi. us of confluence with Nail Branch	<1	F&W

Tributary to Nail Branch: At LT2U5-11, the tributary to Nail Branch is a low-gradient stream characterized by cobble and clay substates and located within the Buhrstone/Lime Hills (65q) subecoregion (Appendix F-7a). Habitat assessment results are presented in Appendix F-7a. Results of water quality data collected in September 2001 are located in Appendix F-7b.

NPS priority status: Forest harvesting, cropland, and sedimentation were the primary NPS concerns within the Tauler Creek sub-watershed. The NPS priority status could not be evaluated from available data.

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Sub-Watershed: Salt Gut Slough NRCS Sub-Watershed Number 060

Landuse: The Salt Gut Slough sub-watershed drains approximately 16 mi^2 in Clarke and Washington Counties. Land cover was primarily forest mixed with small areas of pasture. One current construction/stormwater and 1 non-coal mining/stormwater (<5 acres) authorization has been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
90%	2%	6%	0%	0%	<1%	2%

NPS impairment potential: The potential for impairment from forestry activities was estimated as *moderate*. The potential for impairment from other nonpoint source categories was estimated as *low*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	9	0.01 AU/ac	<0.01%	2%	6%	0%	44%	1.0 tons/ac/yr
NPS Potential	L	L	L	L	L	L	M	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Salt Gut Creek has not been recently assessed.

NPS priority status: The NPS priority status of Salt Gut Creek was not determined during this project, but the potential for NPS impairment within the sub-watershed was estimated to be *low*.

Sub-Watershed: Jackson Creek NRCS Sub-Watershed Number 070

Landuse: The Jackson Creek sub-watershed drains approximately 113 mi^2 in Clarke County. The SWCD estimated land cover as 96% forest. One current construction/stormwater and 1 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
96%	1%	2%	0%	0%	<1%	2%

NPS impairment potential: There was a *high* potential for impairment from forestry activities. The overall potential for impairment from nonpoint sources was estimated as *low*. Jackson Creek was given a 4th priority sub-watershed by the Clarke County SWCD. The potential for impairment from urban development was estimated as *moderate*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	11	0.02 AU/ac	0.07%	1%	2%	0%	47%	1.8 tons/ac/yr
NPS Potential	L	L	L	L	L	L	H	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: The Jackson Creek sub-watershed has not been recently assessed.

NPS priority status: The NPS priority status of Jackson Creek was not determined during this project, but the potential for NPS impairment within the sub-watershed was estimated to be *low*.

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Sub-Watershed: Stave Creek NRCS Sub-Watershed Number 080

Landuse: The Stave Creek sub-watershed drains approximately 27 mi^2 in Clarke County. The sub-watershed was primarily forest. Four current construction/stormwater authorizations and 6 non-coal mining/stormwater authorizations (<5 acres) have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 5c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
95%	<1%	3%	0%	<1%	<1%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *low.* There was a *high* potential for impairment from forestry activities. There was a *moderate* potential for impairment from urban development (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	11	<0.01 AU/ac	0.06%	<1%	3%	0%	47%	1.5 tons/ac/yr
NPS Potential	L	L	L	L	L	L	H	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: The Stave Creek sub-watershed has not been recently assessed.

NPS priority status: The overall potential for NPS impairment within the Stave Creek sub-watershed was low. However, forestry was a concern within the sub-watershed. Stave Creek should be considered for assessment during the 2006 NPS Screening Assessment.

Sub-Watershed: East Bassetts Creek NRCS Sub-Watershed Number 090

Landuse: The East Bassetts Creek sub-watershed drains approximately 265 mi^2 in Clarke County. Land cover was mainly forest with some pasture. A total of 26 stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
85%	<1%	11%	0%	1%	<1%	3%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* The main NPS concerns in the sub-watershed were runoff from pasture lands, forestry, and sedimentation. Gully erosion contributed 67% (8.0 tons/ac/yr) of the total annual sediment load within the sub-watershed (Table 20b). East Bassetts Creek was given a 1st priority sub-watershed rating by the SWCD. There was a *moderate* potential for impairment from urban development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	15	0.02 AU/ac	0.06%	<1%	11%	0%	42%	12.0 tons/ac/yr
NPS Potential	M	L	L	L	M	L	M	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Rabbitt Creek (RBBC-23) and Little Bassett Creek (LBAC-11) were monitored during the 2001 NPS Screening Assessment (Table 17b). Bassett Creek and James Creek were intensively monitored during ADEM's 303(d) Monitoring Program (Appendix F-2). Bassett Creek has also been evaluated in conjunction with ADEM's ALAMAP Program (Appendix F-7). Water quality and stream flow data have been collected at 02470072 since 1995 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
RBBC-23	Chemical, Habitat, Biological	2001	Rabbitt Cr. Clarke CR 10	12	F&W
LBAC-11	Chemical, Habitat, Biological	2001	Little Bassett Cr. at Clarke CR 30	28	F&W
BSTC-1	Chemical, Habitat, Biological	2001	Bassett Cr. at Clarke CR 27	42	F&W
LT10	Chemical	1996	Bassett Cr. at Clarke CR 27	42	F&W
BSTC-2	Chemical, Habitat, Biological	2001	Bassett Cr. at AL Hwy 17	39	F&W
BSTC-3	Chemical, Habitat, Biological	2001	Tributary to Bassett Cr. at Rural Rd. nr. Rural	18	F&W
BSTC-4	Chemical	2001	Bassett Cr. at AL Hwy 43	11	F&W
02470072	Chemical	1995-2001	Bassett Cr. at AL Hwy 43	11	F&W
LT11	Chemical	1996	Bassett Cr. at Clarke CR 15	14	F&W
JMCC-1	Chemical, Habitat, Biological	2001	James Cr. at Clarke CR 22	7	F&W

Rabbitt Creek: At RBBC-23, Rabbitt Creek is a low-gradient, sandy-bottomed stream located within the Southern Pine Plains and Hills (65f) subecoregion (Table 21b). Habitat quality was assessed as *excellent* for this stream type and region. Nine EPT families were collected, indicating the macroinvertebrate community to be in *good* condition (Table 22b). Water quality parameters collected in May and September 2001 did not indicate impairment (Appendix D-1).

Little Bassett Creek: At LBAC-11, Little Bassett is a low-gradient, sand-bottomed stream in the Buhrstone/Lime Hills (65q) subecoregion delineated in 2001 (Griffith et al. 2001). Results of the habitat assessment are presented in Table 21b. Three EPT families were collected (Table 22b). Assessment guidelines have not been developed for habitat conditions and MB-EPT assessment methods. However, a fish survey indicated the fish community to be in *fair* condition (Table 22b). Water quality parameters collected in July, August, and September 2001 are presented in Appendix D-1.

Bassett Creek: Habitat and biological assessments were conducted at 3 stations on Bassett Creek. At BSTC-1, located in the Buhrstone/Lime Hills (65q), and BSTC-3, in the Southern Hilly Gulf Coastal Plain (65d), Bassett Creek is a low gradient, sand-bottomed stream (Appendix F-2a). At BSTC-2, the stream is characterized by small riffles; bottom substrates are comprised of bedrock and sand. Results of macroinvertebrate assessments conducted at each of the sites during July 2001 are presented in Appendix F-2b. Although habitat and macroinvertebrate assessment guidelines have not been developed, fish IBI assessments conducted at BSTC-1 and BSTC-2 indicated the fish communities to be in *fair/poor* and *good* condition, respectively (Appendix F-2b).

Intensive water quality samples collected at BSTC-1, BSTC-2, BSTC-3, and BSTC-4 from May 2001 to February 2002 are presented in Appendix F-2c. At BSTC-1 downstream of Fulton, temperature, pH, and dissolved oxygen concentrations met Fish and Wildlife Water Use Classification criteria. The concentration of fecal coliform was >1,690 colonies/100 mL during the May 2001 sampling event. Total Kjeldhal nitrogen was 2.64 mg/L during the September 2001 sampling event.

At BSTC-2 located in Fulton, water temperature was 32.7°C during 1 (12%) of 8 sampling events. The pH was 5.9 during May 2001 and 5.5 su during February 2002. Fecal coliform concentrations were >7,700 colonies/100 mL during July and 1,300 colonies/100mL during September.

At BSTC-3 just south of Thomasville, temperature met Fish and Wildlife Water Use Classification criteria. Dissolved oxygen concentrations ranged from 5.0 mg/L to 10.0 mg/L. The pH was 5.8 su during the February 2002 sampling event. The fecal coliform concentration was >950 colonies/100 mL during the June 2001 sampling event.

At BSTC-4, dissolved oxygen concentrations were <5.0 mg/L during 2 (25%) of 8 sampling events. The pH was <6.0 su during 3 (38%) of 8 sampling events. The concentration of fecal coliform was >5,800 colonies/100mL during the May sampling event.

James Creek: At JMCC-1, James Creek is a sand-bottomed stream characterized by small gravel riffles (Appendix F-2a). The site is located within the Southern Pine Plains and Hills (65f) subecoregion. Habitat condition was assessed as *excellent* for this stream type and region (Appendix F-2a). Seven EPT families were collected, indicating the macroinvertebrate community to be in *fair* condition (Appendix F-2b).

Intensive water quality data collected at the site from May 2001 to February 2002 are summarized in Appendix F-2c. Flow and turbidity were highest during the June sampling event. Concentrations of total phosphorus and nitrogen were periodically elevated.

NPS priority status: East Bassetts Creek is recommended as a NPS priority sub-watershed. Biological impairment was detected at Little Bassett Creek (LBAC-11) and James Creek (JMCC-1). Water quality data indicated nutrient enrichment at James Creek. The fish community at BSTC-1 was assessed as *fair/poor*, but was affected by urban sources of pollution. Intensive chemical sampling indicated nutrient enrichment and high concentrations of fecal coliform at several locations on Bassett Creek.

Sub-Watershed: West Bassetts Creek NRCS Sub-Watershed Number 100

Landuse: The West Bassetts Creek sub-watershed drains approximately 214 mi^2 in Washington County. The SWCD estimated the sub-watershed to be almost entirely forested. A total of 16 current stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
92%	1%	2%	0%	4%	<1%	1%

NPS impairment potential: The main NPS concerns in the sub-watershed were forest harvesting and sedimentation. The overall potential for impairment from nonpoint sources was estimated as *low*. However, West Bassetts Creek was given a 3rd priority sub-watershed rating by the local SWCD. The potential for impairment from urban development was estimated as *moderate*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	13	0.01 AU/ac	0.01%	1%	2%	0%	53%	3.7 tons/ac/yr
NPS Potential	L	L	L	L	L	L	H	M
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: The West Bassett Creek sub-watershed has not been recently assessed.

NPS priority status: The NPS priority status of West Bassett Creek was not determined, but forestry and sedimentation were concerns within the sub-watershed. West Bassetts Creek should be considered for assessment during the 2006 EMT Basinwide Screening Assessment.

Sub-Watershed: Salt Creek **NRCS Sub-Watershed Number 110**

Landuse: The Salt Creek sub-watershed drains approximately 50 mi^2 in Clarke and Washington Counties. Land cover was primarily forest. One current construction/stormwater authorization has been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
97%	<1%	1%	0%	0%	1%	1%

NPS impairment potential: The potential for impairment from forestry was estimated as *high*. The potential for impairment from aquaculture *was moderate*. The overall potential for impairment from nonpoint sources was estimated as *low.*

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	13	<0.01 AU/ac	0.09%	<15	1%	0%	48%	1.8 tons/ac/yr
NPS Potential	L	L	M	L	L	L	H	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: The Salt Creek sub-watershed has not been recently assessed.

NPS priority status: The NPS priority status of Salt Creek was not estimated. Forestry and aquaculture were the primary NPS concerns within the sub-watershed.

Sub-Watershed: Lewis Creek NRCS Sub-Watershed Number 120

Landuse: The Lewis Creek sub-watershed drains approximately 114 mi^2 in Clarke and Washington Counties. The sub-watershed was almost entirely forested. Two current construction/stormwater authorizations, 1 non-coal mining/stormwater (<5 acres) authorizations, and 4 industrial process wastewater NPDES permits have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
97%	1%	1%	0%	0%	<1%	1%

NPS impairment potential: The potential for impairment from forestry activities was the highest in the EMT accounting units. The potential for impairment from other nonpoint source categories was *low.*

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	11	0.01 AU/ac	0.01%	1%	1%	0%	73%	1.3 tons/ac/yr
NPS Potential	L	L	L	L	L	L	H	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: The Lewis Creek sub-watershed has not been recently assessed.

NPS priority status: The NPS priority status of Lewis Creek was not estimated. The potential for impairment from forestry activities was the highest in the EMT basin group. The sub-watershed should be considered for assessment during the 2006 NPS Screening Assessment.

Sub-Watershed: Bilbo Creek NRCS Sub-Watershed Number 130

Landuse: The Bilbo Creek sub-watershed drains approximately 219 mi^2 in Mobile and Washington Counties. Land cover within the sub-watershed was primarily forest. A total of 12 stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b). Sixty-five acres of the Olin Basin are currently on ADEM's 2002 CWA §303(d) list of impaired waters for not meeting its "Fish and Wildlife" water use classification because of sediments contaminated with pesticides and mercury (Table 14b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
94%	1%	1%	0%	<1%	<1%	4%

NPS impairment potential: Despite the *high* potential for impairment from forestry, the overall potential for impairment from nonpoint sources was estimated as *low*. Bilbo Creek was given a 1st priority sub-watershed rating by the Washington County SWCD. There was a *moderate* potential for impairment from urban development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	11	0.01 AU/ac	0.00%	1%	1%	0%	50%	1.5 tons/ac/yr
NPS Potential	L	L	L	L	L	L	H	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Bilbo Creek was monitored during ADEM's CWA §303(d) Monitoring Program (Appendix F-2). Bates Creek was evaluated during ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BLBW-1	Chemical, Habitat, Biological	2001	Bilbo Cr. at Washington CR 35	67	S/F&W
LT03U2-32	Chemical, Habitat	1998	Bates Cr. approx. 16.6 mi. us of confluence with Bilbo Cr.	38	S/F&W

Bilbo Creek: Bilbo Creek at BLBW-1 was monitored to evaluate the impact of municipal discharge on water quality. It is a low-gradient, gravel and sand-bottomed stream located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix F-2a). Habitat quality was assessed as *excellent* for this stream type and region. Four EPT families were collected, indicating the macroinvertebrate community to be in *poor* condition (Appendix F-2b).

Results of intensive water quality monitoring conducted from May 2001 through February 2002 are presented in Appendix F-2c. Dissolved oxygen was <5.0 mg/L during 7 (58%) of 12 sampling events. The pH ranged from 2.9 mg/L in January 2002 to 6.3 mg/L in February 2002. Conductivity was 900 µmhos during February 2002.

Bates Creek: Bates Creek at LT03U2-32 is low-gradient, sand-bottomed stream located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix F-7a). Results of screening level water quality sampling are presented in Appendix F-7b. The pH was 4.8 su.

NPS priority status: The macroinvertebrate community of Bilbo Creek at BLBW-1 was assessed as *poor*. However, the site was impacted by urban sources.

Sub-Watershed: Sand Hill Creek **NRCS Sub-Watershed Number 140**

Landuse: The Sand Hill Creek sub-watershed drains approximately 66 mi^2 in Baldwin and Clarke Counties. Land cover within the sub-watershed was mainly forest. One current construction/stormwater and 1 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
96%	<1%	1%	0%	0%	1%	2%

NPS impairment potential: The potential for impairment from forestry was *high*. The potential for impairment from other nonpoint sources was *low*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	11	<0.01 AU/ac	<0.01%	<1%	1%	0%	48%	0.7 tons/ac/yr
NPS Potential	L	L	L	L	L	L	H	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Sand Hill Creek has not been recently assessed.

NPS priority status: NPS priority status was not determined during this study. Sand Hill Creek was not at a high risk from nonpoint source impairment, but forest harvesting was significant within the sub-watershed.

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Mobile River-Tensaw River CU (0316-0204)

The Mobile-Tensaw River CU encompasses 962 mi^2 in Mobile and Baldwin Counties in southwest Alabama (Fig. 28). It contains 6 sub-watersheds and is located primarily within the Southern Pine Plains and Hills (65f) and Floodplains and Low Terraces (75i) subecoregions (Fig. 29).

Landuse: Based on the 1998 conservation assessment worksheets completed by the local SWCDs, the Mobile-Tensaw River CU was mainly forest with some urban areas. Eight stream segments located within 4 sub-watersheds are currently on ADEM's CWA §303(d) list of impaired waters (Table 14b). Eightmile Creek, Gum Tree Branch, and 2 segments of Three Mile Creek are listed for impairments caused by urban sources. Bayou Sara/Norton Creek, Chickasaw Creek, and the Mobile River are listed for nutrient enrichment or mercury contamination from unknown sources. Cold Creek Swamp is listed for high metals concentrations caused by contaminated sediments and flow modification.

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
75%	4%	2%	<1%	14%	<1%	4%

NPS impairment potential: Mining, crop land runoff, and sedimentation were NPS concerns within the Lower Tensaw River (040) sub-watershed, but the potential for NPS impairment was generally *low* throughout the CU. The potential for impairment from urban sources was *moderate* or *high* within all but one sub-watershed.

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15b).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	1	0	0	1	0	0	1	0
High	0	0	0	0	0	1	0	1

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15b).

Category	% Urban	Development	Septic tank failure
Moderate	3	2	0
High	2	3	0

Historical data/studies: Table 16b lists the sub-watersheds and water bodies in which data have been previously collected in conjunction with other monitoring programs. The table

also lists the appendices where these data are provided. Recent assessment information have been collected in all 6 sub-watersheds (Fig. 37).

2001 NPS screening assessments: An NPS screening assessment was not conducted within the Mobile-Tensaw River CU because of the *low* potential for impairment from nonpoint sources and relatively high potential for impairment from urban sources.

Sub-watershed summaries: Monitoring data from various sources were combined to provide a comprehensive assessment. A summary of the information available for each of the 6 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. Assessment of habitat, biological and chemical conditions are based on long-term data from ADEM's Ecoregional Reference Site Program. Tables 12b-22b are located at the end of the summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Within the Mobile-Tensaw River CU, habitat, chemical/ physical, and biological indicators of water quality were only monitored at one station on Halls Creek (Table 18b). The station has been used as an ecoregional reference site for streams located within the Southern Pine Plains and Hills (65f) subecoregion since 1991. The stream is slightly tannic, low-gradient, and sandy-bottomed. Habitat quality is *excellent* for this stream type. The macroinvertebrate community appears to have been steadily declining since 1992, but the decline may be due to the severe drought conditions experienced in Alabama since 1997.

NPS priority sub-watersheds: A NPS priority sub-watershed was not identified within the Mobile-Tensaw River CU. Results of ADEM's ALAMAP-Coastal Program rated ecological conditions within the tidal portions of the Mobile and Tensaw Rivers and the river delta region as *fair* during 1994-1995 (Appendix F-7; Carlton et al. 1998). Portions of the area were affected by low dissolved oxygen concentrations, nutrients, and poor water clarity. Contaminated sediments were detected within the Mobile River and Mobile/Tensaw River Delta. Although nutrient concentrations and contaminated sediments were issues, ecological conditions were generally better in the Tensaw River system.

Sub-Watershed: Upper Tensaw River NRCS Sub-Watershed Number 010

Landuse: The Upper Tensaw River sub-watershed drains approximately 245 mi^2 in Baldwin County. Land cover within the sub-watershed was mainly forest. A total of 9 stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
92%	4%	1%	0%	1%	<1%	1%

NPS impairment potential: The potential for impairment from forestry was *moderate*. The potential for impairment from other rural nonpoint source categories was estimated as *low.* There was a *moderate* potential for impairment from urban development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	9	0.01 AU/ac	<0.01%	4%	1%	0%	46%	1.3 tons/ac/yr
NPS Potential	L	L	L	L	L	L	M	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Since 1991, Halls Creek has been intensively monitored at HLB-1 in conjunction with ADEM's Ecoregional Reference Site Program (Appendix F-1). Majors Creek was assessed during a special study conducted by ADEM (Appendix F-6). Three additional streams were visited as part of ADEM's ALAMAP Program (Appendix F-7). However, the tributary to Big Chippewa Lake could not be sampled during 1997 because it was dry (Appendix F-7a).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
HLB-1	Chemical, Habitat, Biological	1991-1995, 1997-1999, 2001	Halls Cr. at AL Hwy 59	19	F&W
MAJB-1	Chemical, Habitat Biological	1996	Majors Cr. at AL Hwy 59	44	F&W
MR01U1	None conducted	1997	Tributary to Big Chippewa Lake approx. 3.1 mi. us of confluence with Middle R.r	6	F&W
MR04U3-12	Chemical	1999	Tributary to Big Briar Cr. in Mobile R. Delta	1	F&W
MR1U5-17	Chemical, Habitat	2001	Flat Cr. approx. 1 mi. us of AL Hwy 59	3	F&W

<u>Halls Creek</u>: Since 1991, Halls Creek at HLB-1 has been used as an ecoregional reference site for streams located in the Southern Pine Plains and Hills (65f) subecoregion (Appendix F-1). Streams in this subecoregion are slightly tannic, low-gradient, and sandy bottomed. Rootbanks and snags are important macroinvertebrate habitats (Appendix F-1a). The macroinvertebrate community appears to have been steadily declining since 1992, when 16 EPT families were collected, to 2001, when 6 EPT families were collected (Appendix F-1b). The apparent decline could be due to the severe drought conditions existing in Alabama since 1997.

<u>Majors Creek</u>: At MAJB-1, Majors Creek is a low-gradient, sand-bottomed, tannic stream located in the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Habitat quality was assessed as *excellent* (Appendix F-6a). Thirteen EPT families were collected, indicating the macroinvertebrate community to be in *excellent* condition (Appendix F-6b). In situ field parameters are provided in Appendix F-6c.

<u>Tributary to Big Briar Creek</u>: At MR04U3-12, the tributary to Big Briar Creek is located within the Floodplains and Low Terraces (75i) subecoregion (Appendix E-1). A habitat assessment was not conducted because the stream was unwadeable at the site (Appendix F-7a). Water quality data collected during September 1999 are presented in Appendix F-7b.

<u>Flat Creek</u>: At MR1U5-17, Flat Creek is low-gradient stream characterized by detritus and sand substrates (Appendix F-7a). Water quality data collected during August 2001 are presented in Appendix F-7b.

NPS priority status: Forestry and urban development were the primary concerns within the sub-watershed. Four assessments conducted at HLB-1 have indicated the macroinvertebrate community to be in *fair* or *poor* condition. A 1997 assessment of Majors Creek indicated the macroinvertebrate community to be in *excellent* condition.

Sub-Watershed: Cedar Creek NRCS Sub-Watershed Number 020

Landuse: The Cedar Creek sub-watershed drains approximately 200 mi^2 in Mobile and Washington Counties. Land cover within the sub-watershed was mainly forest with some urban areas. A total of 31 current stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b). A 1.0 mi^2 area of Cold Creek Swamp is currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for only partially meeting its "Fish and Wildlife" water use classification. Suspected causes of the impairment include sediments contaminated with mercury and flow modification (Table 14b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
87%	2%	3%	0%	8%	<1%	1%

NPS impairment potential: Cedar Creek was given a 5th priority sub-watershed rating by the Mobile County SWCD. However, pollution sources within the sub-watershed are primarily urban. The potential for impairment from all rural nonpoint sources was estimated as *low*, but there was a *moderate* potential of impairment from urban runoff and development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	7	0.01 AU/ac	0.00%	2%	3%	0%	4%	1.1 tons/ac/yr
NPS Potential	L	L	L	L	L	L	L	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Water quality data have been collected from the Tensaw River (TE-2) since 1976 as part of ADEM's Ambient Monitoring Program (ADEM, In press). An intensive assessment of Cold Creek Swamp was scheduled during ADEM's 2001 and 2002 §303(d) Monitoring Program to monitor concentrations of mercury and other metals in the water column and sediment. The assessment could not be completed due to no flow conditions within Cold Creek Swamp. Barrow Creek has been evaluated in conjunction with ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
TE2	Chemical	1976-2001	Tensaw R. at RM 9.0 below Gravine Island	-----	OAW/S/F&W
CCSM-1	None conducted	2001	Cold Creek Swamp at US Hwy 43	17	F&W
CCSM-2	None conducted	2001	Cold Creek Swamp at end of jeep trail	19	F&W
MR1U4-12	Chemical, Habitat	2000	Barrow Cr.	10	F&W

<u>Tensaw River</u>: The Tensaw River at TE-2 is located within the Floodplains and Low Terraces (75i) subecoregion (Appendix E-1). Data collected since January 1990 are provided in Appendix F-8a. Dissolved oxygen, temperature, and pH have consistently met Fish & Wildlife Water Use Classification criteria.

<u>Barrow Creek</u>: At MR1U4-12, Barrow Creek is located within the Floodplains and Low Terraces (75i) subecroegion (Appendix E-1). A habitat assessment was not conducted at the site because Barrow Creek is unwadeable at this location (Appendix F-7a). Results of water quality data collected in September 2000 is summarized in Appendix F-7b.

NPS priority status: Pollution sources within the sub-watershed are primarily urban. Data collected from the Tensaw River at TE-2 since 1990 have consistently met Fish & Wildlife Water Use Classification criteria.

Sub-Watershed: Bayou Sara **NRCS Sub-Watershed Number 030**

Landuse: The Bayou Sara sub-watershed drains approximately 102 mi^2 in Mobile County. Land cover within the sub-watershed was mainly forest and urban areas. A total of 24 stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b). The Saraland Wastewater Treatment is located within Bayou Sara. A 3.7 mi segment of Bayou Sara/Norton Creek is currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for only partially meeting its "Swimming" and "Fish and Wildlife" water use classifications. Suspected causes include high nutrient concentrations from unknown sources (Table 14b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
76%	1%	2%	0%	21%	<1%	0%

NPS impairment potential: The potential for impairment from all rural NPS categories was estimated as *low*. There was a *high* potential for impairment caused by urban runoff.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	7	<0.01 AU/ac	<0.01%	1%	2%	0%	4%	1.4 tons/ac/yr
NPS Potential	L	L	L	L	L	L	L	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: An intensive water quality assessment of Bayou Sara and its tributaries was conducted during 2001 as part of ADEM's CWA §303(d) Monitoring Program to determine the source of nutrient impairment (Appendix F-2). Steele Creek was evaluated at one location in conjunction with ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BYSM-1	Chemical	2001	Bayou Sara at canal crossing approx. 1 mi. us of mouth	75	S/F&W
BYSM-2	Chemical	2001	Bayou Sara at pipeline ds of Gunnison Cr.	70	S/F&W
BYSM-3	Chemical	2001	Bayou Sara approx. 200 m us of Gunnison Cr.	37	S/F&W
BYSM-4	Chemical	2001	Bayou Sara approx. 0.8 mi. us of Gunnison Cr.	37	S/F&W
BYSM-5	Chemical	2001	Bayou Sara approx. 200 m ds of Norton Cr.	28	S/F&W
BYSM-6	Chemical	2001	Bayou Sara at US Hwy 43	23	F&W
BYSM-7	Chemical	2001	Norton Cr. at US Hwy 43	5	F&W
MR2U5-28	Chemical, Habitat	2001	Steele Cr. at Burlington Northen RR crossing	2	S/F&W

Bayou Sara: Bayou Sara begins northwest of Saraland and flows southeast into the Mobile River. It was intensively monitored at 6 locations to verify that nutrient impairment exists and, if so, determine the cause of impairment. The stations were all located within the Floodplains and Low Terraces (75i) subecoregion (Appendix E-1). Stations BYSM-1 through BYSM-5 were tidally influenced. Each station was monitored 5 times between May and November 2001 (Appendix F-2c). Mean dissolved oxygen concentration, water temperature, pH, and conductivity were lower at Station BYSM-6. Mean hardness and concentrations of total phosphorus, ammonia-nitrogen, and total Kjeldhal nitrogen were also lower at this site. Fecal coliform concentrations were higher.

Norton Creek: Norton Creek was intensively monitored at one location during the intensive survey of Bayou Sara (Appendix F-2c). The site was characterized by the highest concentrations of all forms of nitrogen, fecal coliform, and dissolved oxygen.

Steele Creek: At MR2U5-28, Steele Creek is swampy and deep. The site is located in the Floodplains and Low Terraces (75i) subecoregion (Appendix E-1). A habitat assessment was not conducted at the site (Appendix F-7a). Results of water quality sampling conducted in August 2001 are summarized in Appendix F-7b.

NPS priority status: Urban areas comprised 21% of the Bayou Sara sub-watershed. The sub-watershed is therefore not recommended as a NPS priority sub-watershed. The intensive survey data from Bayou Sara and Norton Creek are currently being analyzed by ADEM to verify nutrient impairment within the sub-watershed and to determine the source of this impairment.

Sub-Watershed: Lower Tensaw River NRCS Sub-Watershed Number 040

Landuse: The Lower Tensaw River sub-watershed drains approximately 176 mi^2 in Baldwin County. The sub-watershed supported a variety of land uses, including forest, wetlands, urban areas, and cropland. A total of 72 current stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b).

The Tensaw River is currently classified as an Outstanding Alabama Water (ADEM 2003). A Fish Consumption Advisory was issued by the Alabama Department of Public Health in April 2002 advising "limited consumption" of large mouth bass (ADPH 2002). A segment of the Tensaw River has been recommended for addition to ADEM's 2002 CWA §303(d) list of impaired waters for mercury contamination (ADEM 2003). A 16.6 mi. segment of Bay Minette Creek is currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for not meeting its "Fish and Wildlife" water use classification (Table 14b). It is listed for mercury impairment from unknown sources.

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
53%	11%	2%	1%	15%	0%	19%

NPS impairment potential: The potential for impairment from sedimentation and mining was *high*. There was a moderate potential for impairment from crop land runoff. The overall potential for impairment from nonpoint sources was estimated as *moderate.* Lower Tensaw River was given a 5th priority sub-watershed rating by the local SWCD. Resource concerns included gully and road bank erosion, sedimentation from several sources, inadequate management of animal wastes, and nutrients in surface waters (Table 20b). The potential for impairment from urban runoff and development was *moderate* and *high*, respectively (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	17	0.01 AU/ac	<0.01%	11%	2%	1%	20%	4.8 tons/ac/yr
NPS Potential	M	L	L	M	L	H	L	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Longterm water quality data has been collected from the Tensaw (TE1) and Mobile River (MO1a) since 1976 as part of ADEM's Ambient Monitoring Program (ADEM In press). Data collected since January 1990 is provided in Appendix F-8. The Tensaw River was evaluated at a second location in conjunction with ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
TE1	Chemical	1976-2001	Tensaw R. at L&N RR crossing	-----	OAW/S/F&W
MR02U2-6	Chemical, Habitat	1998	Tensaw R. approx. 1.1 mi. us of confluence with Apalachee R.	-----	OAW/S/F&W
MO1a	Chemical	1976-2001	Mobile R. at L&N RR crossing	-----	PWS/F&W

Tensaw River: Tensaw River at TE-1 has been monitored monthly since 1976 (ADEM 2003). Data collected since January 1990 are presented in Appendix F-8. Temperature, dissolved oxygen, and pH have consistently supported Fish and Wildlife Water Use Classification criteria since 1990.

At MR02U2-6, Tensaw River is located in the Floodplains and Low Terraces (75i) subecoregion (Appendix E-1). A habitat assessment was not conducted because Tensaw River is unwadeable at this site (Appendix F-7a). Results of water quality sampling is presented in Appendix F-7b.

Mobile River: Mobile River at MO-1a has been monitored monthly since 1976 (ADEM 2003). Data collected since January 1990 are provided in Appendix F-8. Temperature, dissolved oxygen, and pH have consistently supported Fish and Wildlife Water Use Classification criteria since 1990.

NPS priority status: Sedimentation, mining, and crop land runoff were the main NPS concerns within the sub-watershed. The Lower Tensaw River is not recommended as a NPS priority sub-watershed because of the high potential for impairment from urban runoff and development.

Sub-Watershed: Chickasaw Creek NRCS Sub-Watershed Number 050

Landuse: The Chickasaw Creek sub-watershed drains approximately 196 mi^2 in Mobile County. Land cover within the sub-watershed was primarily forest with some urban areas. A total of 79 current stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b). Segments of Eightmile Creek, Gum Tree Branch, and Chickasaw Creek are currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for not meeting their water use classifications (Table 14b). Eightmile Creek and Gum Tree Branch waterbodies are listed for pathogens from urban runoff and storm sewers. Chickasaw Creek is listed for mercury impairment from unknown sources.

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
77%	2%	4%	0%	16%	1%	0%

NPS impairment potential: The overall potential for impairment from rural nonpoint sources was estimated as *low.* Chickasaw Creek was given a 1st priority sub-watershed rating by the local SWCD for impairment from urban sources (Table 20b). The potential for impairment from urban runoff was *moderate*. There was a *high* potential for impairment from urban development (Table 15b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	7	0.02 AU/ac	<0.01%	2%	4%	0%	3%	1.8 tons/ac/yr
NPS Potential	L	L	L	L	L	L	L	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Water quality data were collected from Chickasaw Creek as early as 1949 (ADEM, In press). In 1990, the USEPA Region IV evaluated several locations on Chickasaw Creek, Hog Bayou, and Mobile River during an intensive water use reclassification survey of Chickasaw Creek and Hog Bayou (Appendix F-6). Longterm monitoring data has been collected from Chickasaw Creek at CS1 and CS2 and Hog Bayou at HB-1 since the mid-1970's as part of ADEM's Ambient Monitoring Program. Data collected from these stations since 1990 is provided in Appendix F-8. Several locations were also evaluated as part of ADEM's ALAMAP Program (Appendix F-7). Mobile River and Eightmile Creek were evaluated during ADEM's 1996 Clean Water Strategy Project (Appendix F-9). Streamflow data collected since 1951 and water quality data collected 1968-1998 from one location on Chickasaw Creek are available at http://waterdata.usgs.gov/nwis/inventory.

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	**Assessment Type**	**Date**	**Location**	**Area (mi^2)**	**Classification**
CS1	Chemical	1973-2001	Chickasaw Cr. at US Hwy 43	185	F&W
EPAC-1	Chemical	1990	Chickasaw Cr. at US 43 crossing	185	F&W
CS2	Chemical	1973-2001	Chickasaw Cr. at CSA RR bridge at confluence with Mobile R.	-----	LWF
EPAC-6	Chemical	1990	Mobile R. us of Chickasaw Cr.	-----	LWF
MO03	Chemical	1996	Mobile R. us of Chickasaw Cr.	-----	LWF
EPAC-2	Chemical	1990	Chickasaw Cr. at Port Facility	-----	LWF
EPAC-3	Chemical	1990	Chickasaw Cr. below Round Island	-----	LWF
EPAC-4	Chemical	1990	Hog Bayou at mid-length	-----	F&W
EPAC-5	Chemical	1990	Chickasaw Cr. at mouth	-----	LWF
02471001	Chemical	1951-2001, 1968-1998	Chickasaw Cr. at RM 12.2	125	F&W
MR2U4-22	None conducted	2000	Chickasaw Cr.	85	F&W
MO04	Chemical	1996	Eight Mile Cr. at Pritchard Water Intake	-----	PWS/F&W
HB1	Chemical	1973-2001	Hog Bayou at buried pipeline crossing 0.5 mi. us of mouth	-----	F&W
MR01A2-14	Chemical	1998	Drinking Br. approx. 0.1 mi. us of confluence with Chickasaw Cr.	-----	F&W
MR01U3-50	Chemical, Habitat	1999	Mill Br. at Alver Miller Rd.	-----	F&W
MR02U3-24	Chemical, Habitat	1999	Sweetwater Br. approx. 0.8 mi. us of AL Hwy 17	-----	F&W
MR05U3-11	None conducted	1999	Tributary to Three Mile Cr.	-----	F&W

Chickasaw Creek: Chickasaw Creek at CS-1 and CS-2 is located within the Floodplains and Low Terraces (75i) subecoregion (Appendix E-1). Data have been collected at both stations since the mid-1970's. Data collected since 1990 are presented in Appendix F-8a. Both sites are tidally influenced, resulting in a stratified water column. Since 1996, dissolved oxygen concentrations have been below the Fish and Wildlife Water Use Classification criteria of 5.0 mg/L during 7 (20%) of 35 sampling events at CS-1 and 5 (14%) of 35 sampling events at CS-2. At CS-1, fecal coliform concentrations were >2,000 colonies/100 mL during 2 (6%) of 35 sampling events. Temperature and pH have consistently met Fish and Wildlife Water Use Classification criteria at both stations.

Both stations were intensively monitored by the USEPA in 1990. At that time, Chickasaw Creek was classified as suitable for Agricultural and Industrial Water Supply (USEPA 1990). Dissolved oxygen concentrations of 1 to 2 mg/L were measured at several locations during the study, suggesting that water quality has improved in the last decade (Appendix F-8a).

Hog Bayou: Hog Bayou, at HB-1, is located within the Floodplains and Low Terraces (75i) subecoregion (Appendix E-1). Data have been collected at the station since the 1970's. Appendix F-8a summarizes data collected at the site since 1990. The site is tidally influenced, resulting in a stratified water column. Since 1996, dissolved oxygen concentrations have been below the Fish and Wildlife Water Use Classification criteria of 5.0 mg/L during 5 (14%) of 35 sampling events. Water temperature has reached 33°C and 34°C, above the Fish and Wildlife Water Use Classification criteria of 32.2°C during 2 (6%) of 35 sampling events. Comparison with data collected in 1990, however, suggest improved water quality (F-6; EPA 1990).

Mobile River: Mobile River upstream of Chickasaw Creek was evaluated during intensive assessments conducted in 1990 and 1996. Water quality data collected in June, September, and October of 1996 indicated Mobile River to be meeting its Limited Warmwater Fishery Water Use Classification (Appendix F-9; ADEM 1996f). Data collected in 1990 are provided in Appendix F-6.

Eightmile Creek: Eightmile Creek was evaluated during June and September 1996 in conjunction with ADEM's Clean Water Strategy Project (Appendix F-9). Water quality data collected in June, September, and October of 1996 showed Eightmile Creek to be fully supporting its Water Use Classification (Appendix F-9; ADEM 1996f).

Drinking Branch: Drinking Branch was assessed at MR01A2-14 in August 1998. The stream was a series of intermittent pools and a habitat assessment was not conducted at the site (Appendix F-7a). Results of water quality data are presented in Appendix F-7b.

Mill Branch: At MR01U3-50, Mill Branch is a sand bottomed, low gradient stream located in the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Habitat quality was assessed as *excellent* for this stream type and region (Appendix F-7a). Results of water quality sampling conducted in August 1999 are presented in Appendix F-7b. The concentration of nitrate/nitrite-nitrogen was 1.69 mg/L. The chloride concentration was 8 mg/L.

Sweetwater Branch: At MR02U3-24, Sweetwater Branch is a slightly tannic, low-gradient stream located in the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Bottom substrates are composed of sand and organic material (Appendix F-7a). Habitat quality was assessed as excellent for this stream type and region. Results of water quality sampling conducted in August 1999 are presented in Appendix F-7b. The concentration of fecal coliform was 1,000 colonies/100mL. The chloride concentration was 118.0 mg/L.

NPS priority status: Chickasaw Creek is not recommended as a NPS priority sub-watershed because of the high potential for impairment from urban runoff and development.

Sub-Watershed: Three Mile Creek NRCS Sub-Watershed Number 060

Landuse: The Three Mile Creek sub-watershed drains approximately 43 mi^2 in Mobile County. Land cover within the sub-watershed was 92% urban. A total of 61 current stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b). Two segments of Three Mile Creek are currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for not meeting their water use classifications (Table 14b). The segments are listed for organic enrichment/dissolved oxygen and mercury impairments from urban and unknown sources.

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
5%	0%	0%	0%	92%	<1%	3%

NPS impairment potential: The potential for impairment from all rural nonpoint sources categories was estimated as *low*. There was a *high* potential for impairment from urban runoff and development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	6	<0.01 AU/ac	<0.01%	0%	0%	0%	ur	1.2 tons/ac/yr
NPS Potential	L	L	L	L	L	L	ur	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: ADEM has collected ambient water quality data at Three Mile Creek (TM1) and Mobile River (MO2) since 1974 (ADEM, In press). Data collected since 1990 are provided in Appendix F-8. Three Mile Creek was evaluated during 1996 in conjunction with ADEM's Clean Water Strategy Project (Appendix F-9). The USEPA collected intensive water quality data collected near the mouth of Three Mile Creek during 2000 and 2001 (Appendix F-6; EPA 2001a). Three hundred and six water quality data sets have been collected from Three Mile Creek at 02471016 since 1901. Limited water quality and flow data have also been collected at 02471013 and 0247101490 since 1999 and 2000, respectively (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
TM1	Chemical	1974-2001	Three Mile Cr. between US Hwy 43 and RR bridge	28	A&I
MO01	Chemical	1996	Threemile Cr. at US Hwy 98	12	A&I
EPATMC	Chemical	2000-2001	Threemile Creek nr mouth	29	A&I
02471016	Chemical	1901-2001	Three Mile Cr. at US Hwy 43	28	A&I
02471013	Chemical	1999-2001	Three Mile at Zeigler Park Blvd.	10	A&I
0247101490	Chemical	2000-2001	Three Mile Cr. at Stanton Rd.	19	A&I
MO2	Chemical	1974-2001	Mobile River at Alabama State Docks	43662	LWF

Three Mile Creek: Longterm ambient monitoring data collected from Three Mile Creek at TM1 are located in Appendix F-8a. The site is located within the Gulf Coast Flatwoods (75a) subecoregion (Appendix E-1). Since 1996, dissolved oxygen concentrations have been below Fish and Wildlife Water Use Classification criteria of 5.0 mg/L during 17 (52%) of 33 sampling events. Fecal coliform concentrations have been >2,000 colonies/100 mL during 8 (24%) of 33 sampling events. Data collected at MO01 during the 1996 Clean Water Strategy Project showed the reach to be fully supporting its Water Use Classification (Appendix F-9; ADEM 1996f).

Mobile River: ADEM has collected ambient monitoring data from Mobile River at MO2 since 1974. Data collected since 1990 are located in Appendix F-8a. The site is located within the Gulf Coast Flatwoods (75a) subecoregion (Appendix E-1). Since 1996, dissolved oxygen concentrations have been below 5.0 mg/L during 7 (19%) of 36 sampling events.

NPS priority status: Three Mile Creek is impaired by urban runoff and development. Although monitoring data verify that the site is impaired by point sources, recent analysis of historical data suggest that water quality has improved at TM1 since the 1970s (ADEM, In press).

Mobile Bay CU (0316-0205)

The Mobile Bay CU contains 7 sub-watersheds located within Mobile and Baldwin Counties, Alabama (Fig. 28). The CU drains approximately 875 mi^2 of the Coastal Plain, Major Floodplains and Terraces, and the Coastal Marshes and Beaches soil areas (ACES 1997). It is located in the Southern Pine Plains and Hills (65f) of the Southeastern Plains Ecoregion (65) and the Gulf Flatwoods (75a) and Gulf Barrier Islands and Coastal Marshes (75k) subecoregions of the Southern Coastal Plain (75) Ecoregion (Fig. 29) (Griffith et al. 2001). ADEM has not developed assessment guidelines for macroinvertebrate communities and habitat quality within the Southern Coastal Plain Ecoregion.

Landuse: Open water constitutes 44% of the Mobile Bay CU. The primary landuses throughout the CU were forest, crop land, and urban areas. Weeks Bay is classified as an Outstanding National Resource Water (ADEM 2003d). Fourteen stream segments and waterbodies in 7 sub-watersheds are currently on ADEM's CWA §303(d) list of impaired waters (Table 14b). Eight segments are listed for impairment from urban sources. Three segments are listed for mercury contamination from unknown sources. Caney Branch, Fish River, unnamed tributaries to Magnolia River and Bon Secour River are listed for pathogens from nonpoint sources.

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
24%	12%	3%	0%	16%	44%	1%

NPS impairment potential: Potential for nonpoint source impairment was *moderate* in 4 sub-watersheds. The primary nonpoint source concerns were runoff from crop land, sedimentation, mining, and forestry. Six sub-watersheds were at risk to impairment from urban sources (Table 15b).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15b).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	4	0	0	2	1	4	3	1
High	0	0	0	3	0	0	0	4

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15b).

Category	% Urban	Development	Septic tank failure
Moderate	2	2	0
High	4	5	0

Historical data/studies: Table 16b lists the sub-watersheds and water bodies in which data has been previously collected in conjunction with other monitoring programs. The table also lists the appendices where these data are provided. Six sub-watersheds have been monitored since 1996.

2001 NPS screening assessments: Fly Creek (040), Fish River (050), and Magnolia River (060) were targeted for assessment because they had a *moderate* potential for impairment from nonpoint sources.

Sub-watershed summaries: A summary of the information available for each of the 7 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. Assessment of habitat, biological and chemical conditions are based on long-term data from ADEM's Ecoregional Reference Site Program or similar reference conditions established by the Geological Survey of Alabama. Tables referenced in the summaries are located at the end of the summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Habitat, chemical/physical, and biological indicators of water quality were monitored in 4 sub-watersheds (Table 18b). Results of habitat and macroinvertebrate assessments are presented in Fig. 49. Fly Creek (040), one of the 3 sub-watersheds targeted during the 2001 NPS screening assessment, could not be assessed due to unwadeable conditions at the site and relatively recent urban development within the sub-watershed. Habitat quality was assessed as *excellent* at 4 (18%) stations, *good* at 14 (64%) stations, and *fair* or *fair/good* at 4 (18%) stations. Twenty-three macroinvertebrate assessments were conducted within the CU. Results of these assessments indicated the macroinvertebrate community to be in *excellent* condition at one (4%) station, *good* condition at 3 (13%) stations, *fair* condition at 8 (35%) stations, and *poor* or *very poor* condition at 11 (48%) stations. The fish community was assessed as *fair/poor* at 2 stations (Fig. 50).

Overall condition for each station was rated as the lowest assessment result obtained (Fig. 51). One (4%) and 3 (13%) stations were assessed as *excellent* and *good*, respectively. Eight (35%) stations were assessed as *fair* or *fair/poor* and 11 (48%) stations was assessed as *poor* or *very poor*.

NPS priority sub-watersheds: Based on longterm monitoring data collected by GSA and ADEM's NPS screening assessments, several tributaries within the Fish River (050) and Magnolia River (060) sub-watersheds are were identified as impaired (Table 18a). A watershed monitoring and management plan was implemented in 1994 to address these issues.

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Fig. 49. Habitat and aquatic assessments conducted in the Mobile Bay CU. Assessment results from GSA-5 and GSA-7 are not shown because assessments were conducted at both locations (PLCB-99 and PERB-98, respectively) during 2001.

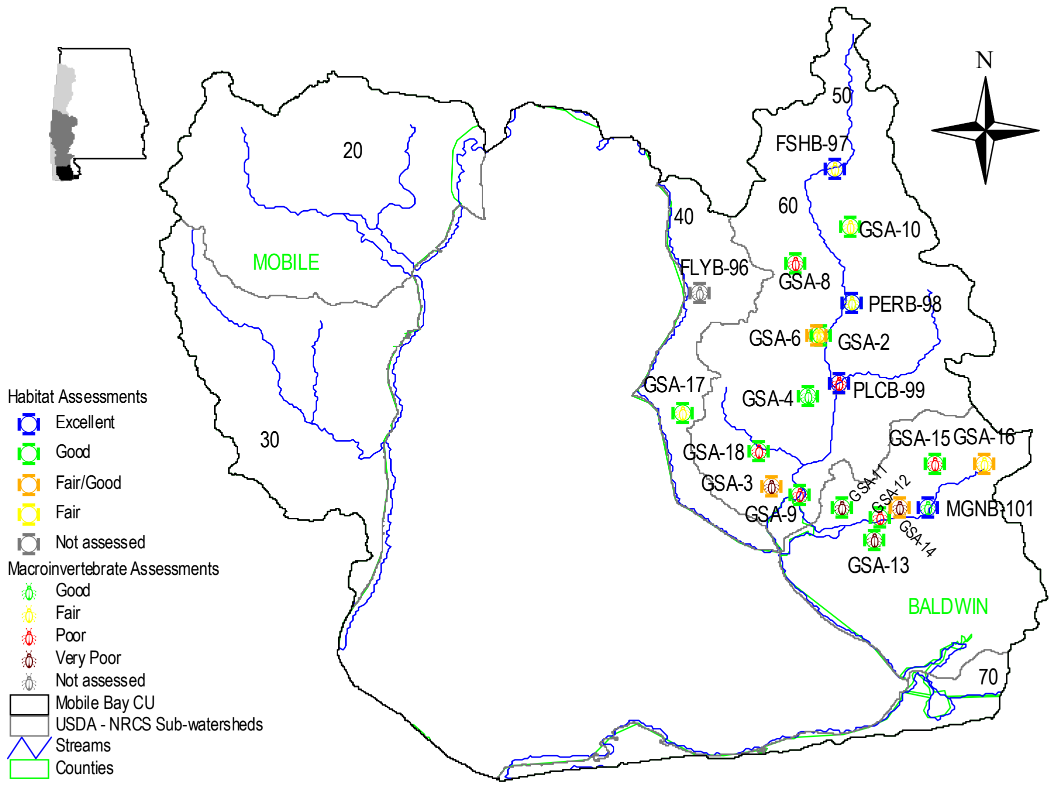

Fig. 50. Results of fish IBI assessments conducted in the Mobile Bay CU.

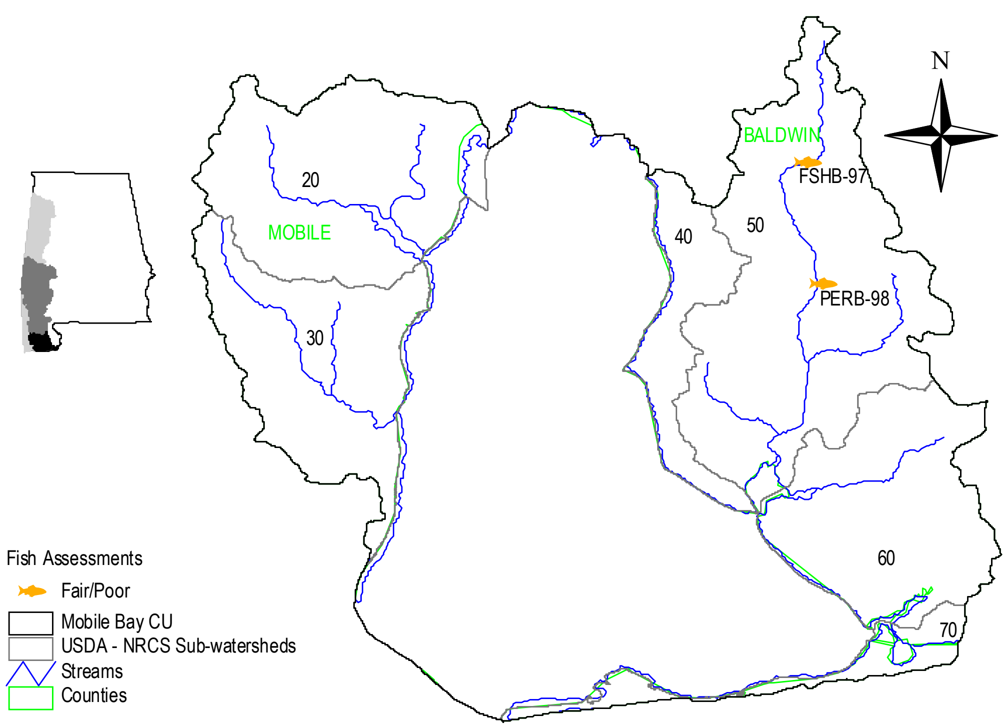

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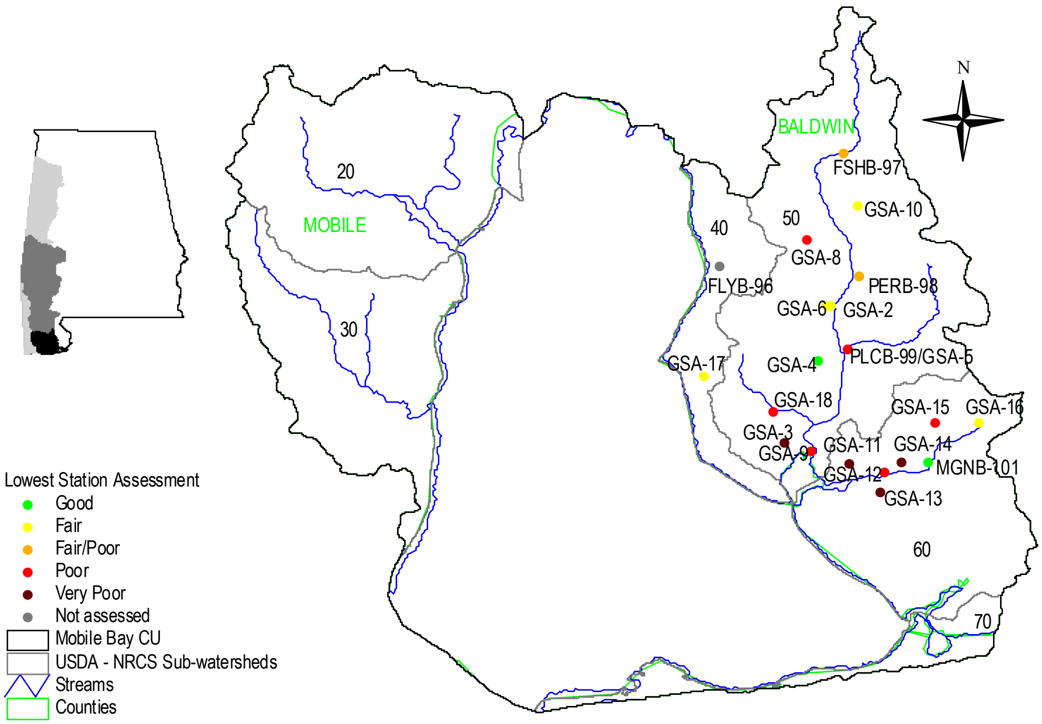
Fig. 51. Priority sub-watersheds located within the Mobile Bay CU. The lowest bioassessment rating obtained by each site is also shown.



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Sub-Watershed: Mobile Bay **NRCS Sub-Watershed Number 010**

Landuse: The Mobile Bay sub-watershed drains approximately 384 mi^2 in Baldwin and Mobile Counties. The SWCD estimated percent land cover as 100% open water. A total of 18 current stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b). Two segments of Mobile Bay are currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for only partially meeting their water use classifications (Table 14b). The segments are listed for impairments from urban sources.

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
0%	0%	0%	0%	0%	100%	<1%

NPS impairment potential: The potential for impairment from all rural nonpoint sources was estimated as *low*. Mobile Bay was given a 3rd priority sub-watershed rating by the local SWCD for impairments from urban sources. The potential for impairment from urban development was estimated as *moderate*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	7	<0.01 AU/ac	<0.01%	0%	0%	0%	ur	ur
NPS Potential	L	L	L	L	L	L	ur	ur
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: The USEPA conducted 2 intensive surveys within Mobile Bay to provide instream data needed for TMDL development of dissolved oxygen criteria for Mobile River/Bay (EPA 2001a). A description of the project is provided in Appendix F-6. ADEM's ALAMAP Program has investigated ecological health throughout Mobile Bay and its estuaries (Carlton et al. 1998). A description of the project is provided in Appendix F-7.

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Classification
EPASC2	Chemical	2000-2001	Mobile Bay ship channel	F&W
EPASC3	Chemical	2000-2001	Mobile Bay ship channel	F&W
EPASC4	Chemical	2000-2001	Mobile Bay ship channel	H/F&W
EPASC5	Chemical	2000-2001	Mobile Bay ship channel	H/S/F&W
EPAMB1	Chemical	2000-2001	Mobile Bay ship channel	S/F&W
EPAMB2	Chemical	2000-2001	Mobile Bay ship channel	H/S/F&W
EPAMB3	Chemical	2000-2001	Mobile Bay ship channel	H/F&W
EPAMB4	Chemical	2000-2001	Bon Secour Bay	H/F&W
EPAMS0	Chemical	2000-2001	Mississippi Sound	H/S/F&W

Mobile Bay: The USEPA conducted 2 intensive surveys within Mobile Bay to provide instream data needed for TMDL development of dissolved oxygen criteria for Mobile River/Bay (Appendix F-6). The surveys were conducted in July, 2000 and May, 2001 to provide data for model calibration and verification under different seasonal conditions.

ADEM's Coastal ALAMAP (ALAMAP-C) was designed to assess the ecological conditions throughout Mobile Bay. Results from data collected during 1993-1995 were reported in Carlton et al. (1998). Overall condition of Mobile Bay rated as *good* to *fair* during the study period. Mobile Bay rarely showed evidence of high bacterial counts or poor water clarity. The northeast and southeast regions of Mobile Bay were affected by high nutrient concentrations and contaminated sediments. Low dissolved oxygen concentrations were detected throughout Mobile Bay. Benthic macroinvertebrate communities were rated as *poor*.

NPS priority status: The potential for NPS impairment was *low*. Two segments of Mobile Bay are currently listed as impaired by urban sources. Results of ADEM's Coastal ALAMAP Program showed the ecological health of Mobile Bay to be affected by high nutrient concentrations, low dissolved oxygen concentrations, and contaminated sediments.

Sub-Watershed: Halls Mill Creek NRCS Sub-Watershed Number 020

Landuse: The Halls Mill Creek sub-watershed drains approximately 102 mi^2 in Mobile County. Land cover within the sub-watershed was 79% urban. A total of 155 stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b). Segments of Rabbit Creek and Dog River are currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for not meeting their water use classifications (Table 14b). The segments are listed for pathogens and organic enrichment/dissolved oxygen impairments from urban sources.

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
17%	1%	2%	0%	79%	<1%	0%

NPS impairment potential: The main NPS concerns within the sub-watershed were from urban sources (Table 15b). Erosion from sand and gravel pits contributed 76% (1.6 tons/ac/yr) of the total annual sediment within the sub-watershed (Table 20b). These estimates corroborate the findings of a 1995 intensive survey of the sub-watershed, which found sedimentation from land development to have severely affected Halls Mill Creek, Moore Creek, and the Upper Dog River (ADEM 1995). The study also found high concentrations of metals, primarily copper, zinc, and lead, and fecal coliform from sanitary sewer leaks within the sub-watershed. In the 1998 SWCD survey, Halls Mill Creek was given a 3rd priority sub-watershed rating by the local SWCD for impairments from urban sources.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	9	<0.01 AU/ac	<0.01%	1%	2%	0%	1%	2.1 tons/ac/yr
NPS Potential	L	L	L	L	L	L	L	M
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Located within the Southern Coastal Plain (75) Ecoregion, the streams within the sub-watershed are tidally influenced and naturally depauperate of macroinvertebrate families sensitive to the stressful and constantly changing conditions. An NPS Screening Assessment was therefore not conducted within the Halls Mill Creek sub-watershed. However, an intensive water quality, sediment, and macroinvertebrate survey was conducted at several locations during 1995 (Appendix F-6; ADEM 1995). Dog River and Rabbit Creek were intensively monitored during 2001 in conjunction with ADEM's CWA §303(d) Monitoring Program (Appendix F-2). Longterm monitoring data have been collected from the Dog River at DR1 since 1974 (ADEM In press). Data collected since 1990 are provided in Appendix F-8. The EPA collected water quality data near the mouth of Dog River during an intensive survey of Mobile Bay. A description of the project is provided in Appendix F-6. The study plan and results can be obtained at www.epa.gov.

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
DGRM-1	Chemical	2001	Dog R. at AL Hwy 163	93	S/F&W
DGRM-2	Chemical	2001	Dog. R. approx. 200 m ds of Robinson Bayou	16	F&W
EPADR	Chemical	2000-2001	Dog River near mouth	93	S/F&W
DR1	Chemical	1974-2001	Dog R. at Luscher Park Boat Launch nr. US Hwy 10	11	F&W
CDR-1	Chemical, Biological	1995	Dog R., 0.5 mi ds of the confluence with Halls Mill Cr.	67	S/F&W
CDR-2	Chemical, Biological	1995	Dog R., 1 mi us of the confluence with Robinson Bayou	13	F&W
CDR-3	Chemical, Biological	1995	Dog R., 0.25 mi ds of the I-10 bridge crossing.	11	F&W
CRB	Chemical, Biological	1995	Robinson Bayou, 0.25 mi. us of its mouth	3	F&W
CMC	Chemical, Biological	1995	Moore Cr., 0.5 mi us of its mouth	14	F&W
CHMC	Chemical, Biological	1995	Halls Mill Cr., 1.0 mi us of its mouth	33	F&W
CRC	Chemical, Biological	1995	Rabbit Cr., 2 mi us of its mouth.	13	F&W
RBTM-1	Chemical	2001	Rabbit Cr. Al Hwy 193	12	F&W
RBTM-2	Chemical	2001	Rabbit Cr. at Todd Acres Rd.	8	F&W
RBTM-3	Chemical	2001	Rabbit Cr. at Carol Plantation Rd.	8	F&W
RBTM-4	Chemical	2001	Rabbit Cr. at Old Pascagoula Rd.	7	F&W

Dog River: Since 1974, DR-1 has been monitored as part of ADEM's Ambient Monitoring Program (ADEM In press). Data collected since 1990 are provided in Appendix F-8a. Since 1996, dissolved oxygen concentrations have been <5.0 mg/L during 5 (14%) of 37 sampling events. Fecal coliform concentrations exceeded 2,000 colonies/100 mL during 7 (19%) of 36 sampling events.

Dog River was monitored at 3 stations, located in the Upper- (CDR-3), Mid- (CDR-2), and Lower-Dog (CDR-1) River, during an intensive survey conducted in 1995 to investigate the stresses of urban growth on streams within the Halls Mill Creek sub-watershed (ADEM 1995). The Upper-Dog River station (CDR-3) was established at ADEM's historical ambient monitoring station (DR-1). A benthic macroinvertebrate assessment found the macroinvertebrate community at the Upper-Dog River station to be impaired by sedimentation and high concentrations of some metals. The Mid- and Lower-Dog River stations were more typical of tidally-influenced, soft-bottomed streams.

However, the diversity of some organisms sensitive to sedimentation, low dissolved oxygen concentrations, and high metals concentrations was low for this stream type, suggesting that, although the communities were healthy in 1995, the Mid- and Lower-Dog River were showing signs of environmental stress. Additionally, the Mid-Dog River station had the highest concentrations of cadmium, lead, and zinc and the second highest concentration of copper (ADEM 1995).

A study conducted by ADEM during 2001 to investigate the source of pathogen and OE/DO impairment also found the Upper-Dog River to be more impaired than the mid- and lower sections of the river. Dog River was monitored at 3 stations, located in the Upper- (DR-1), Mid- (DR-2), and Lower-Dog (DR-3) River (Appendix F-2c). ADEM's historical station, DR-1 was the upstream-most station during the study. Dissolved oxygen concentrations were <5.0 mg/L during 2 (33%) of 6 sampling events. The concentration of fecal coliform was 4,300 colonies/100 mL during the June sampling event. At DGRM-2, the fecal coliform concentration was 2,200 colonies/100 mL during June. No water quality violations were detected at DGRM-1, located near the mouth of Dog River.

Rabbit Creek: One station (CRC) on Rabbit Creek was monitored during the 1995 Survey of the Dog River Watershed (ADEM 1995). The benthic macroinvertebrate community was found to be typical of tidally-influenced, soft-bottomed streams. However, the diversity of some organisms sensitive to sedimentation, low dissolved oxygen concentrations, and high metals concentrations was low for this stream type, suggesting low-level stress to biotic communities in the drainage. In 1994, a landuse survey found Rabbit Creek, the least-developed of the streams within the Hall Mills Creek sub-watershed, to be in the process of high-intensity, commercial development.

Rabbit Creek was monitored at 4 stations during ADEM's 2001 Intensive Dog River Survey to determine the source of pathogens and OE/DO impairment (Appendix F-2). Dissolved oxygen concentrations were <5.0 mg/L during 2 (50%) of 4 sampling events and pH was <6.0 s.u. during 2 (50%) of 4 sampling events. At RBTM-1, the downstream-most station, the dissolved oxygen concentration was <5.0 mg/L during one (25%) of 4 sampling events. Water quality violations were not detected at RBTM-2 or RBTM-3.

Robinson Bayou: Robinson Bayou was intensively monitored during the 1995 Survey of the Dog River Watershed (ADEM 1995). The macroinvertebrate community was characterized by low diversity of some organisms sensitive to sedimentation, low dissolved oxygen concentrations, and high metals concentrations. The Robinson Bayou had the highest concentration of copper and the second highest concentrations of cadmium, lead, and zinc (ADEM 1995).

Halls Mill Creek: Halls Mill Creek was intensively monitored during the 1995 Survey of the Dog River Watershed (ADEM 1995). The findings of this study indicated Halls Mill Creek to be highly impaired. Only 15 macroinvertebrate organisms were collected, suggesting severe environmental stress. Halls Mill Creek was receiving the highest sediment loads during 1995, primarily due to land development on Milkhouse Creek and Second Creek. Fecal coliform contamination and high zinc concentrations were also detected at the site.

Moore Creek: Moore Creek was intensively monitored during the 1995 Survey of the Dog River Watershed (ADEM 1995). A benthic macroinvertebrate assessments found the macroinvertebrate community to be impaired by sedimentation from storm water runoff from impervious surfaces and fecal coliform contamination.

NPS priority status: Intensive water quality monitoring within the Hall Mill Creek sub-watershed have verified urban impairment within the Upper-Dog River, Halls Mill Creek, and Moore Creek. Biological assessments indicated stressed benthic macroinvertebrate communities within the Mid- and Lower-Dog River and Rabbit Creek. Sediment cores indicated metals contamination characteristic of urban runoff. During a 1994 and 1995 survey, active construction sites lacking effective erosion controls were found to have impaired water clarity and contributed significantly to streambed siltation.

Sub-Watershed: Fowl River NRCS Sub-Watershed Number 030

Landuse: The Fowl River sub-watershed drains approximately 82 mi^2 in Mobile County. Land cover within the sub-watershed was a mixture of forest, urban areas, and crop land. A total of 71 current stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b). A 16.9 mi. segment of Fowl River is currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for not meeting its "Swimming" and "Fish and Wildlife" water use classifications (Table 14b). It is listed for mercury impairment from unknown sources.

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
63%	10%	5%	0%	21%	1%	1%

NPS impairment potential: The potential for impairment from crop land runoff was *moderate*. The overall potential for impairment from nonpoint sources was estimated as *low*. The potential for impairment from urban runoff and developement was estimated as *high*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	9	<0.01 AU/ac	<0.01%	10%	5%	0%	3%	1.7 tons/ac/yr
NPS Potential	L	L	L	M	L	L	L	L
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Fowl River and the Theodore Industrial Canal have been monitored by ADEM since 1985 (ADEM 2002). Water quality data collected at these sites since 1990 are provided in Appendix F-8. Fowl River has also been recently evaluated in conjunction with ADEM's ALAMAP Program (Appendix F-7). Water quality data were collected at a USGS Surface Water Station established on Fowl River, 1966-2000. A stream flow gage has also been maintained at the site since 1995 (http://waterdata.usgs.gov/nwis/inventory).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
FR-1	Chemical	1985-2001	Fowl R. at AL Hwy 163	56	S/F&W
02471078	Chemical	1995-2001, 1966-2000	Fowl R. at Half Mile Rd.	17	S/F&W
MR03U3-6	Chemical, Habitat	1999	Fowl R. approx. 0.3 mi. north of unnamed Mobile CR	52	S/F&W
TC-1	Chemical	1985-2001	Theodore Industrial Canal at AL Hwy 193	---	A&I

Fowl River: Fowl River has been monitored as part of ADEM's Ambient Monitoring Program since 1985 (ADEM 2003). Data collected since 1990 are presented in Appendix F-8a. Since 1996, dissolved oxygen concentrations were <5.0 mg/L during 5 (13%) of 38 sampling events.

At MR03U3-6, the Fowl River is located within the Gulf Coast Flatwoods (75a) subecoregion (Appendix E-1). The river was unwadeable and a habitat assessment was not conducted (Appendix F-7a). Results of water quality data collected during August 1999 are summarized in Appendix F-7b.

Theodore Industrial Canal: The Theodore Industrial Canal has been monitored by ADEM since 1985 (ADEM 2002). Water quality data collected at these sites since 1990 are provided in Appendix F-8a.

NPS priority status: The Fowl River sub-watershed is primarily impacted by urban sources. ADEM is currently analyzing data to determine the source of this impairment.

Sub-Watershed: Fly Creek NRCS Sub-Watershed Number 040

Landuse: The Fly Creek sub-watershed drains approximately 37 mi^2 in Baldwin County. Land cover within the sub-watershed was a combination of urban areas, crop land, and forest. Thirty-two current construction/stormwater authorizations, 20 non-coal mining/stormwater (<5 acres) authorizations, 1 municipal NPDES permit, and 1 industrial process wastewater NPDES permit have been issued in the sub-watershed (Table 13b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
23%	26%	7%	<1%	38%	0%	6%

NPS impairment potential: The potential for impairment from rural nonpoint sources was estimated as *moderate*. The primary rural NPS concerns were runoff from crop and mining lands. Sedimentation, primarily from urban development and gully erosion, was also a concern within the sub-watershed. Fly Creek was given a 1st priority sub-watershed rating by the local SWCD. The potential for impairment from urban runoff and development was estimated as *high*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	17	0.12 AU/ac	0.04%	26%	7%	<1%	19%	10.9 tons/ac/yr
NPS Potential	M	L	L	H	L	M	L	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Fly Creek could not be assessed during the 2001 NPS Screening Assessment due to non-wadeable conditions (Table 17b). Red Gully Creek was evaluated in 1997 during ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
FLYB-96	None conducted	2001	Fly Cr. at US Hwy 98	6	S/F&W
MR02U1	Chemical, Habitat	1997	Red Gully Cr nr Daphne	<1	F&W

Red Gully Creek: At MR02U1, Red Gully Creek is a low gradient, sand-bottomed stream located in the Gulf Coast Flatwoods (75a) subecoregion (Appendix F-7a). Results of water quality sampling conducted during August 1997 are located in Appendix F-7b. Assessment criteria have not been developed for this subecoregion.

NPS priority status: NPS priority status was not determined during this study. The sub-watershed was at risk to impairment from both urban and rural sources.

Sub-Watershed: Fish River **NRCS Sub-Watershed Number 050**

Landuse: The Fish River sub-watershed drains approximately 153 mi^2 in Baldwin County. Land cover within the sub-watershed was primarily crop land and forest. Weeks Bay was designated an Outstanding National Resource Water (ONRW) in 1992 (ADEM 1992c). The Weeks Bay Watershed project was initiated in 1993 by the Natural Resource Conservation Service (NRCS), the U.S. Environmental Protection Agency (EPA) Gulf of Mexico Program, ADEM, and various other agencies to protect and monitor water quality within Weeks Bay.

A total of 90 current stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b). A 31.5 mi. segment of the Fish River is currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for not meeting its "Swimming" and "Fish and Wildlife" water use classifications due to mercury and pathogens from pasture grazing and unknown sources (Table 14b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
41%	41%	9%	<1%	5%	2%	2%

NPS impairment potential: The potential for NPS impairment was estimated as *moderate.* The main NPS concerns within the sub-watershed were runoff from crop and pasture lands, mining, and forestry activities. Approximately 42,000 acres (43%) are treated with pesticides and herbicides (ASWCC 1998). Sedimentation, primarily from cropland erosion and urban development (1.0 and 1.2 tons/ac/yr, respectively), was also a concern. Fish River was given a 2nd priority sub-watershed rating by the local SWCD. The potentials for impairment from urban runoff and development were estimated as *moderate* and *high*. These estimates generally agree with potential impairment sources identified as part of the Weeks Bay Watershed project (Chandler et al. 1998a; Chandler et al. 1998b).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	21	0.09 AU/ac	<0.01%	41%	9%	<1%	32%	5.5 tons/ac/yr
NPS Potential	M	L	L	H	M	M	M	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Because of Weeks Bays status as an Outstanding National Resource Water and the potential for impairment from both rural and urban sources, the sub-watershed has been extensively monitored in conjunction with ADEM's CWA §303(d) (Appendix F-2) and Ambient Monitoring Programs (Appendix F-8) and GSA's Watershed Assessment of Weeks Bay (Appendix F-5; Chandler et al. 1998a, Chandler et al. 1998b, O'Neil et al. 2003). Fish River (FSHB-97), Perone Branch (PERB-98), and Polecat Creek (PLCB-99) were also monitored during the 2001 NPS Screening Assessment (Table 17b). An unnamed tributary of Threemile Creek could not be assesesed during ADEM's 1999 ALAMAP Program due to severe low flow conditions (Appendix F-7b). One USGS surface water station is located on Fish River. Stream flow data collected since 1953 and water quality data collected since 1960-2000 are available at http://waterdata.usgs.gov/nwis/inventory.

The following section provides a discussion of the assessment data collected within each waterbody. Fish River is discussed first. Each of the Fish River tributaries are also discussed in the order of their confluence with Fish River.

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
CWPB-100	None conducted	2001	Cowpen Cr. at Baldwin CR. 33.	6	S/F&W
GSA-4	Chemical, Habitat, Biological	1994-1998	Cowpen Cr. at CR 9	6	S/F&W
GSA-5A	Chemical, Habitat, Biological	1994-1998	Baker Br. at CR 55	4	F&W
GSA-17	Chemical, Habitat, Biological	1994-1998	Barner Br. at CR 9	5	F&W
GSA-8	Chemical, Habitat, Biological	1994-1998	Caney Br. nr. Silverhill Airfield	5	F&W
GSA-8a	Chemical, Habitat, Biological	1994-1998	Caney Br. us of AL Hwy 104	10	F&W
CNYB-1	Chemical	2001	Caney Branch near mouth north of AL Hwy 104	10	F&W
GSA-10	Chemical, Habitat, Biological	1994-1998	Corn Br. nr. Loxley	6	F&W
GSA-6	Chemical, Habitat, Biological	1994-1998	Pensacola Br. at CR 48	5	F&W
GSA-3	Chemical, Habitat, Biological	1994-1998	Turkey Br. CR 27	7	S/F&W
GSA-18	Chemical, Habitat, Biological	1994-1998	Waterhole Br. at CR 27	5	S/F&W
PERB-98	Chemical, Habitat, Biological	2001	Perone Br. at AL Hwy 104.	9	F&W
GSA-7	Chemical, Habitat, Biological	1985-2001	Perone Br. at AL Hwy 104	9	F&W
MR03U1	Chemical, Habitat	1997	Polecat Cr near Silverhill		S/F&W
PLCB-99	Chemical, Habitat, Biological	2001	Polecat Cr. at Baldwin CR 9	28	S/F&W
GSA-5	Chemical, Habitat, Biological	1994-1998	Polecat Cr. at Baldwin CR 9	28	S/F&W
FSHB-3	Chemical	2001	Fish R at US Hwy 90	16.5	S/F&W

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
FSHB-97	Chemical, Habitat, Biological	2001	Fish R. at US Hwy 90	16.5	S/F&W
GSA-9	Chemical, Habitat, Biological	1994-1998	Fish R. at US Hwy 90	16.5	S/F&W
FI-1	Chemical	1990-2001	Fish R at AL Hwy 104	55	S/F&W
02378500	Chemical	-2001	Fish R at AL Hwy 104	55	S/F&W
FSHB-2	Chemical	2001	Fish R at Baldwin CR 48	67	S/F&W
GSA-2	Chemical, Habitat, Biological	1994-1998	Fish R. at Baldwin CR 48	67	S/F&W
GSA-2A	Chemical, Habitat, Biological	1994-1998	Fish R. at CR 32	119	S/F&W
FSHB-1	Chemical	2001	Fish R at US Hwy 98	152	S/F&W
GSA-1	Chemical	1994-1998	Fish R. at US Hwy 98	152	S/ F&W
MR05U3-11	None conducted	1999	Tributary to Threemile Cr. approx. 0.5 mi sw of Steelwood	<1	F&W
WB1	Chemical		Weeks Bay at US Hwy 98	152	ONRW/S/ F&W

Fish River: Fish River has been monitored intensively at 5 locations in conjunction with GSA's Watershed Assessment of Weeks Bay (Appendix F-5; O'Neil et al. 2003, Chandler et al. 1998a, Chandler et al. 1998b), ADEM's CWA §303(d) (Appendices F-2c and F-2d) and Ambient Monitoring (F-8a) Programs, and the 2001 NPS Screening Assessment. Bioassessments were conducted at the upstream most station, GSA-9 (FSHB-97), and GSA-2. At these locations, Fish River is a tannic, low-gradient, sand-bottomed stream characteristic of the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). At GSA-9, habitat condition was assessed as *good*, but the macroinvertebrate community was in *poor* condition (Appendix F-5a). Similar results were obtained during an assessment conducted at the same location (FSHB-97) during 2001. The macroinvertebrate and fish community were assessed as *fair* and *fair/poor*, respectively (Table 22b), despite *excellent* habitat quality (Table 21b).

Fish River was monitored several miles downstream at GSA-2. Based on results of 8 assessments, habitat quality was assessed as *good* and the macroinvertebrate community was assessed as *fair* (Appendix F-5a).

Appendix F-5b summarizes intensive water quality data collected at GSA-9, the upstream-most site, from February 1994 through September 1998. Fecal coliform concentrations were >2,000 colonies/100 mL during 5 (9%) of 56 sampling events, indicating Fish River to be impaired by pathogens. However, fecal coliform samples collected at this location (FSHB-3) during 2001 did not detect impairment from pathogens (Appendix F-2c; ADEM 2003). Total Kjeldahl nitrogen concentrations were >1.0 mg/L during 2 (4%) of 56 sampling events.

Since the mid-1970s, intensive water quality data have been collected at FI-1, several miles downstream of GSA-9. Data collected since 1990 are provided in Appendix F-8a. Since 1996, fecal coliform concentrations have been >2,000 colonies/100 mL during 3 (8%) of 38 sampling events. Dissolved oxygen concentrations, temperature, and pH have consistently met Swimming and Fish & Wildlife Water Use Classification criteria.

Appendix F-5b summarizes intensive water quality data collected at GSA-2. Nitrate/nitrite-nitrogen concentrations were >1.0 mg/L during 46 (84%) of 55 sampling events. Fecal coliform concentrations were >2,000 colonies/100 mL during 5 (9%) of 55 sampling events. However, fecal coliform samples collected collected at this location (FSHB-2) during 2001 did not detect impairment from pathogens (Appendix F-2c; ADEM 2003).

Intensive water quality data collected at GSA-1 are provided in Appendix F-5b. The dissolved oxygen concentration was below the Fish &Wildlife water use classification criteria of 5.0 mg/L during 4 (7%) of 56 sampling event events. Fecal coliform concentrations were >2,000 colonies/100 mL during 3 (5%) of 56 sampling events. Fecal coliform samples collected at this location (FSHB-1) during 2001 did not detect impairment from pathogens (Appendix F-2c; ADEM 2003).

<u>Corn Branch</u>: Corn Branch was assessed at GSA-10, 1994-1998 (Appendix F-5). The station is located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Habitat quality was *good* at the station, but the macroinvertebrate community was assessed as *fair* (Appendix F-5a).

Intensive water quality data collected from February 1994 through September 1998 by GSA are provided in Appendix F-5b. Fecal coliform concentrations were >2,000 colonies/100mL during 6 (11%) of 56 sampling events. Nitrate/nitrite-nitrogen concentrations were >1.0 mg/L during 23 (41%) of 56 sampling events.

<u>Caney Branch</u>: Caney Branch, located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1), was assessed at GSA-8 and GSA-8a during GSA's 5 year study (Appendix F-5). Habitat condition at both sites was assessed as *good* (Appendix F-5a; O'Neil et al. 2003). The macroinvertebrate community was assessed as *good* at GSA-8a and *poor* at GSA-8 (Appendix F-5a; O'Neil et al. 2003).

Intensive water quality data collected from March 1994 through September 1998 at GSA-8a are provided in Appendix F-5b. Nitrate/nitrite-nitrogen concentrations were >1.0 mg/L during 50 (91%) of 55 sampling events. Fecal coliform concentrations were above 2,000 colonies/100 mL during 8 (14%) of 55 sampling events. These data identified Caney Branch as impaired by pathogens and resulted in the addition of Caney Branch to ADEM's 1998 CWA §303(d) list of impaired waterbodies.

As part of the Weeks Bay Watershed Project, pollution abatement actions were taken to inhibit fecal coliform pollution from entering Caney Branch. During 2001, ADEM collected 22 fecal coliform samples to investigate the effectiveness of these actions and to determine if the impairment still existed (Appendix F-2c; ADEM 2002). The fecal coliform concentrations did not exceed the Swimming or Fish and Wildlife Water Use Classification criteria of >2,000 colonies/100 mL during any one sampling event or a geometric mean of 200 colonies/100 mL. Caney Branch was therefore removed from ADEM's 2002 CWA §303(d) list for impairment caused by pathogens.

Perone Branch: At GSA-7 (PERB-98), Perone Branch is a low-gradient sand bottomed stream located in the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). During GSA's longterm monitoring project, habitat quality and the macroinvertebrate community were assessed as *good* (Appendix F-5a).

Intensive water quality data collected from February 1994 through September 1998 by GSA is provided in Appendix F-5b. Fecal coliform concentrations were above 2,000 colonies/100mL during 6 (11%) of 56 sampling events. Nitrate/nitrite-nitrogen concentrations were >1.0 mg/L during 49 (88%) of 56 sampling events.

The site (PERB-98) was reassessed in 2001 (Table 17b). Although habitat quality was assessed as *excellent* (Table 21b), biological conditions appeared to have deteriorated slightly at the site. Seven EPT families were collected, indicating the site to be in *fair* condition (Table 22b). The fish community was assessed as *fair/poor* (Table 22b).

Water quality data were collected in May, August, and September 2001. Results are presented in Appendix D-1. During the September sampling event, the concentration of nitrate/nitrite-nitrogen was 1.25 mg/L. The concentration of chlorides was 7.6 mg/L.

Pensacola Branch: Pensacola Branch was monitored at GSA-6, 1994-1998 (Appendix F-5). The station is located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Habitat quality was assessed as *fair-good* (Appendix F-5a). Results of macroinvertebrate assessments indicated the community to be in *fair* condition (Appendix F-5a).

Intensive water quality data collected from February 1994 through September 1998 by GSA is provided in Appendix F-5b. Fecal coliform concentrations were >2,000 colonies/100mL during 4 (7%) of 56 sampling events. Nitrate/nitrite-nitrogen concentrations were >1.0 mg/L during 20 (36%) of 56 sampling events.

Polecat Creek: At GSA-5, Polecat Creek is a tannic, low-gradient, sand-bottomed stream located in the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Snags, rootbanks, and leaf packs were prevalent at the site. Results of 4 macroinvertebrate assessments conducted from 1994-1998 indicated the macroinvertebrate community to be in *poor* condition (Appendix F-5a). Habitat quality was assessed as *fair* (Appendix F-5a). The site (PLCB-99) was reassessed during 2001 (Table 17b). The macroinvertebrate community was assessed as *poor*, corroborating results of the previous study (Table 22b). Habitat quality was assessed as *excellent* (Table 21b).

Intensive water quality data collected from February 1994 through September 1998 indicated high nitrate/nitrite-nitrogen concentrations during 11 (73%) of 15 sampling events (Appendix F-5b).

Baker Branch: A tributary of Polecat Creek, Baker Branch was monitored at GSA-5a, 1994-1998 (Appendix F-5a). The site is located within the Southern Pine Plains and Hills

(65f) subecoregion (Appendix E-1). Based on GSA's assessment methods, habitat quality was assessed as *good* (Appendix F-5a; O'Neil et al. 2003). Macroinvertebrate assessment results indicated the community to be in *poor* condition (Appendix F-5a; O'Neil et al. 2003).

Intensive water quality data collected from May 1995 through September 1998 is provided in Appendix F-5b. The dissolved oxygen concentration was below the Fish &Wildlife water use classification criteria of 5.0 mg/L during 7 (17%) of 41 sampling event events. Fecal coliform concentrations were >2,000 colonies/100mL during 2 (5%) of 41 sampling events. Nitrate/nitrite-nitrogen concentrations were >1.0 mg/L during 28 (68%) of 41 sampling events. Although average nitrate/nitrite-nitrogen concentrations were lower during April-September 1998, dissolved oxygen concentrations were consistently below Fish & Wildlife water use classification criteria.

<u>Cowpen Creek</u>: GSA assessed Cowpen Creek at GSA-4, 1994-1998 (Appendix F-5). The site is located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Condition of both the habitat and macroinvertebrate community were assessed as *good* at the site (Appendix F-5a).

Intensive water quality data collected from February 1994 through September 1998 by GSA is provided in Appendix F-5b. Fecal coliform concentrations were >2,000 colonies/100 mL during 3 (5%) of 56 sampling events. Nitrate/nitrite-nitrogen concentrations were >1.0 mg/L during 46 (82%) of 56 sampling events.

<u>Waterhole Branch</u>: Waterhole Branch was monitored at GSA-18, 1994-1998 (Appendix F-5). The site is located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix F-5a). Habitat quality was assessed as *good*, but the macroinvertebrate community was in *poor* condition (Appendix F-5a).

Intensive water quality data collected from February 1995 through September 1998 by GSA is provided in Appendix F-5b. The dissolved oxygen concentration was below the Fish &Wildlife water use classification criteria of 5.0 mg/L during 25 (60%) of 42 sampling event events. Fecal coliform concentrations were >2,000 colonies/100 mL during 3 (7%) of 42 sampling events. Total Kjeldahl nitrogen concentrations were >1.0 mg/L during 9 (21%) of 42 sampling events. During 1998, concentrations exceeded 1.0 mg/L during 6 (67%) of 9 sampling events.

<u>Turkey Branch</u>: Turkey Branch was assessed at GSA-3 during GSA's longterm monitoring project (Appendix F-5). The site is located within the Gulf Coast Flatwoods (75a) subecoregion (Appendix E-1). Habitat quality was assessed as *fair-good* (Appendix F-5a). Based on the results of 4 macroinvertebrate assessments conducted during the project, the macroinvertebrate community was assessed as *very poor* (Appendix F-5a).

Intensive water quality data collected from February 1994 through July 1997 is provided in Appendix F-5c. The dissolved oxygen concentration was below the Fish &Wildlife water use classification criteria of 5.0 mg/L during 10 (67%) of 15 sampling event events. However, low stream flow conditions may have contributed to low dissolved oxygen concentrations.

Barner Branch: GSA assessed Barner Branch at GSA-17, 1994-1998 (Appendix F-5). The site is located within the Gulf Coast Flatwoods (75a) subecoregion (Appendix E-1). Habitat quality was assessed as *good* (Appendix F-5a; O'Neil et al. 2003). Macroinvertebrate assessment results indicated the community to be in *fair* condition (Appendix F-5a; O'Neil et al. 2003).

Intensive water quality data collected from April 1995 through September 1998 by GSA is provided in Appendix F-5b. The dissolved oxygen concentration was below the Fish &Wildlife water use classification criteria of 5.0 mg/L during 8 (19%) of 42 sampling event events. Violations primarily occurred during the summer months of 1995 and 1998. Nitrate/nitrite-nitrogen concentrations ranged from 0.72 mg/L to 1.72 mg/L.

Weeks Bay: Weeks Bay has been monitored in conjunction with ADEM's Ambient Monitoring Program since October of 1985 (ADEM in press). Data collected since 1990 are provided in Appendix F-8a. Since 1996, dissolved oxygen concentrations have been <5.0 mg/l during 4 (10%) of 38 sampling events. Fecal coliform concentrations were >4,000 colonies/100 ml during 1 (3%) of 38 sampling events. Specific conductance has ranged from 60 μmhos in March 1998 to 24,590 μmhos in December 1996.

NPS priority status: Fish River and 8 of its tributaries have been monitored extensively since 1994. The macroinvertebrate communities were in *good* condition at Caney Creek and Cowpen Creek, but bioassessment results conducted within the Upper Fish River and the remaining tributaries have indicated impaired biological conditions. Longterm, intensive water quality sampling conducted during the 1990s suggested high pathogen and nutrient concentrations to be potential causes of the impairment. Data collected during 2001 showed a significant decrease in pathogen concentrations throughout the sub-watershed. However, nitrogen concentrations, particularly nitrate/nitrite-nitrogen and TKN (organic nitrogen and ammonia), continue to be concerns.

Sub-Watershed: Magnolia River NRCS Sub-Watershed Number 060

Landuse: The Magnolia River sub-watershed drains approximately 89 mi^2 in Baldwin County. Land cover within the sub-watershed was mainly forest with some crop land and urban areas. A total of 97 stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13b). A tributary to Bon Secour River is currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for only partially meeting its "Fish and Wildlife" water use classification due to pathogen contamination (Table 14b).

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
57%	23%	4%	<1%	13%	0%	2%

NPS impairment potential: The primary nonpoint sources of impairment included crop land runoff, mining, and forestry. There was also potential for impairment from urban runoff and development (Table 15b). Erosion from urban development constituted 51% of the total annual sediment load within the sub-watershed.

An intensive survey of landuse within the sub-watershed showed the upper reaches of the Bon Secour River to be surrounded by cropland, pecan orchards, pasturelands, and woodlands. Good buffers of natural vegetation were found to protect streams. Although healthy riparian buffers of natural vegetation were present within the mid-reaches, this section of the sub-watershed showed higher levels of commercial development and shoreline alteration. The lower reaches are tidally-influenced. The tributaries are small and intermittent. The streambanks were well vegetated with natural drainage and wetland systems intact. (ADEM 1996e)

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	19	0.02 AU/ac	<0.01%	23%	4%	<1%	46%	5.3 tons/ac/yr
NPS Potential	M	L	L	H	L	M	M	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: Magnolia River (MGNB-101) was monitored during the 2001 NPS Screening Assessment (Table 17b). Magnolia River and several tributaries have been intensively sampled in conjunction with ADEM's CWA §303(d) Monitoring Program (Appendix F-2) and GSA's Weeks Bay Water Quality Assessment (O'Neil et al. 2003; Appendix F-5).

An intensive water quality, sediment, and macroinvertebrate survey was conducted at several locations along Bon Secour River during 1996 (ADEM 1996e). A description of the project is provided in Appendix F-6. Bon Secour River at BS-1 was intensively monitored in conjunction with ADEM's Ambient Monitoring Program (Appendix F-8).

An unnamed tributary to Bon Secour River was assessed during ADEM's CWA §303(d) Monitoring Program (Appendix F-2).

Magnolia River: Magnolia was assessed at GSA-16 and GSA-12 by GSA, 1995-1998 (Appendix F-5; O'Neil et al. 2003). Both sites are located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Habitat condition at GSA-16, located upstream of Foley, was *fair-good* (Appendix F-5a; O'Neil et al. 2003). The macroinvertebrate community was assessed as *fair* (Appendix F-5b; O'Neil et al. 2003). At GSA-12, downstream of Foley, habitat condition was assessed as *good*, but the macroinvertebrate community was in *poor* condition (Appendix F-5a; O'Neil et al. 2003). Magnolia River (MGNB-101) was reassessed downstream of Foley during 2001 (Table 17b). Habitat conditions (Table 21b) and the macroinvertebrate community (Table 22b) appear to have improved since 1998.

Intensive water quality data were collected from January 1995 through September 1998 at GSA-16 and GSA-12 (Appendix F-5b). At GSA-16, nitrate/nitrite-nitrogen concentrations averaged 2.77 mg/L and exceeded 1.0 mg/L during 100% (45) of the the sampling events. Fecal coliform counts were above 2,000 colonies/100 mL during 3 (7%) of 45 sampling events.

At GSA-12, the average nitrate/nitrite-nitrogen concentration was 2.03 mg/L, exceeding 1.0 mg/L during 43 (96%) of 45 sampling events. The fecal coliform concentration was >2,000 colonies/100 mL during 3 (7%) of 45 sampling events. Dissolved oxygen concentrations were below the Fish and Wildlife water use classification criteria of 5.0 mg/L during 7 (16%) of 45 sampling events. Specific conductance was much higher at this site, averaging 1,747 μmhos/cm.

Based on these data, the segment of Magnolia River between GSA-16 and GSA-12 was added to ADEM's 2000 CWA §303(d) list of impaired waters for impairment caused by dissolved oxygen/organic enrichment (DO/OE) (ADEM 2001d). Intensive water quality data were collected at GSA-16 (MGRB-2) and GSA-12 (MGRB-1) during 2001 to verify DO/OE impairment (Appendix F-2c). In total, 10 (9.8%) of 102 samples collected between 1994 and 2001 were <5.0 mg/L dissolved oxygen criterion, 9 of which were collected at a tidally influenced station. Magnolia River was therefore removed from ADEM's 2002 CWA §303(d) list of impaired waters for DO/OE impairment. Data collected during 2001 indicated high nitrate/nitrite-concentrations at both stations (Appendix F-2c).

Brantley Branch: Brantley Branch was assessed at GSA-15, 1995-1998 (Appendix F-5). The site is located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Habitat quality was assessed as *good* (Appendix F-5a; O'Neil et al. 2003). Results of 5 macroinvertebrate assessments indicated the macroinvertebrate community to be in *poor* condition (Appendix F-5a; O'Neil et al. 2003).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
MGRB-2	Chemical	2001	Magnolia R at Baldwin CR 24.	5	S/F&W
GSA-16	Chemical, Habitat, Biological	1995-1998	Magnolia R. at Baldwin CR 24	5	S/F&W
MGNB-101	Chemical, Habitat, Biological	2001	Magnolia R. at US Hwy 98	17	S/F&W
MGRB-1	Chemical	2001	Magnolia R at Baldwin CR 49.	17	S/F&W
GSA-12	Chemical, Habitat, Biological	1995-1998	Magnolia R. at Baldwin CR 49	17	S/F&W
02378300	Chemical	1999-2001	Magnolia R at US Hwy 98	17	S/F&W
UTMB-1	Chemical	2001	Tributary to Magnolia R at Baldwn CR 24.	4	F&W
GSA-15	Chemical, Habitat, Biological	1995-1998	Brantley Br. at CR 24	6	F&W
GSA-11	Chemical, Habitat, Biological	1995-1998	Eslava Br. at US Hwy 98	3	F&W
GSA-14	Chemical, Habitat, Biological	1995-1998	Schoolhouse Br. at US Hwy 98	3	F&W
GSA-13	Chemical, Habitat, Biological	1995-1998	Weeks Cr. at Baldwin CR 26	6	F&W
CBS-1	Chemical, Habitat, Biological	1996	Bon Secour R. at Baldwin CR 12	1	S/F&W
CBS-2	Chemical, Habitat, Biological	1996	Bon Secour R. at Baldwin CR 10	17	S/F&W
BS1	Chemical	2001	Bon Secour R at Oyster Bay Canal	---	S/F&W
CUTNW	Chemical, Habitat, Biological	1996	Unnamed tributary to Bon Secour R. at Baldwin CR 65	3	
UTBB-1	Chemical	2001	Tributary to Bon Secour Bay at Baldwin CR 65.	<1	
CUTF	Chemical, Habitat, Biological	1996	Unnamed tributary to Bon Secour R. at S. Cedar St. in Foley	<1	
CNEBS-1	Chemical, Habitat, Biological	1996	Unnamed tributary to Bon Secour R. at Riverwood Dr.	<1	
CNEBS-2	Chemical, Habitat, Biological	1996	Unnamed tributary to Bon Secour R. at Baldwin CR 20	3	
CBB-1	Chemical, Habitat, Biological	1996	Boggy Br. at AL Hwy 59	3	
CBB-2	Chemical, Habitat, Biological	1996	Boggy Br. approx. 0.5 mi. us of mouth	4	
CSC	Chemical, Habitat, Biological	1996	Shutt Cr. at Baldwin CR 10	<1	
CSHC	Chemical, Habitat, Biological	1996	Schoolhouse Cr. at Baldwin CR 10	1	

Intensive water quality data collected from May 1995 through September 1998 by GSA is provided in Appendix F-5b. The dissolved oxygen concentration was below the Fish & Wildlife water use classification criteria of 5.0 mg/L during 17 (38%) of 45 sampling event events. Fecal coliform counts were above 2,000 colonies/100 mL during 4 (9%) of 45 sampling events. Nitrate/nitrite-nitrogen concentrations were >1.0 mg/L during 38 (84%) of 45 sampling events and >2.0 mg/L during 15 (33%) of 45 sampling events.

Based on these data, a segment of Brantley Creek was added to ADEM's 2000 CWA §303(d) list of impaired waters for pathogen contamination (ADEM 2001d). To verify impairment, intensive water quality monitoring conducted at the same location (UTBM-1) during 2001 (Appendix F-2c). Fecal coliform counts did not exceed Fish &Wildlife water use classification criteria during any sampling event. Brantley Creek was therefore removed from ADEM's 2002 CWA §303(d) list of impaired waters (ADEM 2003). Dissolved oxygen concentrations were <5.0 mg/L during 5 (83%) of 6 sampling events.

<u>Schoolhouse Branch</u>: Schoolhouse Branch is a tributary of Magnolia River located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). It joins the river just upstream of Magnolia River at GSA-12. The site was assessed at GSA-14, January 1995 through September 1998 (Appendix F-5). Habitat condition was assessed as *fair-good* (Appendix F-5a). The macroinvertebrate community was assessed as *very poor* (Appendix F-5a).

Intensive water quality data collected at GSA-14 is provided in Appendix F-5b. Nitrate/nitrite-nitrogen concentrations averaged 0.46 mg/L. The fecal coliform concentration was above 2,000 colonies/100 mL during 3 (7%) of 45 sampling events. Dissolved oxygen concentrations were below the Fish and Wildlife water use classification criteria of 5.0 mg/L during 20 (44%) of 45 sampling events.

<u>Weeks Creek</u>: Weeks Creek was monitored at GSA-13, 1995-1998 (Appendix F-5). The site is located within the Gulf Coast Flatwoods (75a) subecoregion (Appendix E-1). Habitat quality was assessed as *good* (Appendix F-5a). Based on the results of 6 macroinvertebrate assessments, the macroinvertebrate community was assessed as *very poor* (Appendix F-5a).

Intensive water quality data collected at GSA-13 is provided in Appendix F-5b. Nitrate/nitrite-nitrogen concentrations averaged 0.57 mg/L and exceeded 1.0 mg/L during 2 (4%) of 45 sampling events. The fecal coliform concentration was above 2,000 colonies/100 mL during 4 (11%) of 35 sampling events. Dissolved oxygen concentrations were below the Fish and Wildlife water use classification criteria of 5.0 mg/L during 37 (82%) of 45 sampling events.

<u>Eslava Branch</u>: GSA monitored Eslava Branch at GSA-11, 1995-1998 (Appendix F-5). The site is located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Habitat quality was assessed as *good* (Appendix F-5a; O'Neil et al. 2003). Results of 2 macroinvertebrate assessments indicated the macroinvertebrate community to be in *very poor* condition (Appendix F-5a; O'Neil et al. 2003).

Intensive water quality data collected from January 1995 through March 1995 by GSA is provided in Appendix F-5b. The fecal coliform concentration was above 2,000 colonies/100mL during 1 (33%) of 3 sampling events.

Bon Secour River: Bon Secour River was monitored at 2 stations, located at the lower boundaries of the Upper- (CBS-1) and Mid-Bon Secour River (CBS-2), during an intensive survey conducted in 1996 to investigate the stresses of urban growth on streams within the sub-watershed (ADEM 1996e). A description of the project is provided in Appendix F-6. The upper reaches of the river were marked by increased turbidity and fecal coliform counts after heavy rainfall, especially during the winter and spring. This pattern appeared to be related to field preparation and crop planting during the winter and spring months. These activities were not associated with high loads of suspended sediments and accelerated siltation. Land reconnaissance during the landuse survey demonstrated the effective use of erosion controls on crop and pasturelands. Core sediment samples revealed metal concentrations to be within ranges expected for this stream type. However, no organisms were collected during an assessment of the benthic macroinvertebrate community, suggesting stress from an unknown source.

The Mid-Bon Secour River reach (CBS-2) was characterized by a higher degree of commercial development and shoreline development. Despite relatively good vegetative buffers, the streams showed accelerated rates of silt accumulation and shoal formations in some areas. Metals concentrations appeared normal. An assessment of the benthic macroinvertebrate community within the mid- and lower-reaches of the Bon Secour River indicated both low abundance and species diversity, suggesting environmental stress at both locations.

Bon Secour Bay has been monitored as part of ADEM's Ambient Monitoring Program since 1974 (ADEM in press). Data collected since 1990 are provided in Appendix F-8a. Dissolved oxygen concentrations were <5.0 mg/L during 6 (16%) of 37 sampling events.

Boggy Branch: Boggy Branch was monitored at two locations during the 1996 Intensive Survey of the Bon Secour River Watershed (ADEM 1996e). A description of the project is provided in Appendix F-6. Boggy Branch is a main tributary flowing into the Mid-Bon Secour River. Upper Boggy Branch was characterized by high sediment loads. Rapid commercial growth along the upper reaches of Boggy Branch were accompanied with modifications to the natural stream channel, particularly culverts and paved drainage courses. These changes resulted in increased impervious surfaces and stormwater runoff to the stream.

Shutt Creek: Shutt Creek, a tidally-influenced, intermittent stream, was monitored during the 1996 Intensive Survey of the Bon Secour River (ADEM 1996e). A description of the project is provided in Appendix F-6. Well vegetated streambanks and a relatively natural drainage system appeared to protect the aquatic habitats and water quality of Shutt Creek. Although runoff of stormwater from cropland caused increased turbidity, the sediment load was much less than that observed within the upper Bon Secour River reaches.

Schoolhouse Creek: Schoolhouse Creek, a tidally-influenced, intermittent stream, was monitored during the 1996 Intensive Survey of the Bon Secour River (ADEM 1996e; see

Appendix F-6 for a project description). Although runoff of stormwater from cropland caused increased turbidity, the sediment load was much less than that observed within the upper Bon Secour River reaches because of well vegetated streambanks and a relatively natural drainage system.

Tributary to Bon Secour Bay: Three unnamed tributaries to the Bon Secour River were monitored the 1996 Intensive Survey of the Bon Secour River (ADEM 1996e). The two upstream-most tributaries (CUTF and CUTNW) showed high turbidity and fecal coliform counts after heavy rainfall. The increases observed at CUTNW showed distinctive seasonal patterns because they were associated with cropland erosion. Increased fecal coliform counts at CUTF, located within Foley, were from urban sources.

The downstream-most tributary (CNEBS), flows into the mid-reaches of the Bon Secour River. High levels of commercial development and increased impervious surface area were found to increase stormwater runoff into the tributary and greatly impacted the sediment load within the Bon Secour River.

Station UTBB-1 (CUTNW) was reassessed during 2001 in conjunction with ADEM's CWA §303(d) Monitoring Program (Appendix F-2c). Dissolved oxygen concentrations, temperature, and pH consistently met Water Use Classification criteria.

NPS priority status: Magnolia River and 5 of its tributaries have been monitored extensively since 1995. The macroinvertebrate community was in *good* condition at one location on the Magnolia River, but bioassessments conducted at two additional locations on Magnolia River and its tributaries have indicated impaired biological conditions. Longterm, intensive water quality sampling conducted during the 1990s suggested high pathogen and nutrient concentrations and low dissolved oxygen concentrations to be potential causes of the impairment. Data collected during 2001 showed a significant decrease in pathogen concentrations throughout the sub-watershed. However, nitrogen, particularly nitrate/nitrite-nitrogen, and dissolved oxygen concentrations, continue to be concerns.

Intensive water quality monitoring has shown the Bon Secour River and its tributaries to be relatively healthy. Sedimentation loads were relatively low within the upper and lower reaches of the basin due to natural drainages and vegetated riparian areas. Commercial growth on Boggy Branch and an unnamed tributary have caused increased sediment loading within the middle reaches. Biological assessments indicated stressed benthic macroinvertebrate communities within the Upper, Mid- and Lower-Bon Secour River.

Sub-Watershed: Bon Secour Bay NRCS Sub-Watershed Number 070

Landuse: The Bon Secour Bay sub-watershed drains approximately 27 mi^2 in Baldwin County. Land cover within the sub-watershed was mainly forest with some urban areas. Eleven current construction/stormwater authorizations, 8 non-coal mining/stormwater (<5 acres) authorizations, and 1 industrial process wastewater NPDES permits have been issued in the sub-watershed (Table 13b). Areas of the Intracoastal Waterway and Bon Secour Bay are currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for impairments from urban sources and natural sources. (Table 14b)

Percent land cover estimated by local SWCD (Table 12b, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
59%	9%	2%	<1%	17%	4%	9%

NPS impairment potential: The primary NPS concerns within the sub-watershed were crop land runoff, mining, and forestry. There was a high potential for impairment from sedimentation. Runoff from urban development contributed 71% (3.4 tons/ac/yr) of the total annual sediment load within the sub-watershed. There was a *high* potential for impairment from urban runoff and a *moderate* potential for impairment from urban development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	17	0.01 AU/ac	0.00%	9%	2%	<1%	46%	4.8 tons/ac/yr
NPS Potential	M	L	L	M	L	M	M	H
Table	15b	19b	19b	12b	12b	12b	20b	20b

Assessments: An assessment has not been conducted within the sub-watershed.

NPS priority status: NPS priority status could not be determined, but urban areas are the primary concern within the sub-watershed .

Table 12b. Land use percentages for the Chickasaw River (0316-0201), Sucarnoochee River (0316-0202), Lower Tombigbee River (0316-0203), Tensaw River (0316-0204), and Mobile Bay (0316-0205) CUs from EPA landuse categories (EPA 1997) and local SWCD Conservation Assessment Worksheet landuse estimates (ASWCC 1998).

Sub-watershed	Percent Total Landuse													
	Open Water		Urban		Mines		Forest		Pasture		Row Crops		Other	
	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA
Middle Tombigbee-Chickasaw River CU (0316-0201)														
010	20	3	0	<1	1	<1	70	48	5	8	2	7	2	34
020	1	1	0	<1	0	<1	88	75	4	1	6	1	1	21
030	<1	2	0	2	0	<1	59	47	38	14	2	10	2	26
040	<1	<1	0	<1	0	0	30	41	66	39	1	17	3	3
050	5	2	0	<1	0	0	40	34	52	45	2	15	1	4
060	1	<1	<1	<1	0	0	56	65	40	21	1	9	1	4
070	1	<1	3	1	0	0	75	73	20	8	<1	8	2	10
080	0	4	0	<1	0	<1	97	31	2	1	0	1	<1	62
100	1	1	0	1	0	<1	87	84	6	2	6	3	1	9
110	<1	<1	1	<1	0	0	86	82	11	4	1	4	1	10
130	<1	<1	1	<1	0	0	94	86	3	3	1	3	1	8
150	1	<1	0	<1	0	0	86	86	8	3	3	4	2	6
160	3	1	4	<1	0	0	86	79	2	2	2	3	4	15
170	<1	2	0	<1	0	0	93	70	5	6	1	3	1	19
180	0	<1	0	<1	<1	0	96	84	3	4	<1	4	1	7
190	1	1	3	<1	0	0	91	77	3	2	2	2	1	17
200	0	3	0	<1	0	0	92	40	8	2	0	4	1	50
210	<1	<1	<1	<1	0	0	95	95	4	1	<1	2	1	2
220	<1	3	0	<1	0	0	97	80	1	1	1	1	1	15
230	1	5	0	<1	0	<1	94	57	2	2	1	2	2	34
250	<1	<1	0	<1	0	0	95	87	2	1	1	1	2	11
270	<1	<1	0	<1	0	0	93	88	3	8	2	3	1	1
280	<1	<1	1	<1	0	0	91	88	5	4	1	2	2	6
290	1	2	2	<1	0	0	86	85	8	2	2	1	1	10

Table 12b. Land use percentages for the Chickasaw River (0316-0201), Sucarnoochee River (0316-0202), Lower Tombigbee River (0316-0203), Tensaw River (0316-0204), and Mobile Bay (0316-0205) CUs from EPA landuse categories (EPA 1997) and local SWCD Conservation Assessment Worksheet landuse estimates (ASWCC 1998).

Sub-watershed	Percent Total Landuse													
	Open Water		Urban		Mines		Forest		Pasture		Row Crops		Other	
	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA
Sucarnoochee River CU (0316-0202)														
040	---	1	---	<1	---	0	---	39	---	14	---	12	---	33
060	---	1	---	<1	---	0	---	72	---	1	---	3	---	22
080	6	1	7	1	0	0	12	50	63	24	10	13	2	11
100	1	<1	2	1	1	0	81	84	7	3	7	2	2	9
110	3	<1	2	<1	0	0	76	76	12	8	5	4	2	12
Lower Tombigbee River CU (0316-0203)														
010	<1	2	3	<1	0	0	88	85	6	4	2	3	1	7
020	<1	2	0	<1	0	0	98	80	<1	<1	1	<1	2	18
030	1	<1	<1	<1	0	<1	90	90	5	3	2	2	1	4
040	0	<1	1	<1	0	0	96	91	1	1	1	1	2	7
050	<1	2	6	<1	0	<1	78	84	2	4	12	2	2	7
060	<1	7	0	<1	0	0	90	19	6	1	2	2	2	72
070	<1	<1	0	<1	0	<1	96	88	2	3	1	2	2	7
080	<1	3	<1	2	0	1	95	74	3	2	<1	2	1	16
090	<1	<1	1	1	0	<1	85	87	11	3	<1	3	3	7
100	<1	<1	4	<1	0	<1	92	83	2	4	1	3	1	10
110	1	4	0	<1	0	<1	97	68	1	1	<1	1	1	26
120	<1	2	0	<1	0	1	97	65	1	1	1	1	1	30
130	<1	1	<1	<1	0	<1	94	86	1	2	1	2	4	9
140	1	4	0	<1	0	<1	96	16	1	<1	<1	<1	2	80
Mobile-Tensaw River CU (0316-0204)														
010	<1	4	1	<1	0	0	92	54	1	3	4	1	1	38
020	<1	3	8	1	0	<1	87	70	3	2	2	3	0	21
030	<1	3	21	3	0	<1	76	55	2	4	1	3	0	31
040	0	14	15	2	1	0	53	51	2	4	11	2	19	27
050	1	1	16	5	0	<1	77	72	4	7	2	5	0	10
060	<1	11	92	41	0	<1	5	21	0	2	0	3	3	21

Table 12b. Land use percentages for the Chickasaw River (0316-0201), Sucarnoochee River (0316-0202), Lower Tombigbee River (0316-0203), Tensaw River (0316-0204), and Mobile Bay (0316-0205) CUs from EPA landuse categories (EPA 1997) and local SWCD Conservation Assessment Worksheet landuse estimates (ASWCC 1998).

Sub-watershed	Percent Total Landuse													
	Open Water		Urban		Mines		Forest		Pasture		Row Crops		Other	
	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA
Mobile Bay CU (0316-0205)														
010	100	99	0	<1	0	0	0	<1	0	0	0	<1	<1	1
020	<1	6	79	27	0	<1	17	39	2	6	1	3	0	19
030	1	2	21	3	0	<1	63	42	5	22	10	6	1	25
040	0	0	38	6	<1	0	23	50	7	23	26	7	6	13
050	2	2	5	1	<1	0	41	34	9	34	41	21	2	8
060	0	1	13	1	<1	0	57	26	4	43	23	20	2	9
070	4	7	17	3	<1	0	59	49[a]	2	3	9	1	9	37

a. 3.65% of bare rock/sand land use added to forest for this sub-watershed

Table 13b. Number of current stormwater authorizations, NPDES permits, and CAFO registrations issued within sub-watersheds of the Mobile Bay-Lower Tombigbee River Basin (0316-02).

Sub-watershed	Total # of authorizations, permits, registrations	# of Authorizations		#NPDES permits				CAFO Registrations (c)
		Construction/ Stormwater Authorizations (a)	Non-Coal Mining <5 Acres / Stormwater Authorizations (a)	Mining NPDES (c)	Municipal NPDES (b)	Semi Public/ Private NPDES (b)	Industrial Process Wastewater - NPDES Majors (b)	
Middle Tombigbee-Chickasaw Creek CU (0201)								
010	3	2	1					
020	1	1						
030	14	1	4		2		7	
040	3	2						1
050	6	3	3					
060	5	2	3					
070	3	1	1		1			
080	2	2						
100	6	2	2				2	
110	2	1	1					
130	4	2	1			1		
150	2	1	1					
160	8	3	5					
170	3	1	2					
180	7	3	3			1		
190	9	3	4		1	1		
200	4	2	2					
210	7	4	3					
220	1		1					
230	2	1	1					
250	4	2	2					
270	3	2	1					
280	5	3	2					
290	6	3	2			1		
Sucarnoochee River CU (0202)								
040	1	1						
060	3	1	2					
080	8	4	3		1			
100	7	2	1		2	1	1	
110	9	2	7					
Lower Tombigbee River CU (0203)								
010	3	1	2					
020	5	3	2					
030	6	2	3		1			
040	6	3	2			1		
050	6	4	2					
060	2	1	1					
070	2	1	1					
080	10	4	6					
090	26	10	11		3		2	
100	16	6	5		1	1	3	
110	1	1						
120	7	2	1				4	
130	12	3	5			2	2	
140	2	1	1					
Mobile River-Tensaw River CU (0204)								
010	9	5	1		1	1	1	
020	31	14	8			1	8	
030	24	6	9		1		8	

Table 13b. Number of current stormwater authorizations, NPDES permits, and CAFO registrations issued within sub-watersheds of the Mobile Bay-Lower Tombigbee River Basin (0316-02).

Sub-watershed	Total # of authorizations, permits, registrations	# of Authorizations		#NPDES permits				CAFO Registrations (c)
		Construction/ Stormwater Authorizations (a)	Non-Coal Mining <5 Acres / Stormwater Authorizations (a)	Mining NPDES (c)	Municipal NPDES (b)	Semi Public/ Private NPDES (b)	Industrial Process Wastewater - NPDES Majors (b)	
Mobile River-Tensaw River CU (0204)								
040	72	27	36		1	7	1	
050	79	24	30		2	1	22	
060	61	20	14		3		24	
Mobile Bay CU (0205)								
010	18	4	14					
020	155	64	78		1		12	
030	71	35	19			2	15	
040	54	32	20		1		1	
050	90	40	39	7	1		3	
060	97	47	40	5			5	
070	20	11	8				1	

(a) Source: ADEM Mining and Nonpoint Source Unit, Field Operations, database retrieval (05/21/02); (b) Source: ADEM Water Division, NPDES database retrieval (05/21/02); (c) Source: ADEM Mining and Nonpoint Source Unit, Field Operations, database retrieval (07/17/02)

Table 14b. List of waterbodies within the Mobile Bay-Lower Tombigbee River Basin currently on ADEM's 2002 §303(d) list. Sources and causes of impairment are listed (ADEM 1999c). Segments impaired by point or urban sources are listed in italics.

Waterbody	Sub-watershed	Miles impaired	Use[1]	Support Status	Suspected Sources	Causes of Impairment
Lower Tombigbee River CU (0203)						
Olin Basin	130	65 ac	F&W	Non	Contaminated sediments	Pesticides, metals (Hg)
Mobile River-Tensaw River CU (0204)						
Cold Creek Swamp	*020*	*1.0 mi^2*	*F&W*	*Partial*	*Contaminated sediments; flow regulation/modification*	*Metals (Hg)*
Bayou Sara/ Norton Creek	030	3.7	S, F&W	Partial	Unknown source	Nutrients
Tensaw River	040	42.6	OAW, S, F&W	Partial	Unknown source	Mercury
Bay Minette Creek	040	16.6	F&W	Non	Unknown source	Mercury
Eightmile Creek	*050*	*3.2*	*PWS, F&W*	*Partial*	*Urban runoff/storm sewers, collection system failure*	*Pathogens*
Gum Tree Branch	*050*	*2.2*	*F&W*	*Non*	*Urban runoff/storm sewers, collection system failure*	*Pathogens*
Chickasaw Creek	050	35.7	LWWF F&W	Non	Unknown source	Mercury
Three Mile Creek	*060*	*0.5*	*A&I*	*Non*	*Municipal, collection system failure, Hwy/road/bridge construction, land development, Unknown source*	*OE/DO, chlordane*
Three Mile Creek	*060*	*13.5*	*A&I*	*Non*	*Municipal, collection system failure, Hwy/road/bridge construction, land development*	*OE/DO*
Mobile River		29.5	LWWF F&W	Partial	Unknown source	Mercury
Mobile Bay CU (0205)						
Mobile Bay	*010*	*50 mi^2*	*H, F&W, S*	*Partial*	*Urban runoff/storm sewers*	*OE/DO*
Mobile Bay	*010*	*198.5 mi^2*	*H, F&W*	*Partial*	*Urban runoff/storm sewers*	*Pathogens*
Rabbit Creek	*020*	*3.0*	*F&W*	*Non*	*Urban runoff/storm sewers, onsite wastewater systems*	*OE/DO, pathogens*
Dog River	*020*	*4.0*	*F&W, S*	*Non*	*Land development, urban runoff/storm sewers, onsite wastewater systems*	*OE/DO, pathogens*
Fowl River	030	16.9	S, F&W	Non	Unknown source	Mercury
Fish River	050	31.5	F&W, S	Non	Unknown source, pasture grazing	Mercury, pathogens
UT to Bon Secour River	060	2.3	F&W	Non	Urban runoff/storm sewers, pasture grazing	Pathogens
Intracostal Waterway	*070*	*2.2*	*F&W*	*Non*	*Urban runoff/storm sewers, natural*	*OE/DO*
Bon Secour Bay	*070*	*121.3 mi^2*	*H, S, F&W*	*Partial*	*Urban runoff/storm sewers, onsite wastewater systems*	*Pathogens*
Gulf of Mexico		238 mi^2	H, S, F&W	Non	Unknown source	Mercury

1. Water use classification: A&I=Agriculture and Industry, F&W=Fish and Wildlife, H=Shellfish harvesting, LWWF=Limited Warmwater Fishery, PWS=Public Water Supply, S=Swimming, OAW=Outstanding Alabama Water

Table 15b. Estimates of (H)igh, (M)oderate, or (L)ow NPS impairment potential for sub-watersheds in the Mobile Bay - Lower Tombigbee River accounting unit (0316-02). Source categories are based upon information provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets completed in 1998, and from Construction Stormwater Authorization information provided by the Mining and NPS Unit of ADEM. *Rural landuse sources were used to develop the NPS potential. The presence of a CWA 303(d) stream segment within a sub-watershed raised the sub-watershed to the top of the prioritization ranking.

CU	Sub-watershed	Overall NPS Impairment Score	Potential NPS Impairment	Potential Sources of Impairment									
				Rural Landuses*							Urban / Suburban / Residential Landuses		
				Animal Husbandry	Aquaculture	Row Crops	Pasture Runoff	Mining	Forestry Practices	Sedimentation	Urban	Development	Septic Tank Failure
Raw Data Table				19b	19b	12b	12b	12b	20b	20b	12b	13b	20b
0316-0201	010	19	M	L	L	L	L	H	H	H	L	L	L
	020	13	L	L	L	M	L	L	H	L	L	L	L
	030	14	M	L	L	L	H	L	ur	H	L	L	M
	040	16	M	M	L	L	H	L	ur	H	L	L	M
	050	20	H	M	H	L	H	L	ur	H	L	M	L
	060	16	M	L	H	L	H	L	ur	M	L	L	M
	070	14	M	L	H	L	M	L	ur	M	L	L	M
	080	6	L	L	L	L	L	L	ur	L	L	L	L
	100	17	M	L	L	M	L	L	H	H	L	L	L
	110	10	L	L	L	L	M	L	ur	M	L	L	L
	130	10	L	L	L	L	L	L	ur	H	L	L	L
	150	12	M	L	L	L	M	L	ur	H	L	L	L
	160	10	L	L	L	L	L	L	ur	H	L	M	L
	170	6	L	L	L	L	L	L	ur	L	L	L	L
	180	9	L	L	L	L	L	M	L	L	L	M	L
	190	10	L	L	L	L	L	L	ur	H	L	M	L
	200	8	L	L	L	L	M	L	ur	L	L	L	L
	210	9	L	L	L	L	L	L	M	L	L	M	L
	220	10	L	L	L	L	L	L	ur	H	L	L	L
	230	11	L	L	L	L	L	L	M	M	L	L	L
	250	10	L	L	L	L	L	L	ur	H	L	L	L
	270	12	L	M	L	L	L	L	ur	H	L	L	L
	280	10	L	L	L	L	L	L	ur	H	L	M	L
	290	12	M	L	L	L	M	L	ur	H	L	M	L

ur=unreported

Table 15b. Estimates of (H)igh, (M)oderate, or (L)ow NPS impairment potential for sub-watersheds in the Mobile Bay - Lower Tombigbee River accounting unit (0316-02). Source categories are based upon information provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets completed in 1998, and from Construction Stormwater Authorization information provided by the Mining and NPS Unit of ADEM. *Rural landuse sources were used to develop the NPS potential. The presence of a CWA 303(d) stream segment within a sub-watershed raised the sub-watershed to the top of the prioritization ranking.

CU	Sub-watershed	Overall NPS Impairment Score	Potential NPS Impairment	Potential Sources of Impairment									
				Rural Landuses*							Urban / Suburban / Residential Landuses		
				Animal Husbandry	Aquaculture	Row Crops	Pasture Runoff	Mining	Forestry Practices	Sedimentation	Urban	Development	Septic Tank Failure
Raw Data Table				19b	19b	12b	12b	12b	20b	20b	12b	13b	20b
0316-0202	040	---	---	---	---	---	---	---	---	---	---	M	---
	060	---	---	---	---	---	---	---	---	---	---	L	---
	080	23	H	M	H	M	H	L	L	H	M	M	M
	100	19	M	L	L	M	L	M	H	H	L	L	M
	110	17	M	L	M	M	M	L	L	H	L	L	L
0316-0203	010	11	L	L	L	L	L	L	M	M	L	L	M
	020	10	L	L	L	L	L	L	ur	H	L	M	L
	030	15	M	L	L	L	L	L	H	H	L	L	L
	040	13	L	L	L	L	L	L	H	M	L	M	L
	050	15	M	L	L	M	L	L	M	H	M	M	L
	060	9	L	L	L	L	L	L	M	L	L	L	L
	070	11	L	L	L	L	L	L	H	L	L	L	M
	080	11	L	L	L	L	L	L	H	L	L	M	L
	090	15	M	L	L	L	M	L	M	H	L	M	L
	100	13	L	L	L	L	L	L	H	M	L	M	L
	110	13	L	L	M	L	L	L	H	L	L	L	L
	120	11	L	L	L	L	L	L	H	L	L	L	L
	130	11	L	L	L	L	L	L	H	L	L	M	L
	140	11	L	L	L	L	L	L	H	L	L	L	L
0316-0204	010	9	L	L	L	L	L	L	M	L	L	M	L
	020	7	L	L	L	L	L	L	L	L	M	M	L
	030	7	L	L	L	L	L	L	L	L	H	L	L
	040	17	M	L	L	M	L	H	L	H	M	H	L
	050	7	L	L	L	L	L	L	L	L	M	H	L
	060	6	L	L	L	L	L	L	ur	L	H	H	L

ur=unreported

Table 15b. Estimates of (H)igh, (M)oderate, or (L)ow NPS impairment potential for sub-watersheds in the Mobile Bay - Lower Tombigbee River accounting unit (0316-02). Source categories are based upon information provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets completed in 1998, and from Construction Stormwater Authorization information provided by the Mining and NPS Unit of ADEM. *Rural landuse sources were used to develop the NPS potential. The presence of a CWA 303(d) stream segment within a sub-watershed raised the sub-watershed to the top of the prioritization ranking.

CU	Sub-watershed	Overall NPS Impairment Score	Potential NPS Impairment	Potential Sources of Impairment									
				Rural Landuses*							Urban / Suburban / Residential Landuses		
				Animal Husbandry	Aquaculture	Row Crops	Pasture Runoff	Mining	Forestry Practices	Sedimentation	Urban	Development	Septic Tank Failure
Raw Data Table				19b	19b	12b	12b	12b	20b	20b	12b	13b	20b
0316-0205	010	7	L	L	L	L	L	L	L	L	L	M	L
	020	9	L	L	L	L	L	L	L	M	H	H	L
	030	9	L	L	L	M	L	L	L	L	H	H	L
	040	17	M	L	L	H	L	M	L	H	H	H	L
	050	21	M	L	L	H	M	M	M	H	M	H	L
	060	19	M	L	L	H	L	M	M	H	M	H	L
	070	17	M	L	L	M	L	M	M	H	H	M	L

ur=unreported

Table 16b. List of other water quality assessments conducted on streams within the Lower Tombigbee-Mobile Bay Basin, 1990-2001. Data provided in the Appendices are listed. References are listed for data not provided in the report.

Waterbody		*Date(s)*	*Assessment Type*[a]	*Appendices*
Middle Tombigbbee-Chickasaw Creek (0201)				
030	Tombigbee River	1990, 1992, 1995, 1997, 1998-2000, 1999, 2001	C, B	F-3, F-4, ADEM 1996c, ADEM 2003b, USGS
060	Chickasaw Bogue	2001	C, H, B	F-2
060	Tributary to Sandy Branch	2000	C, H	F-7
060	Little Dry Creek	2001	C, H	F-7
060	Poplar Creek	1992, 1993, 1994, 1995, 2001	C, H, B	F-1
070	Chickasaw Bogue	1998-2000, 2001	C, B	F-3, F-4
100	Tombigbee River	2001	C, B	F-3
100	Kinterbish Creek	1998-2000	C	F-4
130	Tuckabum Creek	1996, 1998	C, H	F-7, F-9
150	Yantley Creek	1996	C	F-9
160	Tuckabum Creek	1996, 2001	C, B	F-3, F-9
170	Tombigbee River	1990-2001	C	USGS 2003b
180	Horse Creek	1996, 2001	C, B	F-3, F-9
190	Tombigbee River	1990-2001, 2001	C, H, B	F-3, F-8
190	Wahalak Creek	2001	C, B	F-2, F-3
210	Bashi Creek	2001	C, H, B	F-2, F-3
220	Tallawampa Creek	2001	C, B	F-3
220	Middle Tallawampa Creek	1999	C, H	F-7
220	Big Tallawampa	2001	C, H	F-7
250	Okatuppa Creek	1996	C	F-9
270	Puss Cuss Creek	2000	C, H	F-7
280	Okatuppa Creek	1996	C	F-9
280	Surveyors Creek	2000	C, H	F-7
280	Bogueloosa Creek	2001	C, H	F-7
290	Tombigbee River	2001	C, B	F-3
290	Okatuppa Creek	2001	C, B	F-3
290	Turkey Creek	1992, 1995, 1997, 1999, 2001	C, B	F-3, ADEM 2003b
Sucarnoochee River (0202)				
080	Sucarnoochee River	1990-2001, 1996, 1998-2000, 2001	C, H, B	F-3, F-4, F-9, USGS 2003b
100	Alamuchee Creek	1996, 1997, 1998, 1999, 2000, 2001	C, H	F-7, F-9
100	Yellow Creek	2001	C, H, B	F-2
110	Sucarnoochee River	2001	C, B	F-3
Lower Tombigbee River (0203)				
010	Ulcanush Creek	1995, 2001	C, H, B	F-1
030	Santa Bogue Creek	1997, 2001	C, H, B	F-2, F-7
040	Satilpa Creek	1990-2000, 1996	C	F-9, USGS 2003b
040	Tributary to Satilpa Creek	2001	C, H	F-7
050	Tributary to Nail Branch	2001	C, H	F-7

Table 16b. List of other water quality assessments conducted on streams within the Lower Tombigbee-Mobile Bay Basin, 1990-2001. Data provided in the Appendices are listed. The appropriate reference is listed for data not provided in the report.

Waterbody		*Date(s)*	*Assessment Type* [a]	*Appendices*
Lower Tombigbee River (0203)				
090	Bassett Creek	1995-1999, 1996, 2001	C, H, B	F-2, F-9, USGS 2003b
090	Tributary to Bassett Creek	2001	C	F-2
090	James Creek	2001	C, H, B	F-2
130	Bates Creek	1998	C, H	F-7
Mobile River-Tensaw River (0204)				
010	Halls Creek	1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2001	C, H, B	F-1
010	Tributary to Big Chippewa Lake	1997	C, H	F-7
010	Tributary to Big Briar Creek	1999	C, H	F-7
010	Flat Creek	2001	C, H	F-7
020	Mobile Bay	1990-2001, 2001	C	F-8, EPA 2001a
020	Barrow Creek	2000	C, H	F-7
020	Tensaw River	1990-2001	C	F-8
030	Bayou Sara	2001	C	F-2
030	Norton Creek	2001	C	F-2
030	Mobile River	1996	C	F-9
030	Steele Creek	2001	C, H	F-7
040	Mobile River	1990-2001, 1993-1995	C, B	F-7, F-8
040	Tensaw River	1998,1990-2001, 1993-	C, H, B	F-7, F-8
050	Chickasaw Creek	1990-2001, 1990-1998, 2000	C, H	F-7, F-8, USGS 2003b
050	Hog Bayou	1990-2001	C	F-8
050	Eight Mile Creek	1996	C	F-9
050	Drinking Branch	1998	C, H	F-7
050	Mill Branch	1999	C, H	F-7
050	Sweetwater Branch	1999	C, H	F-7
050	Tributary to Threemile Creek	1999	C, H	F-7
060	Threemile Creek	1996, 1990-2001, 1999-2001	C	F-8, F-9, USGS 2001
060	Mobile River	1990-2001	C	F-8
Mobile Bay (0205)				
010	Majors Creek	1996	C, H, B	F-6
010	Mobile Bay	1993-1995	C, B	F-6, F-7
020	Dog River	1990-2001, 2001	C	F-2, F-8
020	Rabbit Creek	2001	C	F-2
030	Fowl River	1990-2001, 1999	C	F-7, F-8

Table 16b. List of other water quality assessments conducted on streams within the Lower Tombigbee-Mobile Bay Basin, 1990-2001. Data provided in the Appendices are listed. The appropriate reference is listed for data not provided in the report.

Waterbody		*Date(s)*	*Assessment Type* [a]	*Appendices*
Mobile Bay (0205)				
040	Red Gully	1997	C, H	F-7
050	Fish River	1994-1998, 2001	C, H, B	F-2, F-8, F-5
050	Corn Branch	1994-1998	C, H, B	F-5
050	Barner Branch	1994-1998	C, H, B	F-5
050	Waterhole Branch	1994-1998	C, H, B	F-5
050	Turkey Creek	1994-1998	C, H, B	F-5
050	Polecat Creek	1994-1998	C, H, B	F-5
050	Baker Branch	1994-1998	C, H, B	F-5
050	Pensacola Branch	1994-1998	C, H, B	F-5
050	Perone Branch	1994-1998	C, H, B	F-5
050	Caney Branch	1994-1998	C, H, B	F-5
050	Weeks Bay	1994-1998	C	F-8
060	Bon Secour River	1974-2001	C	F-8
060	Eslava Branch	1994-1998	C, H, B	F-5
060	Magnolia River	1994-1998, 2001	C, H, B	F-2, F-5
060	Weeks Creek	1985-2001	C, H, B	F-5
060	Schoolhouse Branch	1995-1998, 1996	C, H, B	F-5
060	Brantley Branch	1995-1998	C, H, B	F-5
060	Tributary to Bon Secour Bay	2001	C	F-2
060	Tributary to Magnolia River	2001	C	F-2

a. B= biological assessment, H= habitat assessment, C= chemical assessment

Table 17b. List of stations assessed or attempted as part of the surface water quality NPS screening assessment within the Mobile Bay-Lower Tombigbee River accounting unit.

Cataloging Unit	Sub-watershed	Stream	Station	Basin Size (est. mi^2)	Assessment Type[a]	Subregion[b]	County	T / R / S
0201 Middle Tombigbee-Chickasaw River CU								
	040	Dry Cr	DRYM-30	30	H, M, F, C	65b	Marengo	16N/4E/36
	050	Powell Cr	PWLM-32	68	H, M, F, C	65b	Marengo	16N/3E/23
	050	Powell Cr	PWLM-33	13	NC	65a	Marengo	17N/4E/16
	050	Rocky Br	RKYM-34	7	H, M, C	65a	Marengo	17N/4E/32
	060	Chickasaw Bogue	CHBM-26	31	NC	65b	Marengo	15N/5E/17
	060	Little Dry Cr	LDRM-29	15	NC	65b	Marengo	16N/4E/14
	060	Michigan Cr	MCHM-27	21	NC	65b	Marengo	15N/4E/13
	060	Watkins Cr	WTKM-28	25	NC	65b	Marengo	15N/3E/12
	210	Bashi Cr	BSCC-1	77	H, M,	65d	Clarke	11N/1E/9
0202 Sucarnoochee River CU								
	080	Cedar Cr	CDRS-22	8	H, M, C	65a	Sumter	19N/2W/35
	080	Sicolocco Cr	SCLS-21	20	H, M, C	65a	Sumter	19N/3W/10
	080	Sanusi Cr	SNSS-20	17	NC	65b	Sumter	19N/3W/8
	100	Alamuchee Cr	ALMS-15	48	H, M, F, C	65d	Sumter	17N/4W/26
	100	Toomsuba Cr	TMBS-17	84	H, M, F, C	65d	Sumter	17N/3W/5
0203 Lower Tombigbee River CU								
	050	Tauler Cr	TLCW-14	19	NC	65f	Washington	7N/1W/38
	090	Little Bassett Cr	LBAC-11	28	H, M, F, C	65q	Clarke	9N/4E/8
	090	Rabbit Cr	RBBC-23	22	H, M, C	65f	Clarke	7N/2E/14
0205 Mobile Bay CU								
	040	Fly Cr	FLYB-96	7	NC	75a	Baldwin	6S/2E/8
	050	Fish R	FSHB-97	17	H, M, F, C	65f	Baldwin	5S/3E/5
	050	Perone Branch	PERB-98	9	H, M, F, C	65f	Baldwin	6S/3E/5
	050	Polecat Cr	PLCB-99	28	H, M,	65f	Baldwin	6S/3E/29
	060	Magnolia R	MGNB-101	17	H, M, C	75a	Baldwin	7S/3E/26

a. Assessment Type: C=Chemical; C*= Chemical Assessment attempted, stream dry or intermittant pools; H= Habitat; M=Aquatic Macroinvertebrate Community; F=Fish Community; *NC* = Assessment not conducted (dry/not flowing/beaver dam, etc)

b. Level IV Ecoregions of Alabama (Griffith, et al. 1999)

Table 18b. Summary of assessments conducted within the Middle Bay-Lower Tombigbee River Basin since 1990.

Sub-watershed	Station	*Habitat*	*Macroinv.*	*Fish*	*Chemical Data Available* [b]	*Lowest Bioassessment Rating*
0201-040	DRYM-30	Excellent	Fair	Fair/Poor	E	Fair/Poor
0201-050	PWLM-32	Good	Good	Fair/Poor	E	Fair/Poor
0201-050	PWLM-33[d]					
0201-050	RKYM-34	Excellent	Fair		E	Fair
0201-060	CHBM-26[d]					
0201-060	CKBM-1	Excellent	Good	Poor	M	Poor
0201-060	LDRM-29[d]					
0201-060	MCHM-27[d]					
0201-060	PPM-1	Good	Good		M	Good
0201-060	WTKM-28[d]					
0201-190	WHKC-1[f]	NG	NG		M	NG
0201-190	WHKC-2[f]	NG	NG		M	NG
0201-210	BSCC-1[a,f]	NG	NG		M	NG
0202-080	CDRS-22	Fair	Good		E	Good
0202-080	SCLS-21	Good	Fair		E	Fair
0202-080	SNSS-20[d]					
0202-100	ALMS-15[f]	NG	NG	Good/Fair	E	Good/Fair
0202-100	TMBS-17[f]	NG	NG	Fair	E	Fair
0202-100	YLWS-1[d]					
0203-010	ULCC-1[f]	NG	NG	Fair/Poor	M	Fair/Poor
0203-030	SABW-1[f]	NG	NG		M	NG
0203-050	TLCW-14[d]					
0203-090	BSTC-1[a, f]	NG	NG	Fair/Poor	M	Fair/Poor
0203-090	BSTC-2[a, f]	NG	NG	Good	M	Good
0203-090	BSTC-3[a, f]	NG	NG		M	NG
0203-090	BSTC-4[a, e]				M	
0203-090	JMCC-1	Excellent	Fair		E	Fair
0203-090	LBAC-11[f]	NG	NG	Fair	E	Fair
0203-090	RBBC-23[a]	Excellent	Good		E	Good
0203-130	BLBW-1[a]	Excellent	Poor		E	Poor
0204-010	HLB-1	Excellent	Fair		M	Fair
0204-010	MAJB-1	Excellent	Excellent		E	Excellent
0205-040	FLYB-96[a, c]					
0205-050	FSHB-97	Excellent	Fair	Fair/Poor	M	Fair/Poor
0205-050	GSA-1[g]				M	
0205-050	GSA-2[g]	Good	Fair		M	Fair
0205-050	GSA-2a[g]				M	
0205-050	GSA-3[g]	Fair-good	Very poor		M	Very poor
0205-050	GSA-4[g]	Good	Good		M	Good
0205-050	PLCB-99[a]	Excellent	Poor		E	Poor

Table 18b. Summary of assessments conducted within the Middle Bay-Lower Tombigbee River Basin since 1990.

Sub-watershed	Station	*Habitat*	*Macroinv.*	*Fish*	*Chemical Data Available* [b]	*Lowest Bioassessment Rating*
0205-050	GSA-5[g]	Fair	Poor		M	Poor
0205-050	GSA-5a[g]	Good	Poor		M	Poor
0205-050	GSA-6[g]	Fair-good	Fair		M	Fair
0205-050	PERB-98	Excellent	Fair	Fair/Poor	E	Fair/Poor
0205-050	GSA-7[g]	Good	Good		M	Good
0205-050	GSA-8[g]	Good	Poor		M	Poor
0205-050	GSA-8a[g]	Good	Good		M	Good
0205-050	GSA-9[g]	Good	Poor		M	Poor
0205-050	GSA-10[g]	Good	Fair		M	Fair
0205-050	GSA-17[g]	Good	Fair		M	Fair
0205-050	GSA-18[g]	Good	Poor		M	Poor
0205-060	GSA-11[g]	Good	Very poor		M	Very poor
0205-060	GSA-12[g]	Good	Poor		M	Poor
0205-060	GSA-13[g]	Good	Very poor		M	Very poor
0205-060	GSA-14[g]	Fair-good	Very poor		M	Very poor
0205-060	GSA-15[g]	Good	Poor		M	Poor
0205-060	GSA-16[g]	Fair-good	Fair		M	Fair
0205-060	MGNB-101	Excellent	Good		E	Good

a. Urban
b. E=evaluated data; M=monitored data
c. Non-wadeable
d. No flow
e. Swamp
f. Assessment guidelines not established
g. Assessment based on average of GSA's longterm assessment results

Table 19b. Estimates of animal concentrations, animal units (A.U.), percent aquaculture land use, and percent of acres where pesticides/herbicides applied in the Mobile Bay-Lower Tombigbee River Basin accounting unit 0316-02). Numbers of animals and pesicides/herbicides listed by acreage and sub-watershed were provided by the local SWCDs on Conservation Assessment Worksheets completed in 1998.

		0316-0201											
		010	020	030	040	050	060	070	080	100	110	130	150
Cattle	# / Acre	0.07	0.02	0.05	0.31	0.29	0.08	0.01	0.01	0.02	<0.01	0.01	0.02
	A.U./Acre	**0.07**	**0.02**	**0.05**	**0.31**	**0.29**	**0.08**	**0.01**	**0.01**	**0.02**	**<0.01**	**0.01**	**0.02**
Dairy	# / Acre				0.02	0.03	<0.01						
	A.U./Acre				**0.03**	**0.04**	**<0.01**						
Swine	# / Acre	<0.01	<0.01			<0.01	<0.01	<0.01		**<0.01**			
	A.U./Acre	**<0.01**	**<0.01**			**<0.01**	**<0.01**	**<0.01**		**<0.01**			
Poultry - Broilers	# / Acre												
	A.U./Acre												
Poultry - Layers	# / Acre												
	A.U./Acre												
Total	A.U./Acre	**0.07**	**0.02**	**0.05**	**0.33**	**0.33**	**0.08**	**0.01**	**0.01**	**0.02**	**<0.01**	**0.01**	**0.02**
Potential NPS Impairment		L	L	L	M	M	L	L	L	L	L	L	L
Aquaculture	% Total Acres	<0.01	<0.01	0.07	<0.01	5.44	0.47	0.38	<0.01	<0.01	<0.01	<0.01	<0.01
Potential NPS Impairment		L	L	L	L	H	H	H	L	L	L	L	L

* No data reported for this portion of the subwatershed; nd = no data

Table 19b. Estimates of animal concentrations, animal units (A.U.), percent aquaculture land use, and percent of acres where pesticides/herbicides applied in the Mobile Bay-Lower Tombigbee River Basin accounting unit 0316-02). Numbers of animals and pesicides/herbicides listed by acreage and sub-watershed were provided by the local SWCDs on Conservation Assessment Worksheets completed in 1998.

		0316-0201											
		160	170	180	190	200	210	220	230	250	270	280	290
Cattle	# / Acre	<0.01	0.04	<0.01	<0.01	0.01	0.01	0.01	<0.01	<0.01	0.02	0.01	0.05
	A.U./Acre	**<0.01**	**0.04**	**<0.01**	**<0.01**	**0.01**	**0.01**	**0.01**	**<0.01**	**<0.01**	**0.02**	**0.01**	**0.05**
Dairy	# / Acre												
	A.U./Acre												
Swine	# / Acre		<0.01	<0.01		<0.01	<0.01		0.02				
	A.U./Acre		**<0.01**	**<0.01**		**<0.01**	**<0.01**		**0.01**				
Poultry - Broilers	# / Acre										23.14		
	A.U./Acre										**0.19**		
Poultry - Layers	# / Acre												
	A.U./Acre												
Total	A.U./Acre	**<0.01**	**0.04**	**<0.01**	**<0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.00**	**0.21**	**0.01**	**0.05**
Potential NPS Impairment		L	L	L	L	L	L	L	L	L	M	L	L
Aquaculture	% Total Acres	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potential NPS Impairment		L	L	L	L	L	L	L	L	L	L	L	L

* No data reported for this portion of the subwatershed; nd = no data

Table 19b. Estimates of animal concentrations, animal units (A.U.), percent aquaculture land use, and percent of acres where pesticides/herbicides applied in the Mobile Bay-Lower Tombigbee River Basin accounting unit (0316-02). Numbers of animals and pesicides/herbicides listed by acreage and sub-watershed were provided by the local SWCDs on Conservation Assessment Worksheets completed in 1998.

		0316-0202					0316-0203								
		040*	060*	080	100	110	010	020	030	040	050	060	070	080	090
Cattle	# / Acre			0.21	0.05	0.03	0.02		0.02	0.01	0.05	0.01	0.02	<0.01	0.02
	A.U./Acre			**0.21**	**0.05**	**0.03**	**0.02**		**0.02**	**0.01**	**0.05**	**0.01**	**0.02**	**<0.01**	**0.02**
Dairy	# / Acre														
	A.U./Acre														
Swine	# / Acre			<0.01	<0.01	<0.01			0.02		<0.01				
	A.U./Acre			**<0.01**	**<0.01**	**<0.01**			**0.01**		**<0.01**				
Poultry - Broilers	# / Acre								2.82						
	A.U./Acre								**0.02**						
Poultry - Layers	# / Acre								2.21						
	A.U./Acre								**0.02**						
Total	A.U./Acre			**0.21**	**0.05**	**0.03**	**0.02**	**<0.01**	**0.07**	**0.01**	**0.05**	**0.01**	**0.02**	**<0.01**	**0.02**
Potential NPS Impairment				M	L	L	L	L	L	L	L	L	L	L	L
Aquaculture	% Total Acres			0.45	<0.01	0.10	<0.01	<0.01	0.01	<0.01	0.01	<0.01	0.07	0.06	0.06
Potential NPS Impairment				H	L	M	L	L	L	L	L	L	L	L	L

* No data reported for this portion of the subwatershed; nd = no data

Table 19b. Estimates of animal concentrations, animal units (A.U.), percent aquaculture land use, and percent of acres where pesticides/herbicides applied in the Mobile Bay-Lower Tombigbee River Basin accounting unit (0316-02). Numbers of animals and pesicides/herbicides listed by acreage and sub-watershed were provided by the local SWCDs on Conservation Assessment Worksheets completed in 1998.

		0316-0203					0316-0204					
		100	110	120	130	140	010	020	030	040	050	060
Cattle	# / Acre	0.01		0.01	0.01		0.01	0.01	<0.01	0.01	0.02	
	A.U./Acre	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**<0.01**	**0.01**	**0.02**	
Dairy	# / Acre											
	A.U./Acre											
Swine	# / Acre				<0.01				<0.01		<0.01	
	A.U./Acre				**<0.01**				**<0.01**		**<0.01**	
Poultry - Broilers	# / Acre	0.12										
	A.U./Acre	**<0.01**										
Poultry - Layers	# / Acre	0.18										
	A.U./Acre	**<0.01**										
Total	A.U./Acre	**0.01**	**<0.01**	**0.01**	**0.01**	**<0.01**	**0.01**	**0.01**	**<0.01**	**0.01**	**0.02**	**<0.01**
Potential NPS Impairment		L	L	L	L	L	L	L	L	L	L	L
Aquaculture	% Total Acres	0.01	0.09	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potential NPS Impairment		L	M	L	L	L	L	L	L	L	L	L

* No data reported for this portion of the subwatershed; nd = no data

Table 19b. Estimates of animal concentrations, animal units (A.U.), percent aquaculture land use, and percent of acres where pesticides/herbicides applied in the Mobile Bay-Lower Tombigbee River Basin accounting unit (0316-02). Numbers of animals and pesicides/herbicides listed by acreage and sub-watershed were provided by the local SWCDs on Conservation Assessment Worksheets completed in 1998.

		0316-0205						
		010	020	030	040	050	060	070
Cattle	# / Acre		<0.01	<0.01	0.11	0.09	0.02	0.01
	A.U./Acre		**<0.01**	**<0.01**	**0.11**	**0.09**	**0.02**	**0.01**
Dairy	# / Acre				0.01			
	A.U./Acre				**0.01**			
Swine	# / Acre			<0.01		<0.01		
	A.U./Acre			**<0.01**		**<0.01**		
Poultry - Broilers	# / Acre							
	A.U./Acre							
Poultry - Layers	# / Acre							
	A.U./Acre							
Total	A.U./Acre	**<0.01**	**<0.01**	**<0.01**	**0.12**	**0.09**	**0.02**	**0.01**
Potential NPS Impairment		L	L	L	L	L	L	L
Aquaculture	% Total Acres	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01
Potential NPS Impairment		L	L	L	L	L	L	L

* No data reported for this portion of the subwatershed; nd = no data

Table 20b. Sedimentation estimates by source, forest condition, septic tank information and resource concerns by sub-watershed in the Mobile Bay-Lower Tombigbee River Basin as provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets (ASWCC 1998). (* Indicates not reported)

	0201											
Sub-watershed	**010**	**020**	**030**	**040**	**050**	**060**	**070**	**080**	**100**	**110**	**130**	**150**
Acres Reported (% total)	100	100	100	100	93	100	100	100	100	100	100	97
County/SWCD District	Sumter	Sumter	Marengo	Marengo	Marengo	Marengo	Marengo	Marengo	Choctaw Sumter	Marengo	Choctaw	Choctaw
Forest condition												
% Needing Forest Improvement[a]	55	68	ur	ur	ur	ur	ur	ur	47	ur	ur	ur
Potential for forestry NPS	H	H	---	---	---	---	---	---	H	---	---	---
Sedimentation rates (tons/acre/year)												
Cropland	0.1	0.2	0.1	<0.1	0.1	<0.1	<0.1		0.2	<0.1	<0.1	0.1
Sand & gravel pits	3.5	0.1	0.1				0.1		0.1		<0.1	0.1
Mined land												
Developing urban land											0.8	
Critical areas	0.1	<0.1	0.2	0.4	0.4	0.2	0.1	<0.1	0.5	0.1	1.8	1.6
Gullies	0.3	0.3	0.5	0.5	0.6	0.3	0.2	0.1	1.6	0.2	46.2	4.2
Stream banks	0.3	0.1	2.7	4.0	2.6	1.7	2.2	0.1	1.2	2.1	3.1	3.2
Dirt roads and roadbanks	0.1	0.2	0.4	0.5	0.3	0.2	0.3	0.1	0.3	0.2	0.1	0.4
Woodlands	0.2	0.3	0.2	0.5	0.1	0.2	0.3	0.3	0.4	0.3	0.9	0.8
Total sediment	4.6	1.2	4.2	6.0	4.1	2.6	3.2	0.6	4.4	2.8	52.8	10.4
Potential for sediment NPS	H	L	H	H	H	M	M	L	H	M	H	H
Septic tanks												
# Septic tanks per acre	<0.01	0.01	0.01	0.01	0.01	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
# Septic tanks failing per acre	0.001	0.004	0.005	0.005	0.004	0.006	0.010	<0.001	0.002	0.003	0.001	<0.001
# of alternative septic systems	0.0001		<0.0001	0.0001			<0.0001		<0.0001		0.0002	0.0001
Resource concerns in the subwatershed												
Excessive erosion on cropland					X							
Gully erosion on agricultural land	X				X							
Road and roadbank erosion	X	X			X	X	X	X	X	X	X	X
Poor soil condition (cropland)	X											
Excessive animal waste applied to land					X							
Excessive pesticides applied to land												
Excessive sediment from cropland												
Excessive sediment from roads/roadbanks	X	X	X			X	X		X			
Excessive sediment from urban development												
Inadequate management of animal wastes					X				X			
Nutrients in surface waters	X				X				X			
Pesticides in surface waters	X											
Bacteria and other organisms in surface waters		X							X			
Low dissolved oxygen in surface waters												
Livestock are overgrazing pastures	X	X	X	X	X	X	X	X	X	X		
Livestock commonly have access to streams	X	X	X	X	X	X	X	X	X	X	X	X

a. ur=unreported

Table 20b. Sedimentation estimates by source, forest condition, septic tank information and resource concerns by sub-watershed in the Mobile Bay-Lower Tombigbee River Basin as provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets (ASWCC 1998). (* Indicates not reported)

	0201											
Sub-watershed	**160**	**170**	**180**	**190**	**200**	**210**	**220**	**230**	**250**	**270**	**280**	**290**
Acres Reported (% total)	100	100	100	100	83	100	100	100	100	100	100	99
County/SWCD District	Choctaw	Marengo	Clarke Marengo	Choctaw	Marengo	Clarke Marengo	Choctaw	Clarke	Choctaw	Choctaw	Choctaw	Choctaw Washington
Forest condition												
% Needing Forest Improvement[a]	ur	ur	3	ur	ur	39	ur	46	ur	ur	ur	ur
Potential for forestry NPS	---	---	L	---	---	M	---	M	---	---	---	---
Sedimentation rates (tons/acre/year)												
Cropland	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Sand & gravel pits	0.2		<0.1	0.1	<0.1	<0.1	0.2	1.8	0.1	0.1	0.1	0.1
Mined land												
Developing urban land	2.4		<0.1	1.9		0.2					0.5	1.2
Critical areas	1.6	<0.1	<0.1	1.7	0.1	0.2	1.8	0.1	1.8	1.8	1.7	1.7
Gullies	18.4	0.1	0.1	4.5	0.1	0.1	4.8		4.7	4.7	4.5	4.5
Stream banks	3.9	0.2	0.0	1.7		0.3	2.6		2.4	3.0	4.0	2.8
Dirt roads and roadbanks	0.1	1.0	0.3	<0.1	0.5	0.2	0.1	0.2	0.1	0.2	0.2	0.2
Woodlands	0.8	0.3	0.3	0.8	0.3	0.8	0.9	0.9	0.9	0.6	0.8	1.0
Total sediment	27.4	1.6	0.9	10.8	1.0	1.6	10.3	2.9	10.0	10.3	11.8	11.6
Potential for sediment NPS	H	L	L	H	L	L	H	M	H	H	H	H
Septic tanks												
# Septic tanks per acre	<0.01	<0.01	0.01	0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
# Septic tanks failing per acre	<0.001	<0.001	0.001	0.002	<0.001	0.003	<0.001	0.001	<0.001	<0.001	0.003	0.001
# of alternative septic systems	0.0001			0.0009			0.0001		<0.0001	0.0001	0.0002	0.0000
Resource concerns in the subwatershed												
Excessive erosion on cropland												
Gully erosion on agricultural land										X		
Road and roadbank erosion	X		X	X			X		X	X	X	
Poor soil condition (cropland)												
Excessive animal waste applied to land												
Excessive pesticides applied to land												
Excessive sediment from cropland												
Excessive sediment from roads/roadbanks			X			X				X	X	
Excessive sediment from urban development												
Inadequate management of animal wastes												
Nutrients in surface waters												
Pesticides in surface waters												
Bacteria and other organisms in surface waters												
Low dissolved oxygen in surface waters												
Livestock are overgrazing pastures		X	X		X	X						
Livestock commonly have access to streams	X	X	X	X	X	X	X		X	X	X	X

a. ur=unreported

Table 20b. Sedimentation estimates by source, forest condition, septic tank information and resource concerns by sub-watershed in the Mobile Bay-Lower Tombigbee River Basin as provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets (ASWCC 1998). (* Indicates not reported)

	0202					0203								
Sub-watershed	**040**	**060**	**080**	**100**	**110**	**010**	**020**	**030**	**040**	**050**	**060**	**070**	**080**	**090**
Acres Reported (% total)	0	0	100	100	100	100	100	100	100	99	93	100	100	100
County/SWCD District	Sumter	Sumter	Sumter	Sumter	Sumter	Clarke	Choctaw Washington	Choctaw Washington	Clarke	Washington	Clarke Washington	Clarke	Clarke	Clarke
Forest condition														
% Needing Forest Improvement[a]			9	59	12	43	ur	55	47	39	44	47	47	42
Potential for forestry NPS			L	H	L	M	---	H	H	M	M	H	H	M
Sedimentation rates (tons/acre/year)														
Cropland			0.1	0.3	0.2	<0.1	<0.1	0.1	<0.1	3.5	<0.1	<0.1		
Sand & gravel pits			0.0	0.2	0.4		0.4	<0.1	<0.1	1.1	0.2	0.2	0.2	0.4
Mined land				1.9										
Developing urban land			4.2	5.5	1.2	1.9		2.6	0.3	3.5			0.2	3.0
Critical areas			1.7	0.1	0.7	0.2	1.9	0.6	0.1	2.1	0.2	0.1	0.1	0.4
Gullies			3.8	0.2	1.3		4.8	0.5	1.0			1.0		8.0
Stream banks			0.7	1.7	0.3		2.3	<0.1						
Dirt roads and roadbanks			0.3	1.0	0.2	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.1
Woodlands			<0.1	0.2	0.2	0.5	0.9	1.1	1.0	0.9	0.4	0.4	0.5	0.1
Total sediment			10.8	11.0	4.6	2.7	10.4	5.0	2.7	11.4	1.0	1.8	1.5	12.0
Potential for sediment NPS			H	H	H	M	H	H	M	H	L	L	L	H
Septic tanks														
# Septic tanks per acre			0.01	0.01	0.01	0.01	<0.01	<0.01	0.01	<0.01	0.01	0.01	0.01	0.01
# Septic tanks failing per acre			0.008	0.005	0.004	0.005	<0.001	<0.001	0.003	<0.001	0.001	0.006	0.003	0.004
# of alternative septic systems			0.0002	0.0013	0.0001		0.0001		<0.0001			0.0001	0.0001	<0.0001
Resource concerns in the subwatershed														
Excessive erosion on cropland			X	X										
Gully erosion on agricultural land			X	X	X									
Road and roadbank erosion			X	X	X									
Poor soil condition (cropland)														
Excessive animal waste applied to land														
Excessive pesticides applied to land														
Excessive sediment from cropland			X	X										
Excessive sediment from roads/roadbanks			X	X	X									
Excessive sediment from urban development			X	X	X									
Inadequate management of animal wastes														
Nutrients in surface waters														
Pesticides in surface waters				X										
Bacteria and other organisms in surface waters			X	X	X									
Low dissolved oxygen in surface waters			X	X	X									
Livestock are overgrazing pastures			X	X	X									
Livestock commonly have access to streams			X	X	X			X						

a. ur=unreported

Table 20b. Sedimentation estimates by source, forest condition, septic tank information and resource concerns by sub-watershed in the Mobile Bay-Lower Tombigbee River Basin as provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets (ASWCC 1998). (* Indicates not reported)

	0203					0204					
Sub-watershed	**100**	**110**	**120**	**130**	**140**	**010**	**020**	**030**	**040**	**050**	**060**
Acres Reported (% total)	100	99	99	100	100	100	99	100	100	100	100
County/SWCD District	Washington	Clarke Washington	Washington	Mobile Washington	Baldwin Clarke	Baldwin	Mobile Washington	Mobile	Baldwin	Mobile	Mobile
Forest condition											
% Needing Forest Improvement[a]	53	48	73	50	48	46	4	4	20	3	ur
Potential for forestry NPS	H	H	H	H	H	M	L	L	L	L	---
Sedimentation rates (tons/acre/year)											
Cropland	<0.1		<0.1	0.1		0.1	<0.1	<0.1	0.2	<0.1	
Sand & gravel pits	0.1	1.2		0.2		0.2	0.4	0.7	0.4	0.8	1.0
Mined land									0.2		
Developing urban land	2.5					0.3	<0.1	0.1	1.3	<0.1	0.1
Critical areas	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	0.2	<0.1	0.1
Gullies					0.2	0.1	<0.1	0.1	0.7	0.1	<0.1
Stream banks						0.0			0.0		
Dirt roads and roadbanks	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.6	<0.1
Woodlands	0.8	0.6	1.2	1.1	0.2	0.3	0.3	0.2	1.6	0.2	<0.1
Total sediment	3.7	1.8	1.3	1.5	0.7	1.3	1.1	1.4	4.8	1.8	1.2
Potential for sediment NPS	M	L	L	L	L	L	L	L	H	L	L
Septic tanks											
# Septic tanks per acre	<0.01	0.01	<0.01	<0.01	<0.01	0.01	0.06	0.11	0.01	0.07	0.01
# Septic tanks failing per acre	<0.001	0.004	<0.001	<0.001	0.001	<0.001			<0.001		
# of alternative septic systems						0.0007			0.0021		
Resource concerns in the subwatershed											
Excessive erosion on cropland											
Gully erosion on agricultural land						X			X		
Road and roadbank erosion					X	X			X		
Poor soil condition (cropland)											
Excessive animal waste applied to land											
Excessive pesticides applied to land											
Excessive sediment from cropland											
Excessive sediment from roads/roadbanks						X			X		
Excessive sediment from urban development						X			X		
Inadequate management of animal wastes											
Nutrients in surface waters					X	X			X		
Pesticides in surface waters											
Bacteria and other organisms in surface waters					X	X			X		
Low dissolved oxygen in surface waters											
Livestock are overgrazing pastures											
Livestock commonly have access to streams											

a. ur=unreported

Table 20b. Sedimentation estimates by source, forest condition, septic tank information and resource concerns by sub-watershed in the Mobile Bay-Lower Tombigbee River Basin as provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets (ASWCC 1998). (* Indicates not reported)

	0205						
Sub-watershed	**010**	**020**	**030**	**040**	**050**	**060**	**070**
Acres Reported (% total)	100	100	100	100	100	100	100
County/SWCD District	Baldwin Mobile	Mobile	Mobile	Baldwin	Baldwin	Baldwin	Baldwin
Forest condition							
% Needing Forest Improvement[a]	ur	1	3	19	32	46	46
Potential for forestry NPS	---	L	L	L	M	M	M
Sedimentation rates (tons/acre/year)							
Cropland		<0.1	0.2	0.5	1.0	0.5	0.2
Sand & gravel pits		1.6	0.3	0.4	0.4	0.8	0.2
Mined land							
Developing urban land		0.1	0.1	5.9	1.2	2.7	3.4
Critical areas		<0.1	<0.1	1.1	0.7	0.4	0.4
Gullies		<0.1	<0.1	2.7	1.5	0.6	
Stream banks				0.0			
Dirt roads and roadbanks		0.2	0.9	0.3	0.6	0.1	0.3
Woodlands		0.1	0.2	0.1	0.2	0.3	0.2
Total sediment		2.1	1.7	10.9	5.5	5.3	4.8
Potential for sediment NPS	L	M	L	H	H	H	H
Septic tanks							
# Septic tanks per acre		0.10	0.14	0.14	0.03	0.03	0.02
# Septic tanks failing per acre				0.004	0.001	0.001	<0.001
# of alternative septic systems				0.0463	0.0120	0.0269	0.0050
Resource concerns in the subwatershed							
Excessive erosion on cropland							
Gully erosion on agricultural land	X			X	X	X	X
Road and roadbank erosion	X			X	X	X	X
Poor soil condition (cropland)							
Excessive animal waste applied to land							
Excessive pesticides applied to land							
Excessive sediment from cropland							
Excessive sediment from roads/roadbanks	X			X	X	X	X
Excessive sediment from urban development	X			X	X	X	X
Inadequate management of animal wastes					X		
Nutrients in surface waters	X			X	X	X	X
Pesticides in surface waters						X	
Bacteria and other organisms in surface waters	X			X	X	X	X
Low dissolved oxygen in surface waters	X					X	X
Livestock are overgrazing pastures							
Livestock commonly have access to streams					X		

a. ur=unreported

Table 21b. Physical characteristics and habitat quality of sites assessed in the Middle Tombigbee-Chickasaw (0316-0201), Sucarnoochee (0316-0202), Lower Tombigbee (0316-0203), Mobile-Tensaw (0316-0204), and Mobile Bay (0316-0205) CUs.

Station		DRYM-30	PWLM-32	PWLM-33[d]	RKYM-34	CHBM-26[d]	LDRM-29[d]	MCHM-27[d]	WTKM-28[d]	CDRS-22	SCLS-21	SNCS-20[d]	ALMS-15	TMBS-17	TLCW-14[d]
CU		0201	0201	0201	0201	0201	0201	0201	0201	0202	0202	0202	0202	0202	0203
Sub-watershed #		040	050	050	050	060	060	060	060	080	080	080	100	100	050
Date (YYMMDD)		010501	010501	010501	010501	010501	010501		010502	010502	010503	010503	010502	010502	010523
Ecoregion/ subregion		65b	65b	65a	65a	65b	65b	65b	65b	65a	65a	65b	65d	65d	65f
Drainage area (mi^2)		30	68	13	7	31	15	21	25	8	20		48	84	19
Width (ft)		30	30		10					8	15		30	25	
Canopy cover[a]		MO	O		S					S	MS		MS	S	
Depth (ft)[b]	Riffle	np	np		np					np	0.2		np	np	
	Run	1.5	1.5		0.4					0.5	0.5		2.7	2.0	
	Pool	2	3.5		1.5					1.5	1		2.0	3.5	
Substrate (%)	Bedrock	40 (Clay)	10 (Clay)		80 (Clay)						80 (Clay)				
	Boulder	5 (Clay)	1 (Clay)		3 (Clay)										
	Cobble	2 (Clay)	3 (Clay)		2 (Clay)						3 (Clay)				
	Gravel	1	3		1					1 (Clay)	5 (Clay)				
	Sand	40	30		5					87	7		75	78	
	Silt	10 (Clay)	5 (Clay)		5					2	3		3	5	
	Detritus	2	5		4					5	2		20	14	
	Clay		46							5			2	3	
	Organic silt														
Habitat assessment form[e]		GP	GP		GP					GP	GP		GP	GP	
Habitat survey (% maximum)															
	Instream habitat quality	45	44		57					29	28		63	54	
	Sediment deposition	68	76		89					56	81		61	61	
	Sinuosity	35	48		35					35	38		40	35	
	Bank and vegetative stability	65	38		54					63	49		46	46	
	Riparian measurements	75	70		66					35	38		100	88	
Habitat assessment score		134	126		134					94	101		145	135	
% Maximum		61	57		61					43	46		66	61	
Assessment[f]		Excellent	Good		Excellent					Fair	Good		NG	NG	

a. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
b. np= not present
c. Non-wadeable
d. No flow
e. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
f. NG=Assessment guidelines not established

Table 21b. Physical characteristics and habitat quality of sites assessed in the Middle Tombigbee-Chickasaw (0316-0201), Sucarnoochee (0316-0202), Lower Tombigbee (0316-0203), Mobile-Tensaw (0316-0204), and Mobile Bay (0316-0205) CUs.

Station		LBAC-11	RBBC-23	FLYB-96[c]	FSHB-97	PERB-98	PLCB-99	MGNB-101
CU		0203	0203	0205	0205	0205	0205	0205
Sub-watershed #		090	090	040	050	050	050	060
Date (YYMMDD)		010702	010524	010515	010516	010515	010515	010515
Ecoregion/ subregion		65q	65f	75a	65f	65f	65f	65f
Drainage area (mi^2)		28	22					
Width (ft)		25	20		15	15	25	20
Canopy cover[a]		50/50	S		S	S	S	MS
Depth (ft)[b]	Riffle	np	0.8		np	np	np	np
	Run	1.0	1.5		2.0	2.5	3.0	1.5
	Pool	2.5	2.7		3.0	3.5	4.0	4.0
Substrate (%)	Bedrock							
	Boulder							
	Cobble	5						
	Gravel	5	5		1			
	Sand	80	75		60	50	55	50
	Silt	2	4		11	5	9	1
	Detritus	8	15		28	45	36	49
	Clay		1					
	Organic silt							
Habitat assessment form[e]		GP	GP		GP	GP	GP	GP
Habitat survey (% maximum)								
	Instream habitat quality	61	64		68	65	59	84
	Sediment deposition	68	71		85	73	76	89
	Sinuosity	43	58		63	55	58	45
	Bank and vegetative stability	56	78		74	70	74	84
	Riparian measurements	93	90		93	90	84	96
Habitat assessment score		146	162		170	159	159	184
% Maximum		66	73		77	72	72	84
Assessment[f]		NG	Excellent		Excellent	Excellent	Excellent	Excellent

a. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
b. np= not present
c. Non-wadeable
d. No flow
e. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
f. NG=Assessment guidelines not established

Table 22b. Bioassessment results conducted in the in the Middle Tombigbee-Chickasaw (0316-0201), Sucarnoochee (0316-0202), Lower Tombigbee (0316-0203), Mobile-Tensaw (0316-0204), and Mobile Bay (0316-0205) CUs.

Cataloging Unit	0201	0201	0201	0201	0201	0201	0201	0201	0202	0202
Sub-watershed #	040	050	050	050	060	060	060	060	080	080
Station	DRYM-30	PWLM-32	PWLM-33[a]	RKYM-34	CHBM-26[a]	LDRM-29[a]	MCHM-27[a]	WTKM-28[a]	CDRS-22	SCLS-21
Subecoregion	65a	65b	65a	65a	65b	65a	65b	65b	65b	65a
Drainage Area (mi^2)	30	68	13	7	31	15	21	25	8	20
Macroinvertebrate community										
Date (yymmdd)	010501	010501	010501	010501	010501	010501	010502	010502	010502	010503
# EPT families	4	6		3					6	4
Assessment	Fair	Good	NA	Fair	NA	NA	NA	NA	Good	Fair
Fish community										
Date (yymmdd)	010719	010509								
Richness measures										
# species	12	12								
# darter species	1	1								
# minnow species	3	4								
# sunfish species	2	4								
# sucker species	2	0								
# intolerant species	3	1								
% sunfish	29	40								
% omnivores and herbivores	15	4								
% insectivourous cyprinids	23	52								
% top carnivores	5	2								
# collected per hour	231	255								
% disease and anomalies	0	1								
IBI Score	38	38								
Assessment	Fair/Poor	Fair/Poor								

Table 22b. Bioassessment results conducted in the in the Middle Tombigbee-Chickasaw (0316-0201), Sucarnoochee (0316-0202), Lower Tombigbee (0316-0203), Mobile-Tensaw (0316-0204), and Mobile Bay (0316-0205) CUs.

Cataloging Unit	0202	0202	0202	0203	0203	0203	0205	0205	0205	0205	0205
Sub-watershed #	080	100	100	050	090	090	040	050	050	050	060
Station	SNSS-20[a]	ALMS-15	TMBS-17	TLCW-14[a]	LBAC-11	RBBC-23	FLYB-96[a]	FSHB-97	PERB-98	PLCB-99	MGNB-101
Subecoregion	65a	65d	65d	65f	65q	65f	75a	65f	65f	65f	65f
Drainage Area (mi^2)	17	48	84	19	28	22	7				
Macroinvertebrate community											
Date (yymmdd)	010503	010502	010502	010523	010702	010524	010515	010516	010515	010515	010515
# EPT families		10	5		3	9		5	7	3	10
Assessment	NA	NG	NG	NA	NG	Good	NA	Fair	Fair	Poor	Good
Fish community											
Date (yymmdd)		010510	010706		010808			010809	010808		
Richness measures											
# species		22	15		16			14	11		
# darter species		4	3		2			1	1		
# minnow species		7	7		7			2	3		
# sunfish species		4	3		2			4	3		
# sucker species		0	0		0			1	0		
# intolerant species		3	2		3			1	1		
% sunfish		5	25		4				15		
% omnivores and herbivores		21	13		5			9	20		
% insectivourous cyprinids		50	48		57			25	38		
% top carnivores		3	6		1			2	4		
# collected per hour		197	174		112			86	123		
% disease and anomalies		0	0		0			0.0	1.2		
IBI Score		46	44		40			36	36		
Assessment		Good/Fair	Fair		Fair			Fair/Poor	Fair/Poor		

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ESCATAWPA RIVER - MISSISSIPPI COASTAL BASIN

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ESCATAWPA RIVER-MISSISSIPPI COASTAL BASIN (0317-00)

The Escatawpa River – Mississippi Coastal Basin contains 16 sub-watersheds located within Choctaw, Washington, and Mobile Counties of southwest Alabama (Fig. 52). The Basin drains approximately 1,018 mi^2 of the Coastal Plain, Major Floodplains and Terraces, and the Coastal Marshes and Beaches soil areas (ACES 1997). It is located in the Southeastern Plains (65) and Southern Coastal Plains (75) Ecoregions (Fig. 53; Griffith et al. 2001).

Landuse: Landuse differed between the Escatawpa River and Mississippi Coastal CUs. Conservation assessment worksheets were completed by the local SWCDs for 14 of the 16 sub-watersheds within the basin. The primary land-uses within the Escatawpa River CU were forest and croplands. Landuse within the Mississippi Coastal CU was primarily open water and forest.

Percent land cover estimated by local SWCD (ASWCC 1998)

CU	Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
Escatawpa River	71	13	8	0	6	1	1
Mississippi Coastal	22	7	4	0	6	56	4

NPS impairment potential: Six sub-watersheds were estimated to have a moderate potential for impairment from nonpoint sources (Fig. 54). The primary nonpoint sources were cropland (Fig. 55), sedimentation (Fig. 56), pasture (Fig. 57), animal husbandry (Fig. 58) and forestry (Fig. 59). Impairment from urban runoff and development was moderate or high in 12 sub-watersheds (Table 15c).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15c).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry (12 reported)	Sediment
Moderate	6	4	0	2	5	0	2	6
High	0	0	0	5	0	0	1	1

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15c).

Category	% Urban	Development (16 of 16 reported)	Septic tank failure
Moderate	7	6	0
High	2	2	0

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Fig. 52. Sub-watersheds located within the Escatawpa River – Mississippi Coastal Basin.

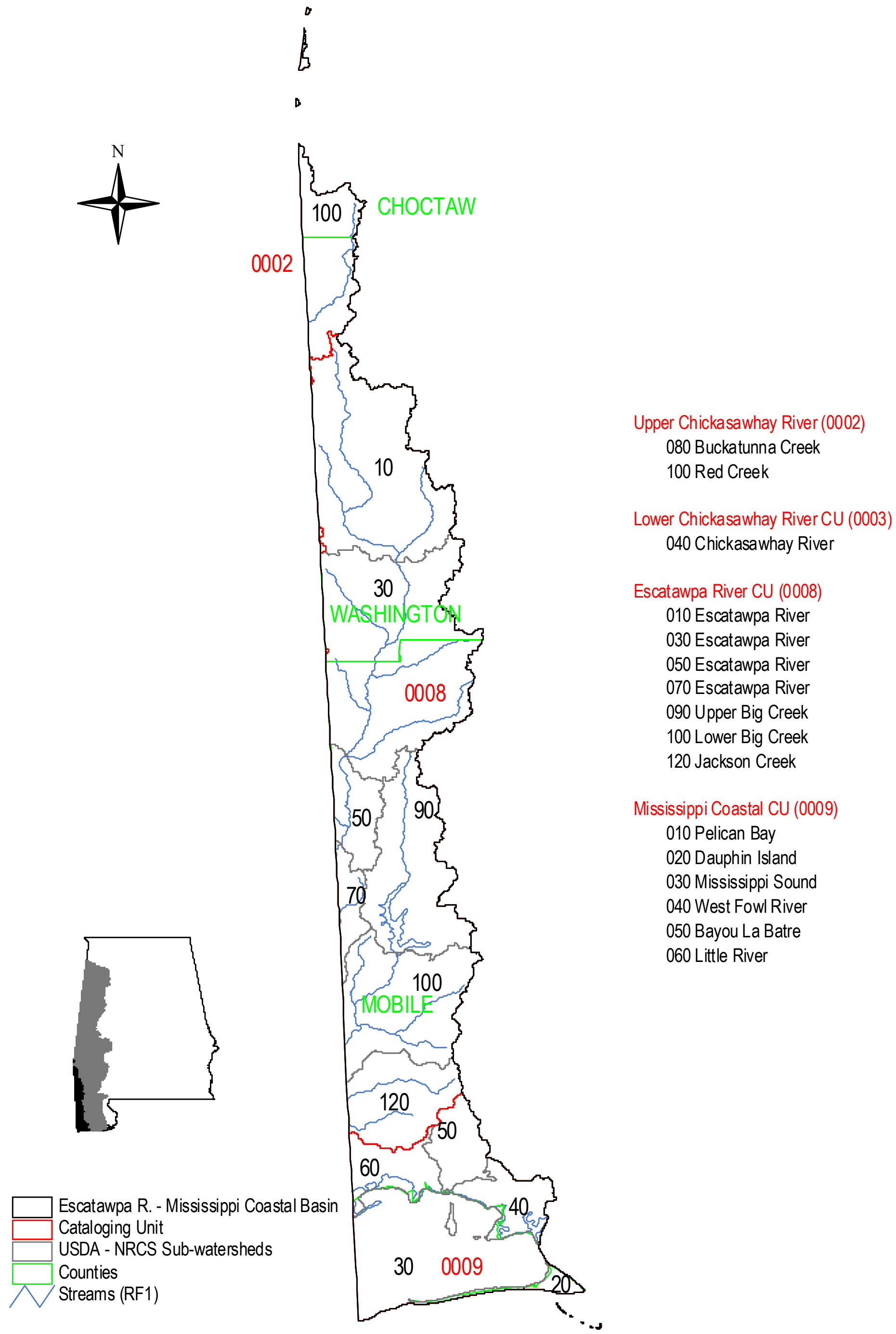

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Fig. 53. Level IV Ecoregions located within the Escatawpa River – Mississippi Coastal Basin.

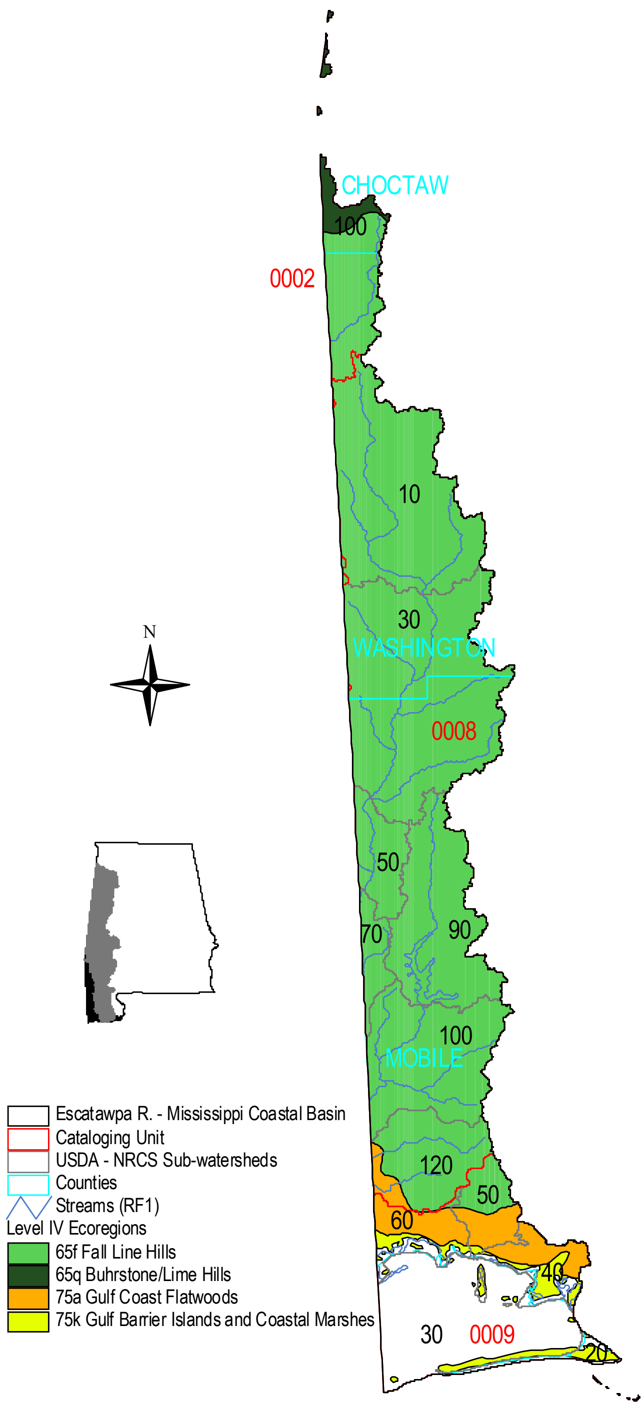

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Fig. 54. NPS impairment potential estimated for the Escatawpa River – Mississippi Coastal Basin.

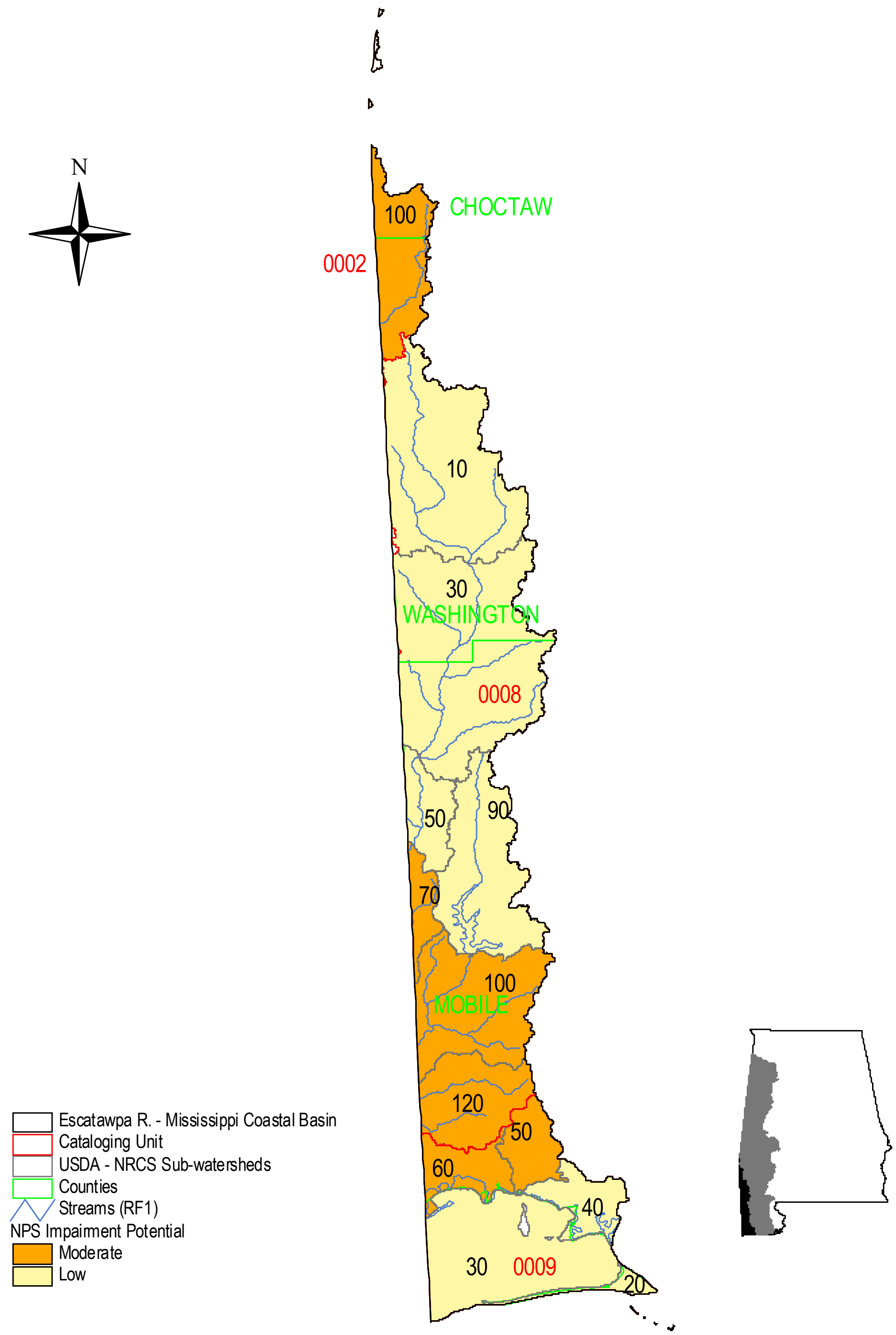

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Fig. 55. The estimated potential for NPS impairment from crop land runoff.

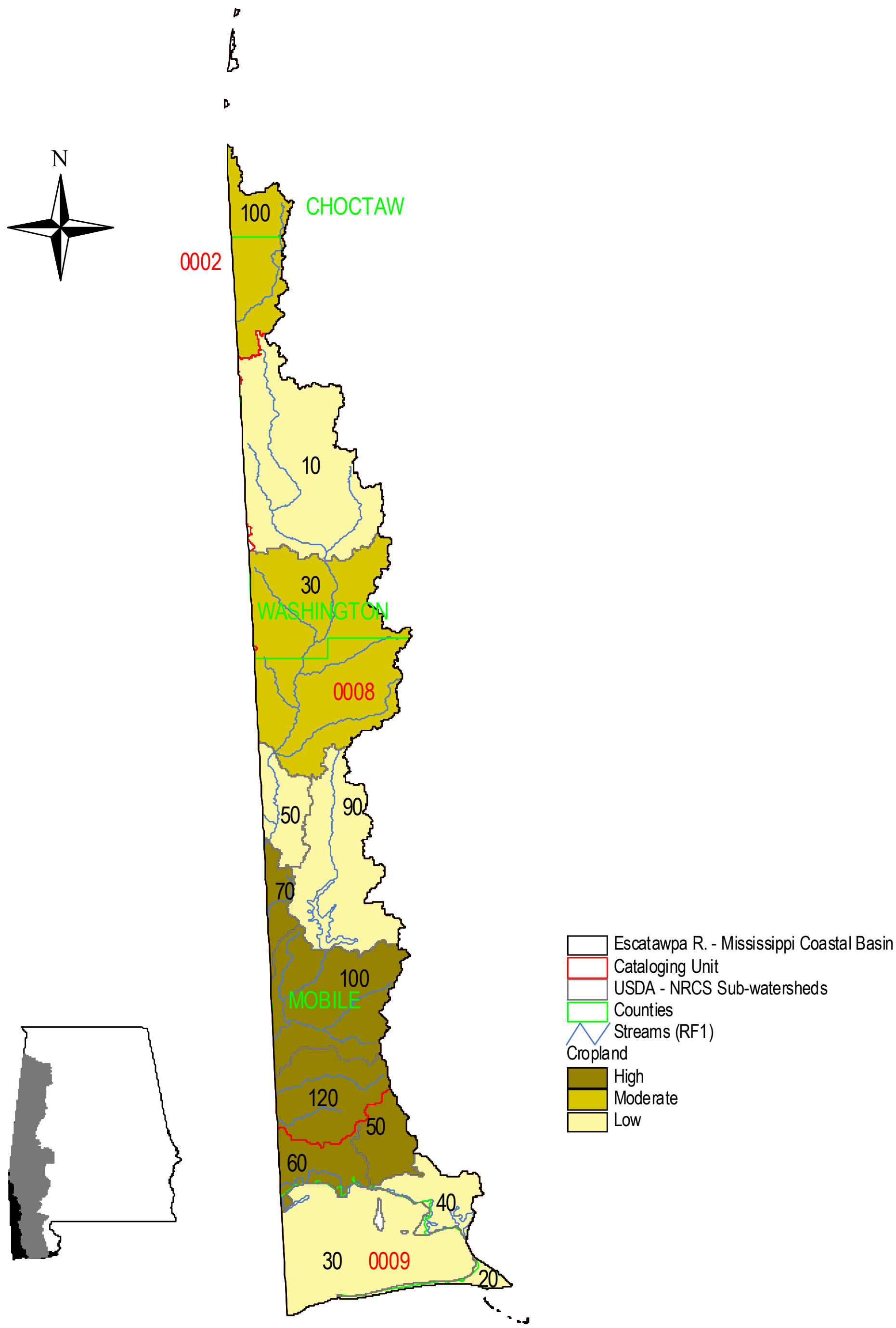

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Fig. 56. NPS impairment potential estimated for sedimentation.

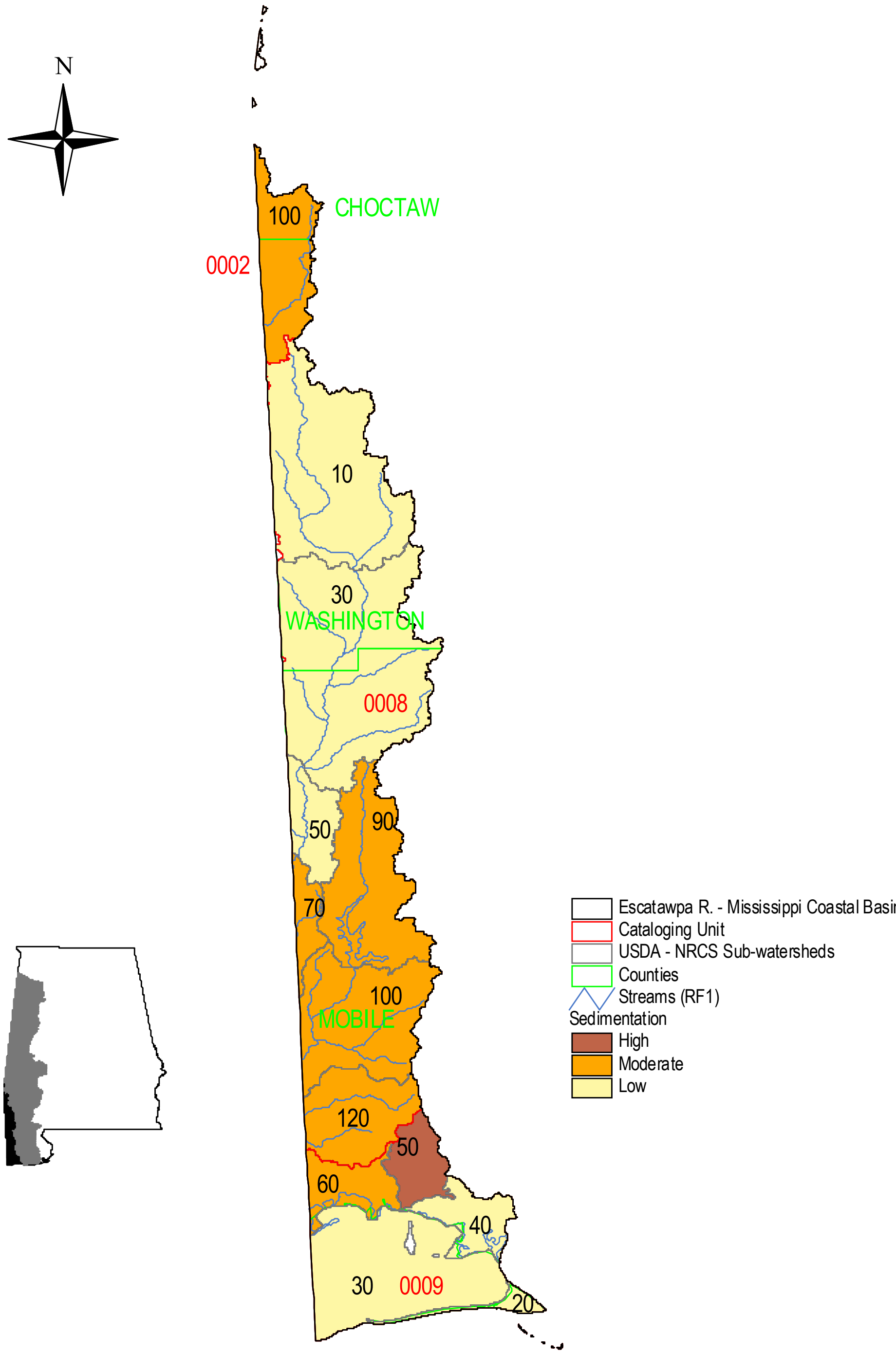

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Fig. 57. NPS impairment potential estimated for runoff from pasture land.

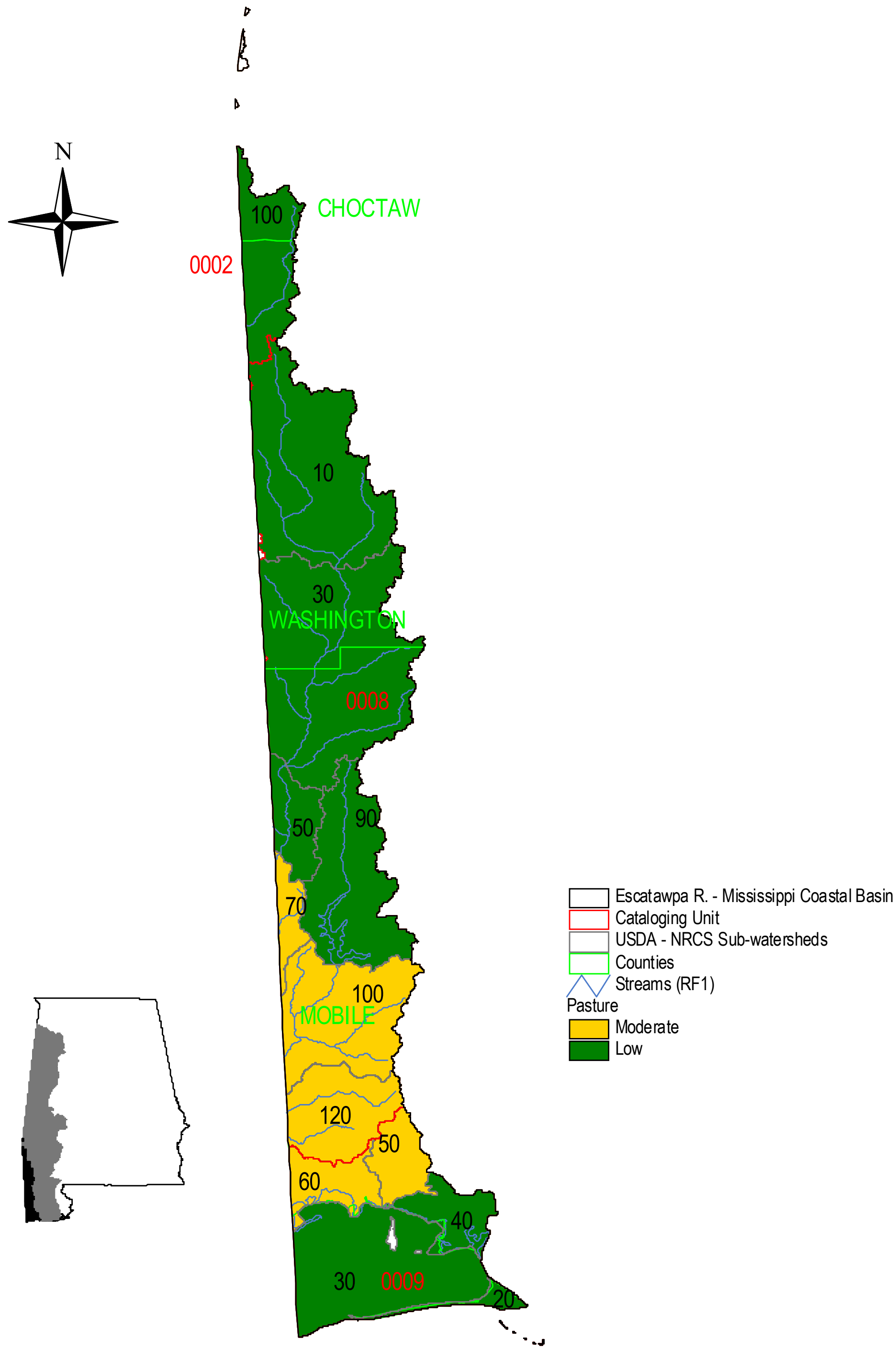

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Fig. 58. NPS impairment potential estimated for animal husbandry activities within the Escatawpa River – Mississippi Coastal Basin.

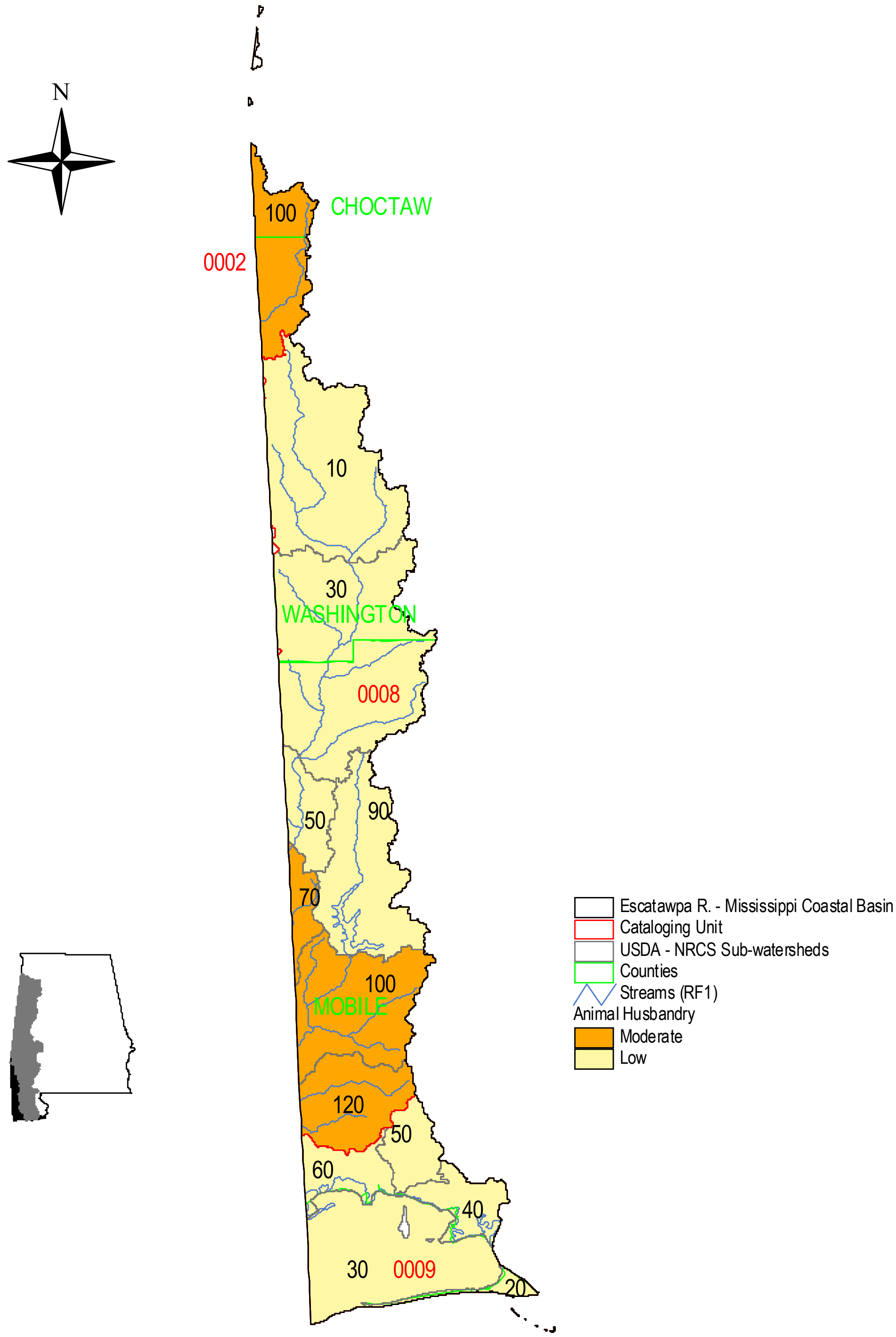

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Fig. 59. NPS impairment potential estimated for forestry activities within the Escatawpa River – Mississippi Coastal Basin.

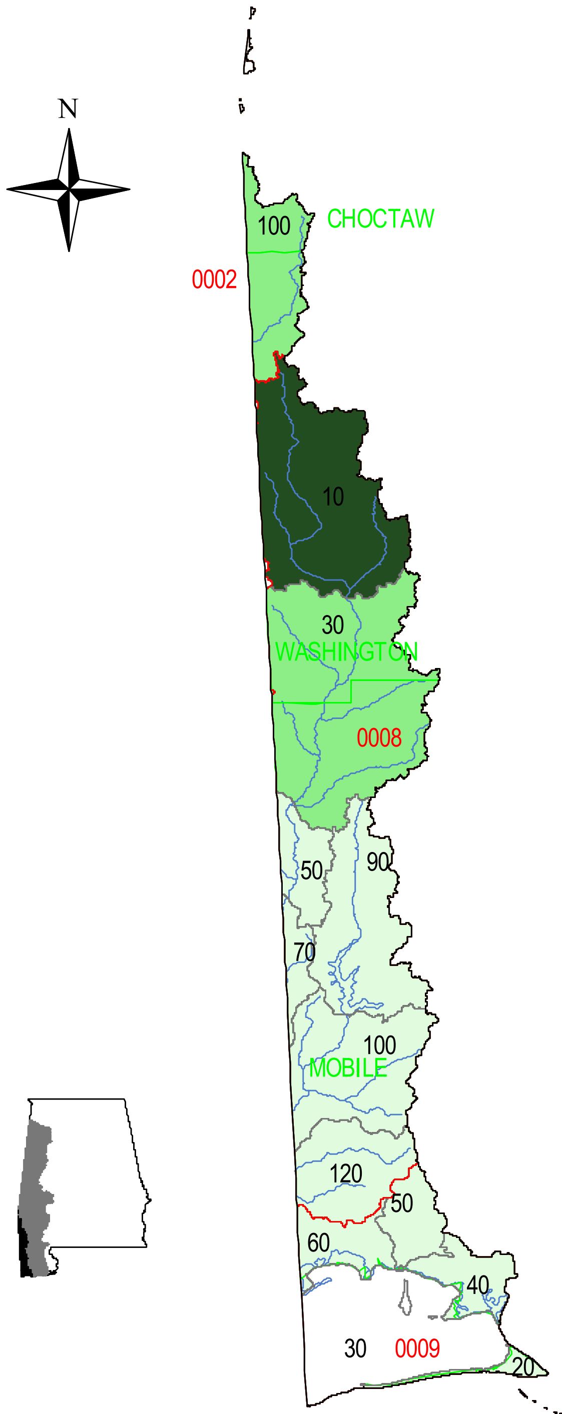

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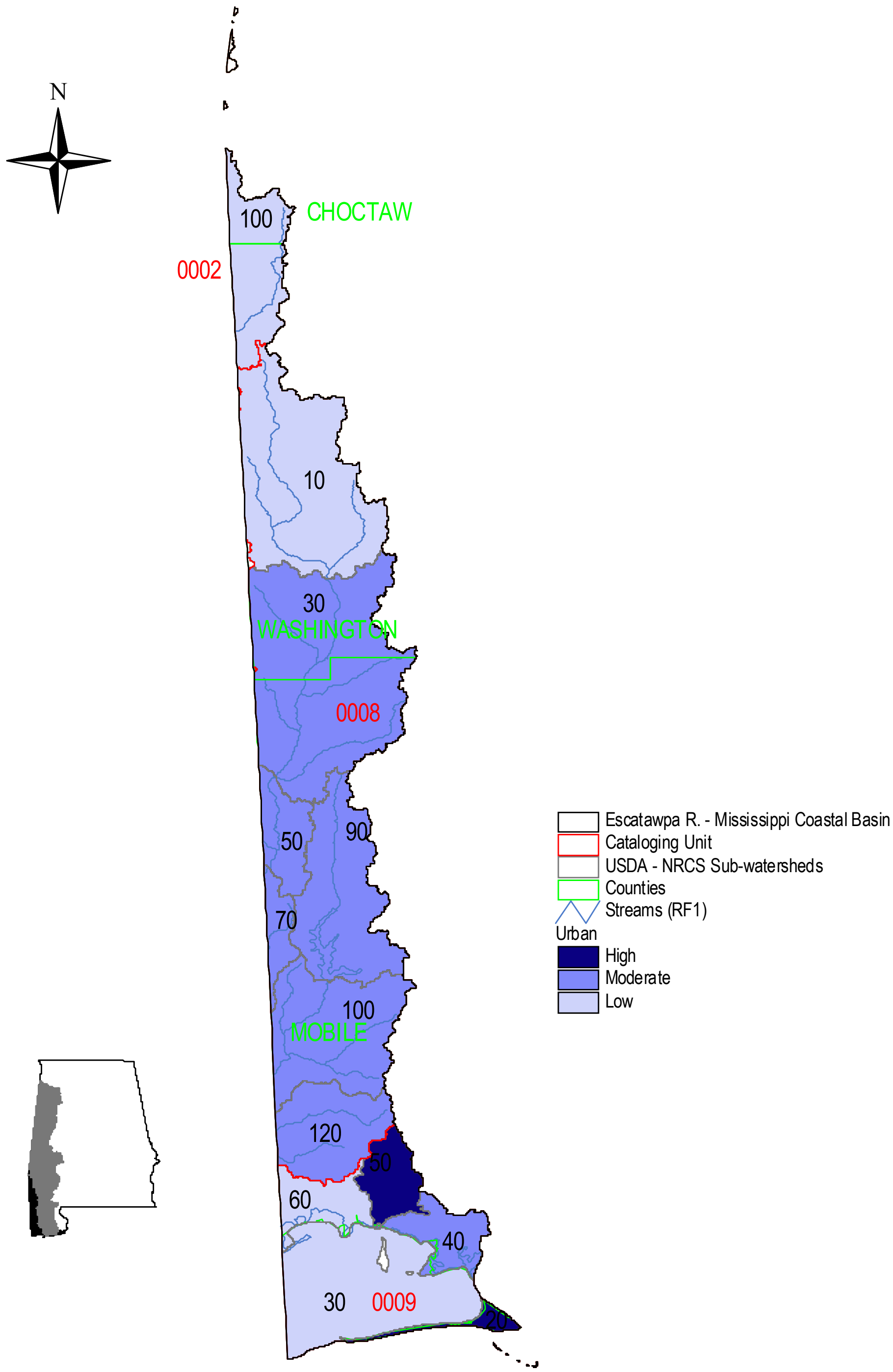
Fig. 60. Estimated potential for impairment from urban runoff within the Escatawpa River – Mississippi Coastal Basin.



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Historical data/studies: The location of stations assessed in conjunction with other monitoring programs is shown in Fig. 61. Table 16c lists the appendices and references where these data are provided. Monitored assessments have been conducted in 4 of the 16 sub-watersheds within the Escatawpa River – Mississippi Coastal Basin in conjunction with ADEM's CWA §303(d) (Appendix F-2), Reservoir (Appendix F-3), and Ambient Monitoring Programs (F-8) and USGS's Water Quality Assessment of the J.B. Converse Lake Watershed (Journey and Gill 2001).

Assessments conducted during this study: An assessment was conducted within the Red Creek (100) sub-watershed within the Upper Chickasawhay River (0002) CU (Table 17c). Three additional locations were assessed within the Lower Big Creek (100) and Jackson Creek (120) sub-watersheds of the Escatawpa River CU.

Sub-watershed summaries: Current and historical monitoring data were combined to provide a comprehensive assessment. A summary of the information available for each of the 16 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. The summaries point out significant data and reference appropriate tables and appendices. Assessments of habitat, biological and chemical conditions are based on long-term data from ADEM's Ecoregional Reference Reach Program, appropriate study-specific control stations, or longterm background information collected by USGS. Tables referenced in the summaries are located at the end of the summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Habitat, chemical/physical, and biological indicators of water quality were monitored at 8 stations in 5 sub-watersheds (Table 18c). Habitat quality was assessed as *excellent* or *good* at all stations (Fig. 63). Macroinvertebrate assessments indicated the macroinvertebrate community to be in *good* condition at 5 stations (62%), and *fair* at 3 stations (38%) (Fig. 63). Results of fish IBI assessments conducted at 2 stations on Puppy Creek indicated the fish community to be in *poor* condition at 2 stations (100%) (Fig. 64).

Overall condition for each station was rated as the lowest assessment result obtained (Table 18c). Five (62%) stations were assessed as *good*. One (12%) station was assessed as *fair* and 2 (25%) stations were assessed as *poor*. The 2 stations assessed as *poor* were primarily impacted by point sources of impairment.

NPS priority sub-watersheds: The Upper Big Creek sub-watershed (090) within the Escatawpa River CU was identified as a priority sub-watershed.

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Fig. 61. Location of stations assessed during other projects within the Escatawpa River – Mississippi Coastal Basin.

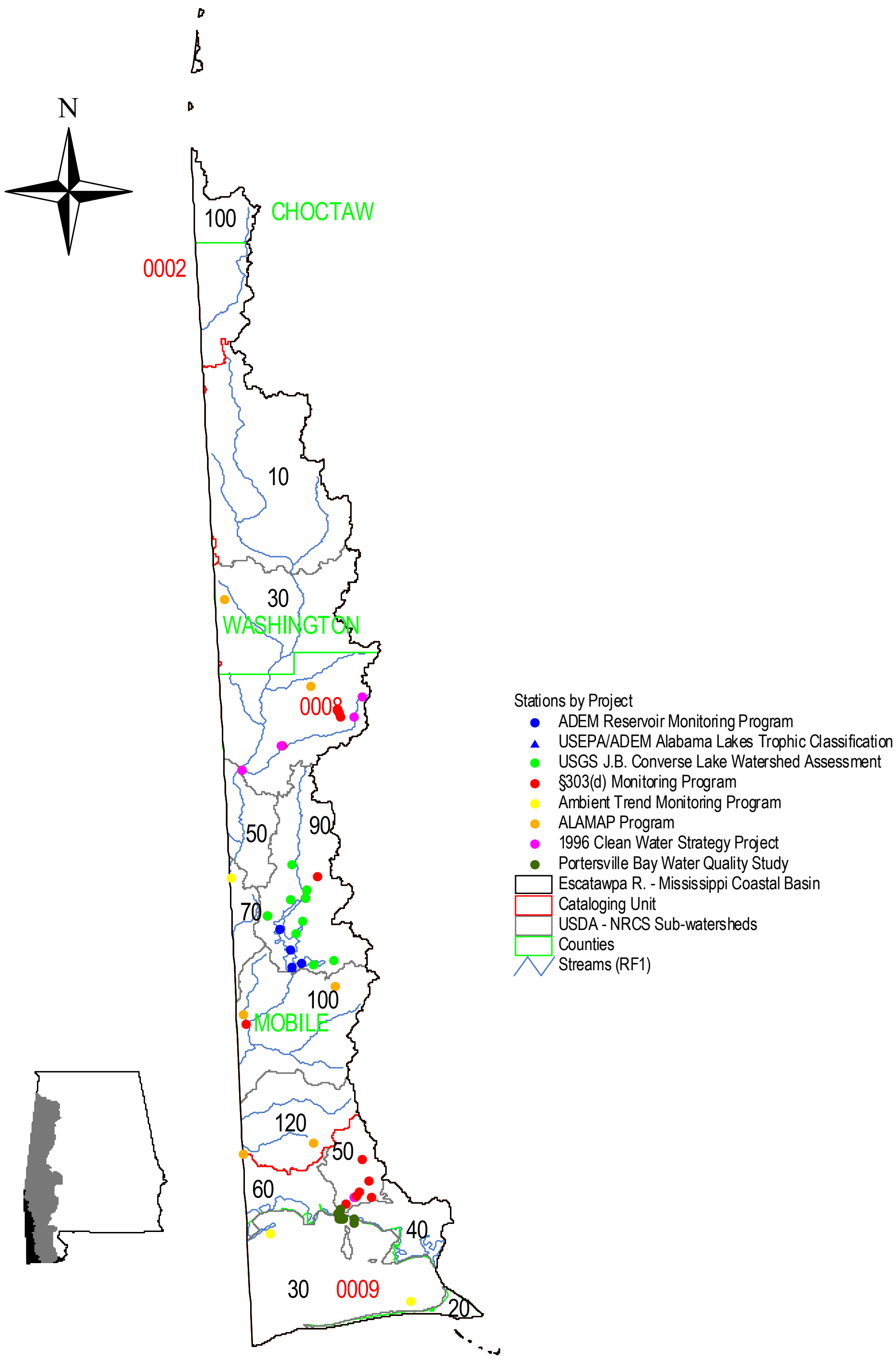

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Fig. 62. Location of stations and targeted sub-watersheds assessed during the 2001 NPS Screening Assessment of the EMT Basin Group.

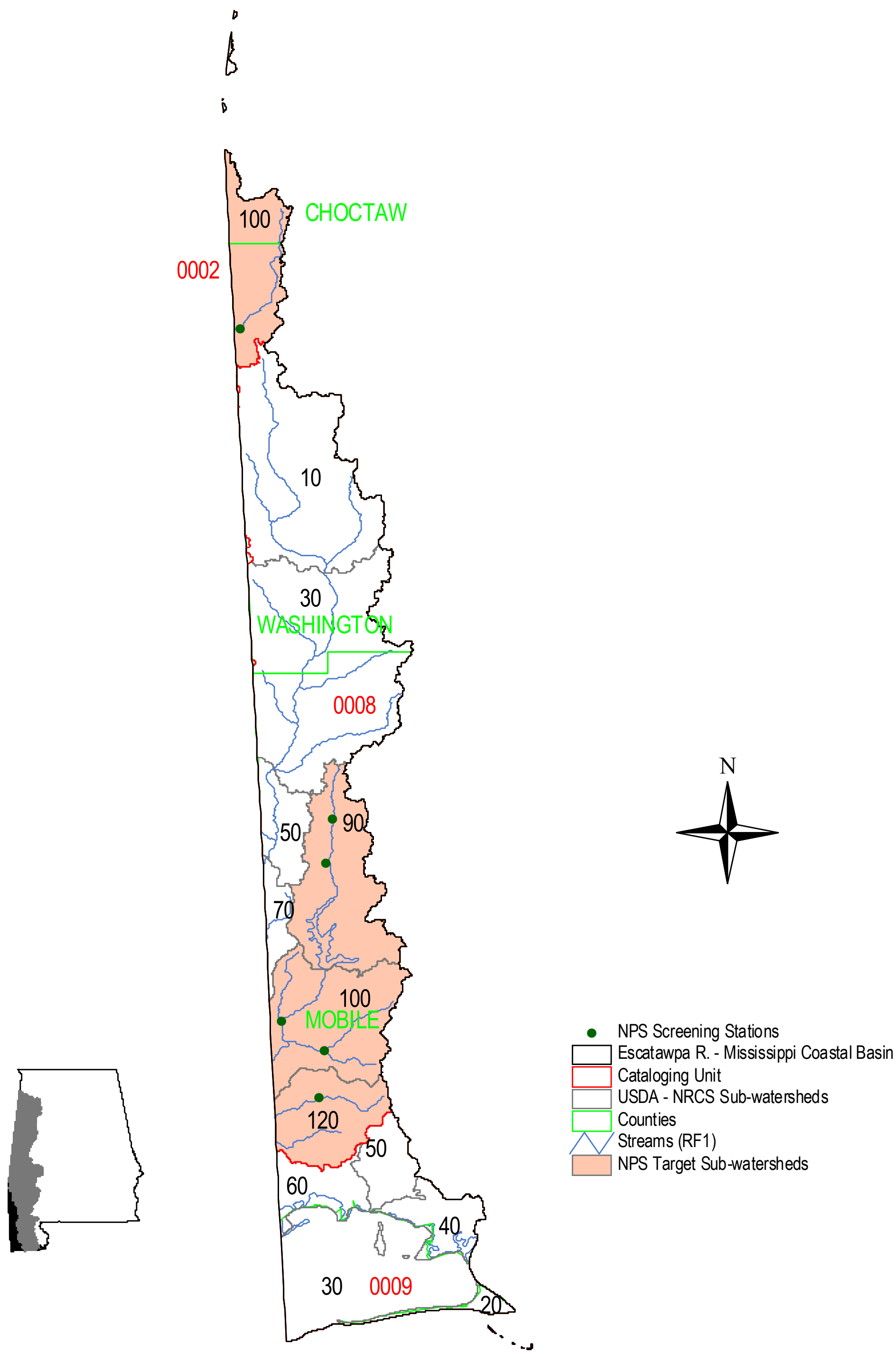

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Fig. 63. Results of habitat and macroinvertebrate assessments conducted within the Escatawpa River – Mississippi Coastal Basin.

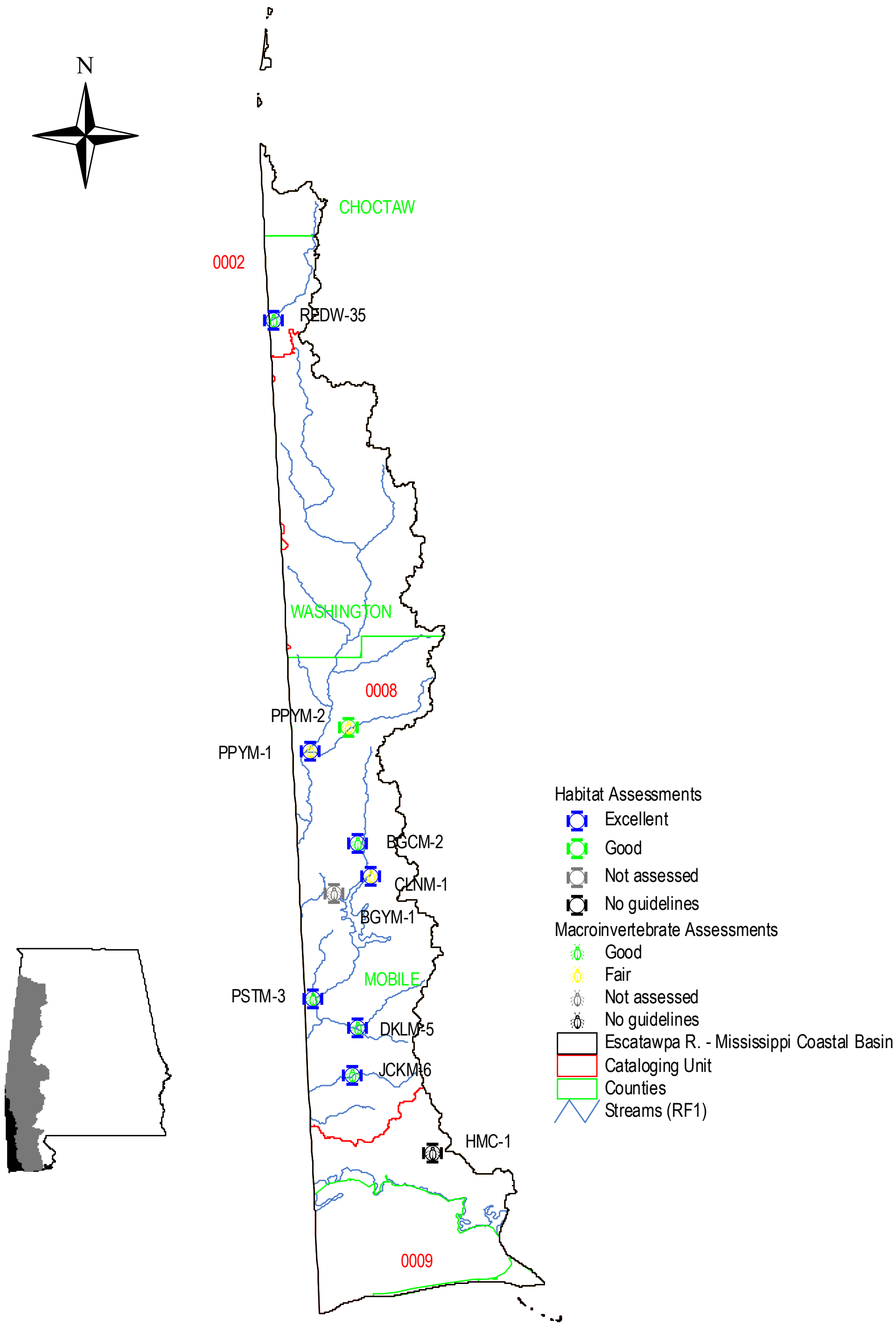

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Fig. 64. Results of fish community assessments conducted within the Escatawpa River – Mississippi Coastal Basin.

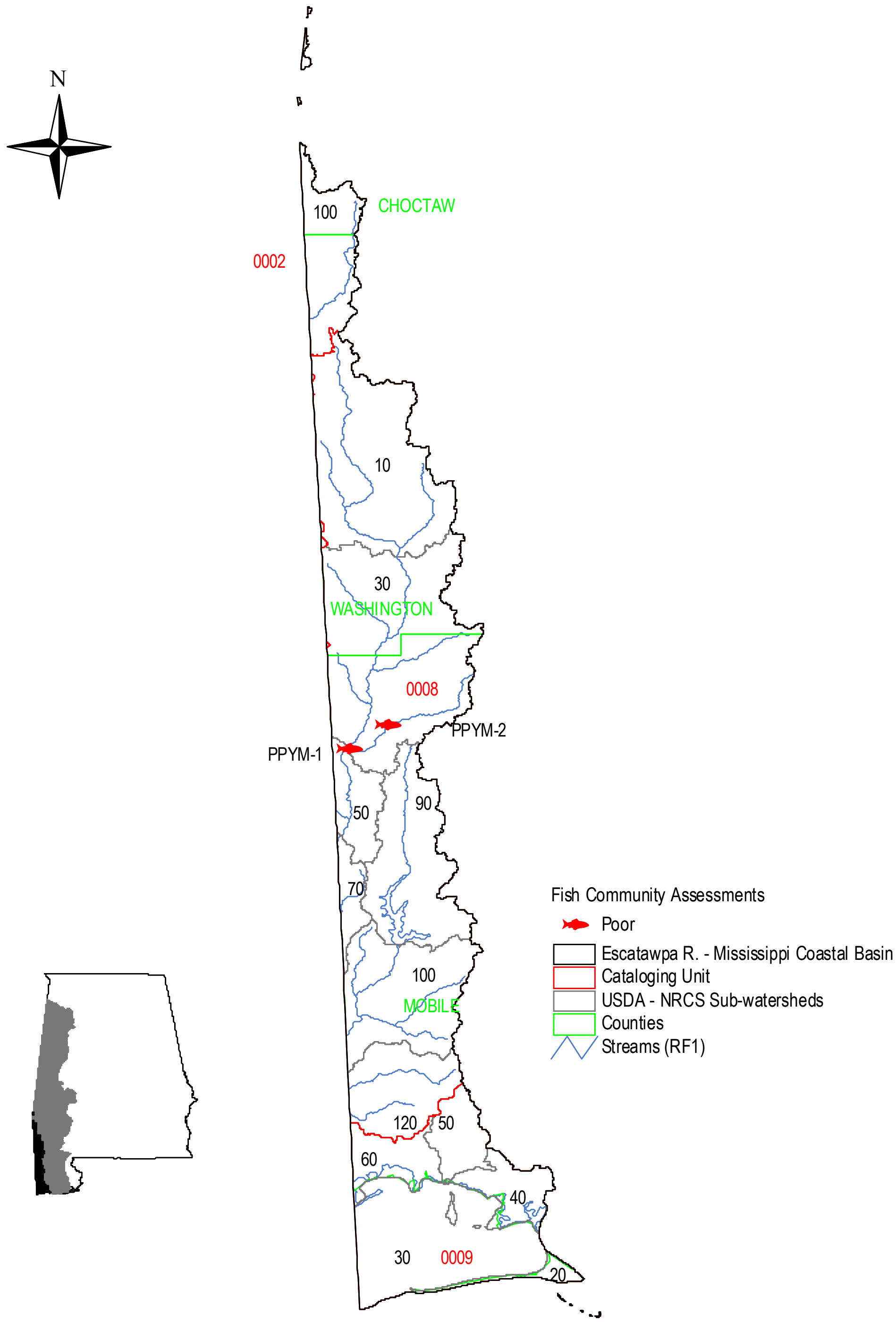

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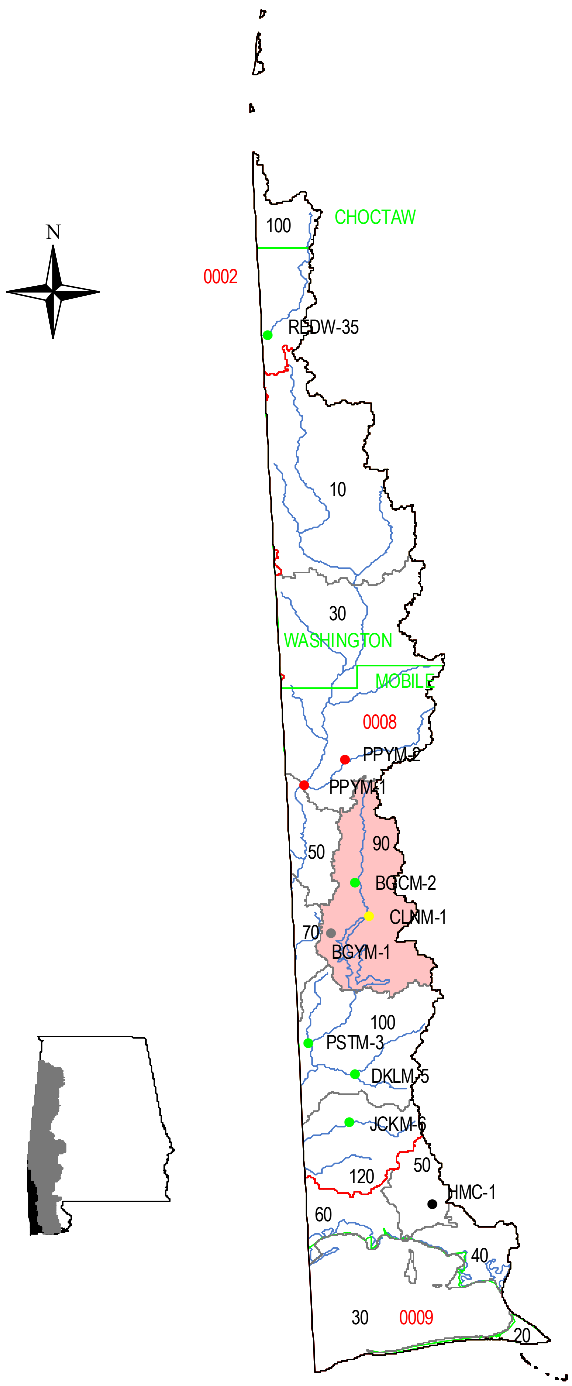
Fig. 65. Upper Big Creek was identified as a priority sub-watershed within the Escatawpa River – Mississippi Coastal Basin. The lowest bioassessment rating obtained by each site is shown.



Sub-watershed	Lowest Station Assessment	Suspected Cause(s)	Suspected nonpoint source(s)
090 U. Big Creek	Fair	Sedimentation, Nutrient enrichment, Pathogens	Cattle, Pasture, Row crop, Roadbank erosion

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Upper Chickasawhay River CU (0317-0002)

The Upper Chickasawhay River CU contains 64 mi^2 of the headwaters of Red Creek (100) within Choctaw and Washington Counties in southwest Alabama (Fig. 52). The CU also contains a very small portion of Buckatunna Creek (080) sub-watershed (1 mi^2). Percent landuse was not estimated for Buckatunna Creek. Upper Chickasawhay River is located in 2 subecoregions of the Southeastern Plains Ecoregion (65) (Fig. 53) (Griffith et al. 2001). The Upper Chickasawhay River CU summary is provided in the Red Creek (100) sub-watershed summary.

Sub-Watershed: Buckatunna Creek NRCS Sub-Watershed Number 080

Landuse: The Buckatunna Creek sub-watershed drains approximately 1 mi^2 in Choctaw County. The local SWCD did not estimate percent land cover because of the small size of the sub-watershed. One current construction/stormwater authorization has been issued in the sub-watershed (Table 13c).

NPS impairment potential: NPS impairment potentials were not estimated for the sub-watershed.

Assessments: Buckatunna Creek was not monitored during the 2001 NPS Screening Assessment because of the small size of the sub-watershed.

NPS priority status: NPS priority status was not determined during this study.

Sub-Watershed: Red Creek NRCS Sub-Watershed Number 100

Landuse: The Red Creek sub-watershed drains approximately 64 mi^2 in Choctaw and Washington Counties. Land cover within the sub-watershed was forest with some crop and pasture lands. Within Choctaw County, approximately 4,600 acres of crop and pastureland (29% of total area) were treated with pesticides and/or herbicides. Three current construction/stormwater and 1 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13c).

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
80%	12%	6%	0%	0%	1%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* NPS concerns within the sub-watershed included animal husbandry, sedimentation, and runoff from crop land, forestry activities, and mining areas. Poultry broilers were the dominant animal within the sub-watershed (Table 19c). Red Creek was given a 5th priority sub-watershed rating by the Washington County SWCD. There was a *moderate* potential for impairment from urban development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	15	0.31 AU/ac	0.01%	12%	6%	0%	33%	3.6 tons/ac/yr
NPS Potential	M	M	L	M	L	L	M	M
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: Red Creek was monitored at REDW-35 during the 2001 NPS Screening Assessment.

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
REDW-35	Chemical, Habitat, Biological	2001	Red. Cr. at unnamed Washington CR	20	F&W

Red Creek: At REDW-35, Red Creek is a low-gradient, sand-bottomed stream located within the Southern Pine Plains and Hills (65f) subecoregion (Table 21c). Habitat quality was assessed as *excellent* for this stream type and region (Table 21c). Nine EPT families were collected, indicating the macroinvertebrate community to be in *good* condition (Table 22c).

NPS priority status: The sub-watershed was estimated to have a *moderate* potential for impairment from nonpoint sources. The macroinvertebrate community of Red Creek at REDW-25 was in *good* condition.

Lower Chickasawhay River CU (0317-0003)

A 1 mi^2 portion of the Lower Chickasawhay River CU is located within Washington County in southwest Alabama (Fig. 52). Percent landuse was not estimated for Chickasawhay River (040) sub-watershed, located within the CU. Lower Chickasawhay River is located in the Fall Line Hills (65f) (Fig. 53) (Griffith et al. 2001).

Sub-Watershed: Chickasawhay River NRCS Sub-Watershed Number 040

Landuse: The Chickasawhay River sub-watershed drains approximately 1 mi^2 in Washington County. Land cover within the sub-watershed was not estimated. Two current construction/stormwater authorizations have been issued in the sub-watershed (Table 6c).

NPS impairment potential: NPS impairment potentials were not estimated for the Chickasawhay sub-watershed.

Assessments: Chickasawhay River was not monitored due to the small size of the sub-watershed.

NPS priority status: NPS priority status was not determined during this study, but this sub-watershed was not at a high risk from nonpoint source impairment.

Escatawpa River CU (0317-0008)

The Escatawpa River CU contains 7 sub-watersheds located within 701 mi^2 area of Washington and Mobile Counties in southwest Alabama (Fig. 52). The CU drains Coastal Plain soil areas (ACES 1997). It is located in the Fall Line Hills (65f) subecoregion of the Southeastern Plains Ecoregion and the Gulf Coast Flatwoods (75a) subecoregion of the Southern Coastal Plain Ecoregion (Fig. 53; Griffith et al. 2001).

Landuse: Based on the conservation assessment worksheets completed (1998) by the local SWCDs, the primary land-uses throughout the Escatawpa River CU were forest, croplands, and pasture. Pesticide/herbicide use was estimated for 4 sub-watersheds (190,470 acres). Within these sub-watersheds, approximately 25,000 acres of crop and pastureland (13% of total area) were treated with pesticides and/or herbicides.

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
71%	13%	8%	0%	6%	1%	1%

NPS impairment potential: Potential for nonpoint source impairment was *moderate* within 3 of the 7 sub-watersheds in the CU (Fig. 54). Croplands (Fig. 55), sedimentation (Fig. 56), pasture (Fig. 57), and animal husbandry (Fig. 58) were the primary nonpoint source concerns. Forestry was a concern within the Upper Escatawpa River CU (Fig. 59). Impairment from both urban runoff (Fig. 60) and development was a concern in 4 sub-watersheds (Table 15c).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15c).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Moderate	3	3	0	1	3	0	1	4
High	0	0	0	3	0	0	1	0

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15c).

Category	% Urban	Development	Septic tank failure
Moderate	6	3	0
High	0	1	0

Historical data/studies: Fig. 61 shows the sub-watersheds and water bodies in which data have been previously collected in conjunction with other monitoring programs. Table 16c lists the appendices or references where these data are provided. The majority of assessments conducted within the Escatawpa River CU were from 6 projects conducted by

ADEM and the U.S. Geological Survey (USGS). Journey and Gill (2001) provide an in-depth listing of previous investigations conducted within the J.B. Converse Lake Watershed.

These data include both monitored and evaluated assessments. Monitored assessments are based on chemical, physical, and/or biological data collected using commonly accepted and well-documented methods. Evaluated assessments are based on observed conditions, limited water quality data, water quality data older than 5 years, or estimated impacts from observed or suspected activities.

Results of monitored assessments were used in this report to assess habitat, biological, and chemical conditions within a sub-watershed. Monitored assessments were conducted during 5 projects and programs. Evaluated assessments were conducted in conjunction with ADEM's ALAMAP Program (Appendix F-7), Ambient Trend Monitoring Program (data collected before 1997) (Appendix F-8), and Clean Water Strategy Project (Appendix F-9). A summary of each project, including lead agency, project objectives, data collected, and applicable quality assurance manuals, is provided in the appendices.

Projects that have generated monitored assessment information.

Project	Appendix
ADEM's §303(d) Waterbody Monitoring Program	F-2
ADEM's Reservoir Monitoring Program	F-3
ADEM's Ambient Monitoring Program	F-8
USGS's Surface Water Monitoring Program	USGS 2003b
USGS's Assessment of Water-Quality Conditions in the J.B. converse Lake Watershed, Mobile County, Alabama, 1990-98	Journey and Gill 2001

Assessments conducted during the 2001 NPS Screening Assessment: The Lower Big Creek (100) and Jackson Creek (120) sub-watersheds were targeted for assessment during the 2001 NPS Screening Assessment because they had a *moderate* potential for impairment from nonpoint sources (Fig. 62). Table 17c lists the 3 stations assessed.

Sub-watershed summaries: Current and historical monitoring data were combined to provide a comprehensive assessment. A summary of the information available for each of the 7 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. The summaries point out significant data and reference appropriate tables and appendices. Assessment of habitat, biological and chemical conditions are based on long-term data from ADEM's Ecoregional Reference Reach Program (ADEM 2001b) and long-term data collected by USGS (Journey and Gill 2001). Tables referenced in the summaries are located at the end of the summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Habitat, chemical/physical, and biological indicators of water quality were monitored in 4 sub-watersheds (Table 18c). Habitat quality was assessed as *excellent* or *good* at 7 stations (Fig. 63). Macroinvertebrate assessments were conducted at

7 stations. Results of these assessments indicated the macroinvertebrate community to be in *good* condition at 4 stations (57%) and *fair* at 3 stations (43%) (Fig. 63). Fish IBI assessments conducted at 2 stations on Puppy Creek indicated communities at both stations to be in *poor* condition (Fig. 64).

Overall condition for each station was rated as the lowest assessment result obtained (Table 18c). Four stations (57%) were assessed as *good*. One (14%) station was assessed as *fair*. The 2 (29%) remaining stations assessed as *poor* were primarily impacted by urban sources and located within the Escatawpa River sub-watershed (030).

NPS priority sub-watersheds: The Upper Big Creek sub-watershed (090) was identified as a priority sub-watershed (Fig. 65)

Sub-watersheds recommended for nonpoint source priority status.

Sub-watershed		**Lowest Station Assessment**	**Suspected Cause(s)**	**Suspected nonpoint source(s)**
090	Upper Big Creek	Fair	Nutrient enrichment, Sedimentation, Pathogens	Cattle, Pasture, Cropland, Roadbank erosion

***Upper Big Creek** (090)*: The macroinvertebrate community was assessed as *fair* at one station on Collins Creek. Long-term water quality data indicated increased eutrophication of J.B. Converse Lake, significant phosphorus loading from nonpoint sources within the sub-watershed, and fecal coliform concentrations higher than existing criteria for swimmable waters within some tributaries.

Sub-Watershed: Escatawpa River NRCS Sub-Watershed Number 010

Landuse: The Escatawpa River sub-watershed drains approximately 163 mi^2 in Washington County. Land cover within the sub-watershed was 93% forest. Two current construction/stormwater authorizations, 1 non-coal mining/stormwater (<5 acres) authorization, and 1 semi-public/private NPDES permit have been issued in the sub-watershed (Table 13c).

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
93%	3%	2%	0%	0%	<1%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *low*. However, 96% of the sub-watershed was at risk to impairment from forestry activities. Escatawpa River was also given a 4th priority sub-watershed rating by the local SWCD.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	11	0.02 AU/ac	0.00%	3%	2%	0%	96%	0.8 tons/ac/yr
NPS Potential	L	L	L	L	L	L	H	L
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: The Escatawpa River has not been recently assessed within this sub-watershed because of the low potential for impairment from nonpoint sources.

NPS priority status: NPS priority status was not determined during this study. Impairment from forestry activities was a concern within the sub-watershed

Sub-Watershed: Escatawpa River NRCS Sub-Watershed Number 030

Landuse: The Escatawpa River sub-watershed drains approximately 214 mi^2 in Mobile and Washington Counties. Land cover within the sub-watershed was predominantly forest with some crop and pasture lands. Four current construction/stormwater authorizations, 3 non-coal mining/stormwater (<5 acres) authorizations, 1 municipal NPDES permit, and 1 industrial process wastewater NPDES permit have been issued in the sub-watershed (Table 13c). A 10.0 mi. segment of Puppy Creek is currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for not meeting its "Fish and Wildlife" water use classification. It is listed for pathogen and nutrient impairments (Table 13c). Potential sources of the impairment include a municipal discharge at Citronelle, storm sewers/urban runoff, and possibly onsite wastewater treatment systems.

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
82%	6%	6%	0%	5%	<1%	1%

NPS impairment potential: The potential for impairment from forestry and crop lands was *moderate*. The overall potential for impairment from nonpoint sources was estimated as *low*. There was a *moderate* potential for impairment from urban runoff and development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	11	0.01 AU/ac	0.00%	6%	6%	0%	27%	1.2 tons/ac/yr
NPS Potential	L	L	L	M	L	L	M	L
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: Puppy Creek was intensively monitored in 2001 in conjunction with ADEM's CWA §303(d) Monitoring Program (Appendix F-2). Four locations were evaluated in 1996 in conjunction with ADEM's Clean Water Strategy Project (Appendix F-9). Puppy Creek was evaluated at ES02 and ES01 in 1991 to document any water quality improvements associated with an upgrade in the Citronelle WWTP (ADEM 1991a). Two tributaries to Puppy Creek were evaluated during ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
PPYM-3	Chemical	2001	Puppy Cr at Russell Rd.	3	F&W
ES02	Chemical	1996	Puppy Cr. at Russell Rd.	3	F&W
ES01	Chemical	1996	Puppy Cr. at AL Hwy 45	1	F&W
PPYM-4	Chemical	2001	Puppy Cr approx 0.5 mi. ds of Citronelle WWTP at pipeline	3	F&W
PPYM-5	Chemical	2001	Puppy Cr approx 100 m us of the Citronelle WWTP.	3	F&W
PPYM-2	Chemical, Habitat, Biological	2001	Puppy Cr at AL Hwy 217	29	F&W
ES03	Chemical	1996	Puppy Cr. at AL Hwy 217	29	F&W
PPYM-1	Chemical, Habitat, Biological	2001	Puppy Cr at Mobile CR 21.	43	F&W
ES04	Chemical	1996	Puppy Cr. at Mobile CR 21	43	F&W
EW2U5-37	Chemical	2001	Long Branch approx. 0.5 mi. us of confluence with Pond Cr.	12	F&W
EW01U3-32	Chemical, Habitat	1999	Tributary to Bennett Cr approx. 1.5 mi. northwest of Mobile CR 96.	<1	F&W

Puppy Creek: At PPYM-1, Puppy Creek is a low-gradient, sand-bottomed stream located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix F-2a). Habitat quality was assessed as *excellent* for this stream type and region (Appendix F-2a). At PPYM-2, habitat quality was assessed as *good* (Appendix F-2a). At both stations, the macroinvertebrate and fish communities were assessed as *fair* and *poor*, respectively (Appendix F-2b).

During 2001 and 2002, water quality of Puppy Creek was monitored at 5 stations located from its confluence with the Escatawpa River (PPYM-1) to upstream of the Citronelle WWTP (PPYM-5) (Appendix F-2c). Intensive fecal coliform sampling conducted during July-August, 2001 and February-March, 2002 at all 5 stations indicated violations (geometric mean>200 colonies/100 mL) at PPYM-5 during the July-August sampling period. Fecal coliform concentrations were ≥2,000 colonies/100 mL at PPYM-1, PPYM-3, PPYM-4, and PPYM-5 during a high flow event on March 26, 2002. The fecal coliform concentration at PPYM-5 was 2,300 colonies/100 mL during the August 15 sampling event. Biochemical oxygen demand was 2.3 mg/L during December 2001. Nitrogen (NH_3-N and TKN) and total phosphorus were periodically elevated.

Nutrient concentrations were periodically elevated at PPYM-5 (NH3-N, TKN, TP), PPYM-4 (NH3-N, TKN, TP), PPYM-3 (TP, NO_2+NO_3-N, NH_3-N, TKN), and PPYM-1 (NO2+NO3-N). Average concentration of nitrate/nitrite-nitrogen was highest at PPYM-3. Average concentrations of total phosphorus, total nitrogen, ammonia-nitrogen, and total Kjeldhal nitrogen were highest at PPYM-4. At PPYM-4, dissolved oxygen concentrations were below 5.0 mg/L during 5 (28%) of 18 sampling events.

Long Branch: At EW2U5-37, Long Branch is located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Water quality data was collected from Long Branch at EW2U5-37 during September 2001 (Appendix F-7b). The dissolved oxygen concentration was 3.8 mg/L. The pH was 4.7 s.u. A habitat assessment was not conducted at the site (Appendix F-7a).

Tributary to Bennett Creek: At EW01U3-32, the tributary to Bennett Creek is a low-gradient, braided, riverine wetland located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix F-7a). Bottom substrates were characterized by detritus and organic silt. Habitat quality was assessed as *excellent*. Water quality data are provided in Appendix F-7b.

NPS priority status: The macroinvertebrate and fish communities were impaired at 2 locations on Puppy Creek. Intensive water quality data indicated pathogens and nutrient enrichment to be potential causes of the impairment and support the inclusion of Puppy Creek on ADEM's CWA §303(d) list.

Sub-Watershed: Escatawpa River NRCS Sub-Watershed Number 050

Landuse: The Escatawpa River sub-watershed drains approximately 34 mi^2 in Mobile County. Land cover within the sub-watershed was predominantly forest. One current construction/stormwater authorization has been issued in the sub-watershed (Table 13c).

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
88%	2%	3%	0%	6%	<1%	1%

NPS impairment potential: The potential for impairment from all rural nonpoint source categories was estimated as *low.* The potential for impairment from urban runoff was estimated as *moderate*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	7	0.01 AU/ac	0.00%	2%	3%	0%	5%	1.3 tons/ac/yr
NPS Potential	L	L	L	L	L	L	L	L
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: An assessment was not conducted within the Escatawpa River sub-watershed.

NPS priority status: NPS priority status was not determined during this study, but this sub-watershed was not at a high risk from nonpoint source impairment.

Sub-Watershed: Escatawpa River NRCS Sub-Watershed Number 070

Landuse: The Escatawpa River sub-watershed drains approximately 13 mi^2 in Mobile County. Land cover was a combination of crops, pastures, forest, and urban areas. Two current construction/stormwater and 1 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13c). In April 2002, the Alabama Department of Public Health issued a "No Consumption Advisory" of large mouth and spotted bass captured within the Escatawpa River from the AL/MS line to its source (ADPH 2002). This segment of the Escatawpa River has therefore been recommended for inclusion on Alabama's 2002 CWA §303(d) list of impaired waters (ADEM 2003).

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
22%	41%	24%	0%	10%	1%	2%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* The main NPS concerns were runoff from crop and pasture lands, sedimentation, and animal operations, primarily cattle and dairy.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	17	0.13 AU/ac	0.00%	41%	24%	0%	10%	3.1 tons/ac/yr
NPS Potential	M	M	L	H	M	L	L	M
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: Intensive water quality data has been collected from the Escatawpa River at E-1 since 1974 (ADEM, In press). The site was located at the Alabama stateline to monitor water quality flowing into Mississippi. Water quality data collected since 1990 are provided in Appendix F-8).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
E-1	Chemical	1974-2001	Escatawpa R. at US Hwy 98	511	S/F&W

<u>Escatawpa River</u>: At E-1, the Escatawpa River is located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Water quality data are provided in Appendix F-8a. Since 1996, dissolved oxygen and temperature have met the criteria established by ADEM for waters classified for Fish & Wildlife. The pH levels were

commonly below the criteria of 6.0, but this was at least in part due to poorly buffered soil types.

NPS priority status: NPS concerns within the Escatawpa River sub-watershed include runoff from crop and pasture lands, sedimentation, and animal operations, primarily cattle and dairy. Long-term water quality data collected at E-1 show Escatawpa River to be meeting its Water Use Classification criteria.

Sub-Watershed: Upper Big Creek NRCS Sub-Watershed Number 090

Landuse: The Upper Big Creek sub-watershed drains approximately 105 mi^2 in Mobile County. The local SWCD estimated land cover within the sub-watershed as primarily forest with some urban areas. Based on 1992 MRLC land use, the USGS estimated the sub-watershed to be 64% forested and 31% agriculture (Journey and Gill 2001).

Upper Big Creek drains into J.B. Converse Lake, a 3,600-acre tributary-storage reservoir that serves as the primary drinking-water supply for the city of Mobile. Twelve current construction/stormwater and 13 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13c). Segments Boggy Branch, Juniper Creek, and Collins Creek are currently on ADEM's 2002 CWA §303(d) list of impaired waters (Table 14c). Juniper and Collins Creek are listed for pathogens from pasture grazing. Boggy Branch is listed for impairment from high metals concentrations from natural sources.

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
73%	4%	5%	0%	12%	5%	1%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *low.* The main NPS concern within the sub-watershed was sedimentation, primarily from roads and roadbanks and sand and gravel pits (Table 20c). Although SWCD estimates indicated a low potential for impairment, forestry activities are concentrated within the upper portion of the sub-watershed which may increase the potential for impacts in that area (Journey and Gill 2001). Upper Big Creek was given 2nd priority sub-watershed rating by the local SWCD. The potential for impairment from urban runoff and development was estimated as *moderate*.

By contrast, long-term, intensive chemical monitoring showed a positive relationship between nutrient concentrations and streamflow, suggesting nonpoint sources to be the dominant source of nutrient input to water (Journey and Gill 2001). Based on 1992 MRLC land use, the USGS estimated a higher percent agriculture within the sub-watershed, ranging from 24% in Big Creek to 42% Crooked Creek (Journey and Gill 2001). Crooked and Hamilton Creeks, characterized by the highest percent residential and agricultural landuses, had total phosphorus concentrations per hectare that were 2 times higher than other tributaries.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	9	0.06 AU/ac	0.00%	4%	5%	0%	4%	2.2 tons/ac/yr
NPS Potential	L	L	L	L	L	L	L	M
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BGYM-1	Chemical	2001	Boggy Branch at Mobile CR 5	3	F&W
USGSBOG (02479960)	Chemical	1990-1998	Boggy Branch at Mobile CR 5	3	F&W
CLNM-1	Chemical, Habitat, Biological	2001	Collins Cr at Glenwood Rd	9	F&W
USGSCOL (02479950)	Chemical	1990-1998	Collins Cr at Glenwood Rd	9	F&W
Big Creek2	Chemical, Biological	1999, 2001	Deepest point, Big Cr channel, approx. 0.5 mi. ds of the Crooked Cr confluence.	82	PWS/F&W
Big Creek3	Chemical, Biological	1999, 2001	Big Cr approx. one mi. ds of US Hwy. 98.	61	PWS/F&W
Big Creek1	Chemical, Biological	1985, 1989, 1992, 1995, 1997, 1999, 2001, 2002	Deepest point, Big Cr channel, dam forebay .	105	PWS/F&W
BGCM-2	Chemical, Habitat, Biological	2001	Big Cr. at Mobile CR 63	32	PWS/F&W
USGSBIG (02479945)	Chemical	1990-1998	Big Creek at Mobile CR 63	32	PWS/F&W
BGCM-1	None conducted	2001	Big Cr. at unnamed Mobile CR	14	PWS/F&W
USGSCRO (02479980)	Chemical	1990-1998	Crooked Creek near Fairview	8	F&W
Big Creek4	Chemical, Biological	2001	Crooked Cr embayment, approx. 1 mile ds of US Hwy. 98.	9	F&W
USGSLCRO (02479985)	Chemical	1990-1998	Crooked Creek at mouth of lake	9	F&W
USGSHAM (02480002)	Chemical	1990-2001	Hamilton Cr. at Snow Rd.	8	F&W
USGSLHAM (02480004)	Chemical	1990-2001	Hamilton Creek at mouth of lake	14	F&W
Big Creek5	Chemical, Biological	2001	Hamilton Cr embayment, approx. one mile us of confluence with Big Cr.	14	F&W
JNCM-2	Chemical	2001	Juniper Cr at Coleman Dairy Rd.	9	F&W
JNCM-1	Chemical	2001	Juniper Cr at Glenwood Rd. east of Wilmer.	9	F&W
USGSJUN (02479948)	Chemical	1990-1998	Juniper Cr at Glenwood Rd. east of Wilmer.	9	F&W
USGSLON (02479955)	Chemical	1990-1991	Long Branch near Wilmer.	3	F&W

Assessments: Macroinvertebrate assessments were conducted at Collins Creek (CLNM-1) and Big Creek (BGCM-2) in conjunction with the ADEM's 2001 CWA §303(d) Monitoring Program (Appendix F-2). Intensive water quality data have been collected at Boggy Branch, Collins Creek, Juniper Creek, and Big Creek by ADEM (Appendix F-2) and USGS (Journey and Gill 2001, USGS 2003b). Intensive water quality samples were collected at several stations located on Big Creek, Crooked Creek, and Hamilton Creek during ADEM's 2001 Reservoir Monitoring Program (Appendix F-3) and the USGS assessment of water quality within J.B. Converse Lake Watershed (Journey and Gill 2001, USGS 2003b). A USGS Surface Water Station is located on Long Branch (USGS 2003b, Journey and Gill 2001).

<u>Boggy Branch</u>: At BGYM-1, Boggy Branch is located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix E-1). Intensive water quality sampling was conducted at the site, May through December, 2001 (Appendix F-2c). Dissolved oxygen concentrations ranged from 4.7 to 7.4 mg/L and was below ADEM's Fish and Wildlife water use classification criteria during 2 (33%) of 6 sampling events. Similar results were obtained by USGS at USGSBOG, which had a minimum dissolved oxygen concentration of 3.7 mg/L (Journey and Gill 2001).

<u>Collins Creek</u>: At CLNM-1, Collins Creek is a low-gradient, sand-bottomed stream located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix F-2a). Habitat quality was assessed as *excellent* (Appendix F-2a). Seven EPT families were collected, indicating the macroinvertebrate community to be in *fair* condition (Appendix F-2b).

Intensive water quality data were collected at CLNM-1 from May through December 2001 as part of ADEM's CWA §303(d) Monitoring Program (Appendix F-2c). Nutrient concentrations were similar to ecoregional reference reaches. Intensive, long-term water quality data indicated Collins Creek to have the lowest total nitrogen yield within the Upper Big Creek sub-watershed (Journey and Gill 2001).

<u>Big Creek</u>: At BGCM-2, Big Creek is a low-gradient stream located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix F-2a). Bottom substrates were primarily sand and detritus. Habitat quality was assessed as *excellent*. Ten EPT families were collected, indicating the macroinvertebrate community to be in *good* condition (Appendix F-2b). Results of water quality data collected in May and September 2001 did not indicate impairment (Appendix F-2c). Similar results were obtained at USGSBIG (Journey and Gill 2001).

Big Creek was intensively monitored at 3 sites, April-October 2001 (Appendix F-3a). BigCreek3, the upstream-most station, showed the highest mean chlorophyll a concentration (9.4 mg/L) and trophic state index value (51) of the 3 stations.

BigCreek2, downstream of the Big Creek-Crooked Creek confluence, showed the highest mean concentrations of total nitrogen (0.271 mg/L) and total phosphorus (0.086 mg/L), and the lowest mean concentration of total suspended solids (6.3 mg/L).

The mean concentrations of total phosphorus (0.025 mg/L), chlorophyll <u>a</u> (3.6 mg/L) and the trophic state index (39) were lowest at the dam forebay (BigCreek1). The mean concentration of total suspended solids was 11.0 mg/L.

Crooked Creek: Crooked Creek was intensively monitored at the embayment to J.B. Converse Lake at BigCreek4, April through October, 2001 (Appendix F-3a). The mean total suspended solid concentration was 9.3 mg/L. The mean total nitrogen and phosphorus concentrations were 0.198 mg/L and 0.022 mg/L, respectively. The mean total organic carbon concentration was 4.2 mg/L. The mean chlorophyll a concentration was 5.6 mg/L. The TSI value was 45, indicating mesotrophic conditions within Crooked Creek embayment. At USGSCRO, total phosphorus loads were 2 times higher than other tributaries.

Hamilton Creek: Hamilton Creek was intensively monitored at BigCreek5 from April through October of 2001 (Appendix F-3a). The mean concentration of total organic carbon was 4.2 mg/L. The mean concentration of total suspended solids was 6.7 mg/L. The mean concentrations of total nitrogen and phosphorus were 0.161 mg/L and 0.042 mg/L, respectively. The mean concentration of chlorophyll a was 6.3 mg/L. The mean TSI value was 47, indicating mesotrophic conditions within the embayment. At USGSHAM, total phosphorus loads were 2 times higher than other tributaries.

Juniper Creek: Fecal coliform data collected at JNCM-1 and JNCM-2, May through December 2001, did not indicate impairment (Appendix F-2c). By contrast, long-term USGS data showed Juniper Creek to have the highest fecal bacterial concentrations within the sub-watershed. Trend analysis suggested that concentrations increased over the 8-year period of the study (Journey and Gill 2001).

Long Branch: Water quality data collected at USGSLON, 1990-1991, is available at www.waterdata.usgs.gov/nwis/inventory (Journey and Gill 2001, USGS 2003b).

NPS priority status: Biological impairment was detected at one station on Collins Creek, identifying Upper Big Creek as a NPS priority sub-watershed. Long-term water quality data indicated increased eutrophication of J.B. Converse Lake, significant phosphorus loading from nonpoint sources within the sub-watershed, and fecal coliform concentrations higher than existing criteria for swimmable waters within some tributaries.

Sub-Watershed: Lower Big Creek NRCS Sub-Watershed Number 100

Landuse: The Lower Big Creek sub-watershed drains approximately 106 mi^2 in Mobile County. Land cover within the sub-watershed was a combination of forest, crop and pasture lands, and urban areas. Twenty-four current construction/stormwater and 30 non-coal mining/stormwater (<5 acres) authorizations have been issued in the sub-watershed (Table 13c).

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
40%	32%	18%	0%	10%	<1%	0%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* The main NPS concerns were runoff from crop and pasture lands, animal husbandry, and sedimentation. Cattle were the dominant animal in the Lower Big Creek sub-watershed. The sub-watershed was given a 4th priority sub-watershed rating by the local SWCD. There was a *high* potential for impairment from urban development. Estimates of percent urban area indicated a *moderate* potential for impairment from urban runoff.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	17	0.15 AU/ac	0.00%	32%	18%	0%	4%	2.4 tons/ac/yr
NPS Potential	M	M	L	H	M	L	L	M
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: Big Creek, Deakle Creek, and Pasture Creek were monitored during 2001 in conjunction with ADEM's NPS Screening Assessment (Table 17c). Pasture Creek and a tributary to Pierce Creek were evaluated during ADEM's ALAMAP Program (Appendix F-7).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
BGCM-4	Chemical	2001	Big Cr. at Mobile CR 56	143	F&W
DKLM-5	Chemical, Habitat, Biological	2001	Deakle Cr. at unnamed Mobile CR	5	F&W
PSTM-3	Chemical, Habitat, Biological	2001	Pasture Cr. at Mobile CR 56	10	F&W
EW1U5-36	Chemical, Habitat	2001	Pasture Cr approx. 1 mile us of Airport Blvd. Crossing.	11	F&W
EW01A2-42	Chemical, Habitat	1998	Tributary to Pierce Cr approx. 5.4 miles us of confluence of Pierce Cr and Big Cr.	4	F&W

<u>Deakle Creek</u>: At DKLM-5, Deakle Creek is a low gradient stream located within the Southern Pine Plains and Hills (65f) subecoregion (Table 21c). Bottom substrates were primarily sand and detritus. Habitat quality was assessed as *excellent* (Table 21c). Ten EPT families were collected, indicating the macroinvertebrate community to be in *good* condition (Table 22c). Water quality data collected in May and September 2001 did not indicate impairment (Appendix D-1).

<u>Pasture Creek</u>: At PSTM-3, Pasture Creek is a low-gradient stream located in the Southern Pine Plains and Hills (65f) subecoregion (Table 21c). Sand and detritus were the main bottom substrates. Habitat quality was assessed as *excellent* (Table 21c). Nine EPT families were collected, indicating the macroinvertebrate community to be in *good* condition (Table 22c). Water quality data collected in May and September 2001 did not indicate impairment (Appendix D-1).

Pasture Creek was evaluated at EW1U5-36 (Appendix F-7). It is a low gradient stream located within the Southern Pine Plains and Hills (65f) subecoregion (Appendix F-7a). Habitat quality was assessed as excellent (Appendix F-7a). The concentration of total phosphorus was 0.204 mg/L, elevated for the subecoregion (Appendix F-7b). Other water quality parameters were similar to reference conditions.

<u>Tributary to Pierce Creek</u>: The tributary to Pierce Creek at EW01A2-42 is a low gradient stream located within the Southern Pine Plains and Hills (65f) subecoregion. Habitat quality was assessed as *excellent* (Appendix F-7a). Water quality data collected in August 1998 did not indicate impairment (Appendix F-7b).

NPS priority status: The main NPS concerns were runoff from crop and pasture lands, cattle production, and sedimentation. Bioassessments conducted at two sites indicated the macroinvertebrate community to be in good condition.

Sub-Watershed: Jackson Creek NRCS Sub-Watershed Number 120

Landuse: The Jackson Creek sub-watershed drains approximately 65 mi^2 in Mobile County. Land cover within the sub-watershed was a mixture of crop land, forest, and pasture. Ten current construction/stormwater authorizations, 8 non-coal mining/stormwater (<5 acres) authorizations and 3 semi-public/private NPDES permits have been issued in the sub-watershed (Table 13c).

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
24%	42%	22%	0%	11%	1%	0%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* The potential for impairment from crop land runoff was *high*. There was a moderate potential for impairment from pasture runoff, animal operations, and sedimentation. Cattle were the dominant animal within the sub-watershed. The primary sources of sediment were sand and gravel pits and dirt roads and road banks. There was a *moderate* potential for impairment from urban runoff and development.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	17	0.14 AU/ac	0.00%	42%	22%	0%	6%	3.7 tons/ac/yr
NPS Potential	M	M	L	H	M	L	L	M
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: Jackson Creek was assessed at one location in conjunction with the 2001 EMT Basin Assessment (Table 17c). Two tributaries to Franklin Creek were scheduled for evaluation during ADEM's ALAMAP Program (Appendix F-7). Samples were not collected at either site because the stream beds were dry during the site visit (Appendix F-7a).

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
JCKM-6	Chemical, Habitat, Biological	2001	Jackson Cr. at Mobile CR 11	18	F&W
EW02U2-30	None conducted	1998	Tributary to Franklin Cr approx. 1.1 mi. us of confluence with Franklin Cr.	2	F&W
EW1U4-48	Chemical, Habitat	2000	Tributary to Franklin Cr. at 7S/4W/5.	11	F&W

Jackson Creek: At JCKM-6, Jackson Creek is a low-gradient stream located within the Southern Pine Plains and Hills subecoregion (Table 21c). Habitat quality was assessed as *excellent*. Eleven EPT families were collected, indicating the macroinvertebrate community to be in *good* condition (Table 22c).

Water quality data were collected in May and September 2001 (Appendix D-1). The concentration of nitrate/nitrite-nitrogen was 0.546 mg/L during the September sampling event.

NPS priority status: The macroinvertebrate community at one station on Jackson Creek was assessed as good. However, water quality data suggested nutrient enrichment to be a potential problem at the site. The main NPS concerns within the sub-watershed were runoff from crop and pasture lands, cattle operations, and sedimentation.

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Mississippi Coastal CU (0317-0009)

The Mississippi Coastal CU contains 6 sub-watersheds draining approximately 251 mi^2 along the coast of Mobile County, Alabama (Fig. 52). It is located in the Southern Coastal Plain Ecoregion (75) (Fig. 53) (Griffith et al. 2001).

Landuse: Based on the conservation assessment worksheets completed (1998) by the local SWCDs, the primary land-uses throughout the Mississippi Coastal CU were open water and forest. Approximately 1,700 (9%) and 1,000 (5%) acres of crop and pastureland were treated with pesticides and/or herbicides in the Bayou La Batre (050) and Little River (060) sub-watersheds, respectively.

Percent land cover estimated by local SWCD (ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
22%	7%	4%	0%	6%	56%	4%

NPS impairment potential: Potential for nonpoint source impairment was *moderate* within the Bayou La Batre (050) and Little River (060) sub-watersheds (Fig. 54). Sedimentation (Fig. 56) and runoff from crop (Fig. 55) and pasture lands (Fig. 57) were the primary nonpoint source concerns. There was a *moderate* or *high* potential for urban impairment within 3 sub-watersheds (Fig. 60).

Number of sub-watersheds with (M)oderate or (H)igh ratings for each nonpoint source category (Table 15c).

Category	Overall Potential	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry (4 reported)	Sediment
Moderate	2	0	0	0	2	0	0	1
High	0	0	0	2	0	0	0	1

Number of sub-watersheds with (M)oderate or (H)igh ratings for each point source category (Table 15c).

Category	% Urban	Development	Septic tank failure
Moderate	1	1	0
High	2	0	0

Historical data/studies: Fig. 61 shows the locations of stations assessed in conjunction with other studies and projects. Table 16c lists the appendices or references where these data are provided. Assessment information has been collected in the Pelican Bay (010), the Mississippi Sound (030), and Bayou La Batre (050) sub-watersheds in conjunction with ADEM’s §303(d) and Ambient Monitoring Programs, 1996 Clean Water Strategy Project, and Portersville Bay Water Quality Study.

Assessments conducted during the 2001 NPS Screening Assessment: An assessment was not conducted within the CU during the 2001 NPS Screening Assessment.

Sub-watershed summaries: Current and historical monitoring data were combined to provide a comprehensive assessment. A summary of the information available for each of the 6 sub-watersheds is provided in the following section. Each summary discusses land use, nonpoint source impairment potential, assessments conducted within the sub-watershed, and nonpoint source priority status based on available data. The summaries point out significant data and reference appropriate tables and appendices. Assessment of habitat, biological and chemical conditions are based on long-term data from ADEM's Ecoregional Reference Reach Program or appropriate background stations. Tables referenced in the summaries are located at the end of the summary section. Appendices are located in ADEM 2003c.

Sub-watershed assessments: Table 18c summarizes the results of habitat and biological assessments conducted within the CU. Habitat quality was assessed as *excellent* at one station (Fig. 63). Habitat and macroinvertebrate assessments conducted at one station located within the Southern Coastal Plain could not be evaluated (Fig. 63).

Intensive water quality sampling indicated low dissolved oxygen concentrations and high fecal coliform counts at some stations within the Mississippi Sound and Bayou La Batre sub-watersheds.

NPS priority sub-watersheds: An NPS priority sub-watershed was not identified within the Mississippi Coastal sub-watershed.

Sub-Watershed: Pelican Bay NRCS Sub-Watershed Number 010

Landuse: The Pelican Bay sub-watershed drains approximately 10 mi^2 off the coast of the southeast coast of Dauphin Island, Mobile County. Land cover within the sub-watershed was 98% marine. No stormwater authorizations or NPDES permits have been issued in the sub-watershed (Table 13c).

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
0%	0%	0%	0%	0%	98%	2%

NPS impairment potential: The potential for nonpoint source impairment was estimated as *low.*

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	5	0.00 AU/ac	0.00%	0%	0%	0%	nr	nr
NPS Potential	L	L	L	L	L	L	nr	nr
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: An assessment was not conducted within Pelican Bay.

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Classification
MB4	Chemical		Mobile Bay	H, F&W
MB8	Chemical		Mobile Bay	H, F&W

NPS priority status: NPS priority status was not determined during this study, but this sub-watershed was not at a high risk from nonpoint source impairment.

Sub-Watershed: Dauphin Island **NRCS Sub-Watershed Number 020**

Landuse: The Dauphin Island sub-watershed drains approximately 10 mi^2 in Mobile County. Land cover within the sub-watershed was 50% urban and 48% coastline (other). One current non-coal mining/stormwater (<5 acres) authorization and 1 municipal NPDES permit have been issued in the sub-watershed (Table 13c).

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
2%	0%	0%	0%	50%	<1%	48%

NPS impairment potential: The estimate of percent urban area indicated a *high* potential for impairment from urban runoff. The potential for impairment from all rural source of NPS impairment was estimated as *low*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	7	0.00 AU/ac	0.005	0%	0%	0%	2%	0.2 tons/ac/yr
NPS Potential	L	L	L	L	L	L	L	L
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: An assessment was not conducted within this sub-watershed during this project because of its small size and low potential for impairment from nonpoint sources.

NPS priority status: NPS priority status was not determined during this study.

Sub-Watershed: Mississippi Sound NRCS Sub-Watershed Number 030

Landuse: The Mississippi Sound sub-watershed drains approximately 132 mi^2 in Mobile County. Land cover within the sub-watershed was 100% marine. No current stormwater authorizations or NPDES permits have been issued in the sub-watershed (Table 13c). A 146 mi^2 area of the Sound is currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for only partially meeting its water use classifications of "Shellfish Harvesting", "Fish and Wildlife", and "Swimming" (Table 14c). It is listed for pathogens from urban sources. A 23.2 mi^2 area of Portersville Bay is also listed for only partially meeting its water use classifications of "Shellfish Harvesting", "Fish and Wildlife", and "Swimming" (Table 14c). It is listed for pathogens from municipal and industrial sources.

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
0%	0%	0%	0%	0%	100%	<1%

NPS impairment potential: The potential for impairment from all rural and urban nonpoint sources was estimated as *low.*

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	6	0.00 AU/ac	0.00%	0%	0%	0%	nr	0.00 tons/ac/yr
NPS Potential	L	L	L	L	L	L	nr	L
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: An assessment of Portersville Bay and Bayou La Batre was conducted by ADEM, June through September 1990 to determine the impact of seafood wastewater discharges (SFID) and Bayou La Batre Wastewater Treatment Plant (WWTP) within the Bay (ADEM 1991b). A short description of the project is provided in Appendix F-6. The report is available at www.adem.state.al.us/FieldOps/WQReports/Portersville.pdf

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Classification
GB1	Chemical		Grand Bay	H/S/F&W
MB1	Chemical		Mobile Bay	H/S/F&W
PV-01	Chemical		Portersville Bay approximately 3,500' ESE of WWTP discharge, N of navigation channel	H/S/F&W
PV-01a	Chemical	1990	Portersville Bay approximately 4,600' SE of WWTP discharge, S of navigation channel	H/S/F&W
PV-03	Chemical	1990	Portersville Bay approximately 150' NW of WWTP discharge	H/S/F&W
PV-04	Chemical	1990	Portersville Bay approximately 150' W of WWTP discharge	H/S/F&W
PV-05	Chemical	1990	Portersville Bay approximately 150' SW of WWTP discharge	H/S/F&W
PV-06	Chemical	1990	Portersville Bay approximately 800' NW of WWTP discharge	H/S/F&W
PV-07	Chemical	1990	Portersville Bay approximately 800' W of WWTP discharge	H/S/F&W
PV-08	Chemical	1990	Portersville Bay approximately 800' SW of WWTP discharge	H/S/F&W
PV-10	Chemical	1990	Portersville Bay approximately 150' NW of SFID discharge	H/S/F&W
PV-11	Chemical	1990	Portersville Bay approximately 150' W of SFID discharge	H/S/F&W
PV-12	Chemical	1990	Portersville Bay approximately 150' SW of SFID discharge	H/S/F&W
PV-13	Chemical	1990	Portersville Bay approximately 800' NW of WWTP discharge	H/S/F&W
PV-14	Chemical	1990	Portersville Bay approximately 800' W of WWTP discharge	H/S/F&W
PV-15	Chemical	1990	Portersville Bay approximately 800' SW of WWTP discharge	H/S/F&W
PV-16	Chemical	1990	Bayou La Batre R. near mouth	H/S/F&W
PV-17	Chemical	1990	Bayou La Batre approximately 0.5 mi. us of mouth.	H/S/F&W

Bayou La Batre: Dissolved oxygen concentrations at 5 ft. in Bayou La Batre ranged between a low of 3.6 mg/L and a high of 6.9 mg/L.

Portersville Bay: Monthly water samples were collected at 14 stations, June-September 1990 (ADEM 1991b). Mid-depth dissolved oxygen concentrations were $\geq$4.9 mg/L at all Portersville stations during all sampling events. Fecal coliform counts and nutrient concentrations elevated above background levels were generally confined to the area surrounding the SFID and WWTP outfall.

NPS priority status: The Portersville Bay Water Quality study indicated impaired water quality in some areas of Portersville Bay due to low dissolved oxygen concentrations, high fecal coliform counts and high nutrient concentrations.

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Sub-Watershed: West Fowl River NRCS Sub-Watershed Number 040

Landuse: The West Fowl River sub-watershed drains approximately 35 mi^2 in Mobile County. Forest was the predominant land cover. Two current construction/stormwater authorizations, 2 non-coal mining/stormwater (<5 acres) authorizations, and 17 industrial process wastewater NPDES permits have been issued in the sub-watershed (Table 13c).

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
74%	2%	2%	0%	7%	0%	15%

NPS impairment potential: The overall potential for impairment from all rural and urban nonpoint sources was estimated as *low*.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	6	0.01 AU/ac	0.00%	2%	2%	0%	3%	1.5 tons/ac/yr
NPS Potential	L	L	L	L	L	L	nr	L
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: An assessment was not conducted within the West Fowl River sub-watershed during the 2001 NPS Screening Assessment because of the low potential for impairment from nonpoint sources.

NPS priority status: NPS priority status was not determined during this study, but this sub-watershed was not at a high risk from nonpoint source impairment.

Sub-Watershed: Bayou La Batre NRCS Sub-Watershed Number 050

Landuse: The Bayou La Batre sub-watershed drains approximately 31 mi^2 in Mobile County. Land cover within the sub-watershed was predominantly forest and crop land. A total of 25 stormwater authorizations and NPDES permits have been issued in the sub-watershed (Table 13c). A 4.0 mi. segment of Bayou La Batre is currently on ADEM's 2002 CWA §303(d) list of impaired waterbodies for not meeting its "Fish and Wildlife" water use classification (Table 14c). It is listed for pathogens and organic enrichment/dissolved oxygen impairment from urban sources.

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
43%	35%	14%	0%	2%	<1%	0%

NPS impairment potential: The potential for impairment from sedimentation and crop runoff was *high*. Erosion from dirt roads and roadbanks and sand and gravel pits contributed 86% (4.4 tons/ac/yr) of the total annual sediment load within the sub-watershed. There was a *moderate* potential for impairment from pasture runoff. Impairment from urban runoff and development were also concerns within the sub-watershed (Table 15c).

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	17	0.01 AU/ac	0.00%	35%	14%	0%	4%	5.1 tons/ac/yr
NPS Potential	M	L	L	H	M	L	L	H
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: Bayou LaBatre at MO02 has been monitored since the 1970's as part of ADEM's Ambient Monitoring Program (Appendix F-8). Intensive water quality data was collected from 8 locations along Bayou La Batre, Carls Creek, and Hammar Creek in conjunction with ADEM's 303(d) Monitoring Program (Appendix F-2). All stations are tidally influenced.

Assessment stations located within the sub-watershed. Descriptions are provided in Appendix E-1.

Station	Assessment Type	Date	Location	Area (mi^2)	Classification
MO02	Chemical	1996	Bayou La Batre at AL Hwy 188	---	F&W
BLB-1	Chemical	1978-2001	Bayou La Batre at AL Hwy 188 crossing.	22	F&W
BLBM-4	Chemical	2001	Bayou la Batre at East Davenport St.	1	F&W
BLBM-1	Chemical	2001	Bayou La Batre in channel next to light approx. 0.4 mile us of the mouth.	22	F&W
BLBM-2	Chemical	2001	Bayou La Batre in channel off the end of Seafood House Rd.	32	F&W
BLBM-3	Chemical	2001	Carls Cr at East Davenport Rd.	24	F&W
BLBM-5	None conducted	2001	Carls Cr at Rasmussen St.	24	F&W
HMC-1	Chemical	1999	Hammar Cr at Padgett Switch Rd.	13	F&W
HMC-2	Chemical	1999	Hammar Cr at Three Mile Rd.	7	F&W

Bayou La Batre: Intensive water quality data were collected at 4 stations along Bayou La Batre, May through November 2001 (Appendix F-2c). Dissolved oxygen concentrations were below the Fish & Wildlife Criteria of 5.0 mg/L during 16 (67%) of 24 sampling events. Specific conductivity ranged from 14,150 μmhos at BLBM-4 during the September sampling event to 39,900 μmhos at BLBM-2 during the November sampling event.

Intensive fecal coliform sampling was conducted at all stations during May and November 2001 (Appendix F-2c). Fecal coliform counts were above Fish and Wildlife Criteria at BLB-1 during the May sampling event.

Bayou La Batre at BLB-1 has been sampled by ADEM as an Ambient Monitoring Station since 1978 (ADEM, In press). Data collected since 1990 are provided in Appendix F-8a. Since 1996, dissolved oxygen concentrations have been below the Fish & Wildlife Criteria of 5.0 mg/L during 23 (60%) of 38 sampling events. Fecal coliform concentrations were above 2,000 colonies/100 mL during 3 (8%) of 38 sampling events.

Bayou La Batre was assessed at this location (MO02) during June, September, and October of 1996 (Appendix F-9a). The dissolved oxygen concentration was below the Fish & Wildlife Criteria of 5.0 mg/L during the June and October sampling events. Specific conductivity ranged from 2,428 μmhos in June to 10,409 μmhos in September.

Carls Creek: Carls Creek was intensively monitored at BLBM-3, May through November 2001 (Appendix F-2c). Dissolved oxygen concentrations were below the Fish & Wildlife Criteria of 5.0 mg/L during 1 (14%) of 7 sampling events. Intensive fecal coliform sampling was conducted at the station during May and November 2001 (Appendix F-2c). Fecal coliform counts were above Fish and Wildlife Criteria during the May sampling event.

Hammar Creek: At HMC-2, Hammar Creek is a low gradient stream located in the Southern Pine Plains and Hills (65f) subecoregion (Appendix F-2a). Sand and detritus were the dominant bottom substrates. Habitat quality was assessed as *excellent* for this stream type and region. At HMC-1, Hammar Creek flows through the Gulf Coast Flatwoods (75a) subecoregion. The primary bottom substrates are clay, sand, and silt (Appendix F-2a). Five EPT families were collected at this station (Appendix F-2b). However, assessment guidelines have not been developed for this stream type.

Intensive water quality data were collected at both stations, May through September 1999 (Appendix F-2c). At HMC-2, ammonia concentration was 0.600 mg/L during the September sampling event. Other parameters did not indicate impairment. Similar results were obtained at HMC-1, located within subecoregion 75a. Concentrations of nitrate/nitrite-nitrogen and total Kjeldahl nitrogen did not differ significantly between the 2 stations.

NPS priority status: Intensive water quality monitoring within the sub-watershed have verified urban impairment within Bayou La Batre and Carls Creek. Dissolved oxygen concentrations were below Fish and Wildlife Classification Criteria at 5 stations along Bayou La Batre and Carls Creek. Fecal coliform counts were above Fish and Wildlife Criteria at BLB-1 and BLBM-3. These results support the inclusion of Bayou La Batre on ADEM's 2002 §303(d) list of impaired waters.

Sub-Watershed: Little River NRCS Sub-Watershed Number 060

Landuse: The Little River sub-watershed drains approximately 33 mi^2 in Mobile County. Land cover within the sub-watershed was predominanatly forest and crop land. Two current construction/stormwater authorizations have been issued in the sub-watershed (Table 13c).

Percent land cover estimated by local SWCD (Table 12c, ASWCC 1998)

Forest	Row crop	Pasture	Mining	Urban	Open Water	Other
48%	35%	14%	0%	2%	<1%	0%

NPS impairment potential: The overall potential for impairment from nonpoint sources was estimated as *moderate.* The main NPS concerns within the sub-watershed were sedimentation and runoff from crop land. Crop land erosion contributed 52% (1.1 tons/ac/yr) of the total annual sediment load within the sub-watershed.

NPS ratings for each NPS category based on values estimated during the SWCD sub-watershed assessment.

Category	NPS Score	Animal husbandry	Aqua-culture	Row crop	Pasture	Mining	Forestry	Sediment
Value	15	0.02 AU/ac	0.00%	35%	14%	0%	19%	2.1 tons/ac/yr
NPS Potential	M	L	L	H	M	L	L	M
Table	15c	19c	19c	12c	12c	12c	20c	20c

Assessments: An assessment was not conducted of the Little River sub-watershed during the 2001 NPS Screening Assessment.

NPS priority status: NPS priority status of Little River was not determined. Runoff from crop and pasture lands and sedimentation were concerns within the sub-watershed.

Table 12c. Land use percentages for the Upper Chickasawhay River (0317-0002), Lower Chickasawhay River (0317-0003), Escatawpa River (0317-0008), and Mississippi Coastal (0317-0009) CUs from EPA landuse categories (EPA 1997) and local SWCD Conservation Assessment Worksheet landuse estimates (ASWCC 1998).

Sub-watershed	Percent Total Landuse													
	Open Water		Urban		Mines		Forest		Pasture		Row Crops		Other	
	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA	SWCD	EPA
Upper Chickasawhay River CU (0317-0002)														
80	---	0	---	<1	---	0	---	92	---	5	---	2	---	<1
100	1	<1	0	<1	0	0	80	81	6	9	12	8	1	1
Lower Chickawawhay River CU (0317-0003)														
40	---	0	---	0	---	0	---	51	---	40	---	3	---	6
Escatawpa River CU (0317-0008)														
10	<1	<1	0	<1	0	0	93	83	2	4	3	3	1	10
30	<1	<1	5	<1	0	0	82	85	6	4	6	4	1	7
50	<1	<1	6	<1	0	0	88	83	3	4	2	2	1	11
70	1	<1	10	1	0	0	22	52	24	23	41	21	2	2
90	5	5	12	1	0	0	73	63	5	16	4	12	1	3
100	<1	<1	10	1	0	0	40	46	18	26	32	14	0	12
120	1	<1	11	1	0	0	24	30	22	46	42	17	0	6
Mississippi Coastal CU (0317-0009)														
10	98	71	0	2	0	0	0	22[a]	0	1	0	1	2	5
20	<1	42	50	7	0	0	2	17[a]	0	1	0	2	48	14
30	100	99	0	<1	0	0	0	<1	0	<1	0	<1	<1	1
40	0	11	7	1	0	<1	74	32	2	6	2	1	15	49
50	1	1	21	3	0	<1	43	37	15	36	20	11	0	13
60	<1	18	2	<1	0	0	48	26	14	16	35	5	0	35

a. Bare rock/sand added to percent forest category for this sub-watershed.

Table 13c. Number of current stormwater authorizations, NPDES permits, and CAFO registrations issued within sub-watersheds of the Escatawpa River-Mississippi Coastal Basin (0317-00).

Sub-watershed		Total # of authorizations, permits, registrations	# of Authorizations		#NPDES permits				CAFO Registrations (c)
			Construction/ Stormwater Authorizations (a)	Non-Coal Mining <5 Acres / Stormwater Authorizations	Mining NPDES (c)	Municipal NPDES (b)	Semi Public/ Private NPDES (b)	Industrial Process Wastewater - NPDES Majors (b)	
0002	080	1	1						
	100	4	3	1					
0003	040	2	2						
0008	010	4	2	1			1		
	030	9	4	3		1		1	
	050	1	1						
	070	3	2	1					
	090	25	12	13					
	100	55	24	30		1			
	120	21	10	8			3		
0009	020	2		1		1			
	040	18	2	2				14	
	050	25	3	4		1		17	
	060	2	2						

(a) Source: ADEM Mining and Nonpoint Source Unit, Field Operations, database retrieval (05/21/02); (b) Source: ADEM Water Division, NPDES database retrieval (05/21/02); (c) Source: ADEM Mining and Nonpoint Source Unit, Field Operations, database retrieval (07/17/02)

Table 14c. List of waterbodies within the Escatawpa River (0317-0008) and Mississippi Coastal (0317-0009) cataloging units on ADEM's draft 2002 §303(d) list due to unknown or nonpoint source impacts. Sources and causes of impairment are listed (ADEM 1999c). Segments impaired by point or urban sources are listed in italics.

Waterbody	Sub-watershed	Miles impaired	Use[1]	Support Status	Suspected Sources	Causes of Impairment
0317-0008						
Puppy Creek	*030*	*10.0*	*F&W*	*Non*	*Urban runoff/ storm sewers*	*Pathogens, nutrients*
Escatawpa River	070	68.3	F&W	Non	Unknown source	Mercury
Boggy Branch	090	3.6	F&W	Partial	Natural sources	Metals (Fe)
Juniper Creek	090	6.6	F&W	Non	Pasture grazing	Pathogens
Collins Creek	090	8.1	F&W	Partial	Pasture grazing, onsite wastewater systems	Pathogens
0317-0009						
Mississippi Sound	*030*	*146.2 mi^2*	*F&W, S, H*	*Partial*	*Urban runoff/ storm sewers*	*Pathogens*
Portersville Bay	*030*	*23.2 mi^2*	*F&W, S, H*	*Non*	*Municipal, industrial*	*Pathogens*
Bayou La Batre	*050*	*4.0*	*F&W*	*Non*	*Urban runoff/ storm sewers*	*OE/DO, pathogens*

1. Water use classification: A&I=Agriculture and Industry, F&W=Fish and Wildlife, H=Shellfish harvesting, LWWF=Limited Warmwater Fishery, PWS=Public Water Supply, S=Swimming

Table 15c. Estimates of (H)igh, (M)oderate, or (L)ow NPS impairment potential for sub-watersheds in the Escatawpa River - Mississippi Coastal Basin (0317-00). Source categories are based upon information provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets completed in 1998, and from Construction Stormwater Authorization information provided by the Mining and NPS Unit of ADEM. *Rural landuse sources were used to develop the NPS potential. The presence of a CWA 303(d) stream segment within a sub-watershed raise the sub-watershed to the top of the prioritization ranking.

CU	Sub-watershed	Overall NPS Impairment Score	Potential NPS Impairment	Potential Sources of Impairment									
				Rural Landuses*							Urban / Suburban / Residential Landuses		
				Animal Husbandry	Aquaculture	Row Crops	Pasture Runoff	Mining	Forestry Practices	Sedimentation	Urban	Development	Septic Tank Failure
Raw Data Table				19c	19c	12c	12c	12c	20c	20c	12c	13c	20c
0317-0002	080	---	---	---	---	---	---	---	---	---	---	M	---
	100	15	M	M	L	M	L	L	M	M	L	M	L
0317-0003	040	---	---	---	---	---	---	---	---	---	---	H	---
0317-0008	010	11	L	L	L	L	L	L	H	L	L	L	L
	030	11	L	L	L	M	L	L	M	L	M	M	L
	050	7	L	L	L	L	L	L	L	L	M	L	L
	070	17	M	M	L	H	M	L	L	M	M	L	L
	090	9	L	L	L	L	L	L	L	M	M	M	L
	100	17	M	M	L	H	M	L	L	M	M	H	L
	120	17	M	M	L	H	M	L	L	M	M	M	L
0317-0009	010	6	L	L	L	L	L	L	ur	L	L	L	L
	020	7	L	L	L	L	L	L	L	L	H	L	L
	030	6	L	L	L	L	L	L	ur	L	L	L	L
	040	7	L	L	L	L	L	L	L	L	M	L	L
	050	17	M	L	L	H	M	L	L	H	H	M	L
	060	15	M	L	L	H	M	L	L	M	L	L	L

ur=unreported

Table 16c. List of other water quality assessments conducted on streams within the Escatawpa River-Mississippi Coastal Basin from 1990-2001. Data provided in the Appendices are listed. The appropriate reference is listed for data not provided in the report.

Waterbody		*Date(s)*	*Assessment Type* [a]	*Appendices*
Escatawpa River (0317-0008)				
030	Tributary to Bennett Creek	1999	C, H	F-7
030	Long Branch	2001	C, H	F-7
030	Puppy Creek	1996, 2001	C, H, B	F-2, F-9
030	Tributary to Puppy Creek	1996	C	F-9
070	Escatawpa River	1974-2001	C	F-8
090	Big Creek	1990-2001, 1992, 1995, 1997, 1999,	C, H, B	F-2, F-3, ADEM 2003b, USGS 2003b, Journey and Gill, 2001
090	Boggy Branch	1990-2001, 2001	C	F-2, USGS 2003b, Journey and Gill, 2001
090	Crooked Creek	1990-2001, 1999, 2001	C, B	F-3, ADEM 2003b, USGS 2003b, Journey and Gill, 2001
090	Collins Creek	1990-2001, 2001	C, H, B	F-2, USGS 2003b, Journey and Gill, 2001
090	Juniper Creek	1990-2001, 2001	C, H, B	F-2, USGS 2003b, Journey and Gill, 2001
090	Long Branch	1990-1991	C	USGS 2003b, Journey and Gill, 2001
090	Hamilton Creek	1990-2001, 1997, 2001	C, B	F-3, USGS 2003b, Journey and Gill, 2001
100	Tributary to Pierce Creek	1998	C, H	F-7
100	Pasture Creek	2001	C, H	F-7
120	Tributary to Franklin Creek	1998, 2000	C, H	F-7
Mississippi Coastal (0317-0009)				
010	Mobile Bay		C	F-8
030	Bayou La Batre	1990	C	ADEM 1991b
030	Portersville Bay	1990	C	ADEM 1991b
050	Bayou La Batre	2002	C	F-2, F-8, F-9
050	Carls Creek	2002	C	F-2
050	Hammar Creek	1999	C	F-2

a. B= Biological Assessment (chl a, Macroinvertebrates, and/or fish) ; H=habitat assessment; C= Chemical Assessment

Table 17c. List of stations assessed or attempted as part of the surface water quality NPS screening assessment within the Escatawpa River-Mississippi Coastal cataloging units.

Cataloging Unit	Sub-watershed	Stream	Station	Basin Size (est. mi^2)	Assessment Type[a]	Subregion[b]	County	T / R / S
0002 Upper Chickasawhay River CU								
	100	Red Cr	REDW-35		H, M, C	65f	Washington	7N/5W/11
0008 Escatawpa River CU								
	100	Deakle Cr	DKLM-5	5	H, M, C	65f	Mobile	5S/4W/24
	100	Pasture Cr	PSTM-3	10	H, M, C	65f	Mobile	5S/4W/5
	120	Jackson Cr	JCKM-6	18	H, M, C	65f	Mobile	6S/4W/12

a. Assessment Type: C=Chemical; C*= Chemical Assessment attempted, stream dry or intermittant pools; H= Habitat; M=Aquatic Macroinvertebrate Assessment; *NC* = Assessment not conducted (dry/not flowing/beaver dam, etc)

b. Level IV Ecoregions of Alabama (Griffith, et al. 2001)

Table 18c. Summary of assessments conducted within the Escatawpa River-Missisippi Coastal basins since 1990.

Sub-watershed	Station Number	*Habitat*	*Macroinv.*	*Fish*	*Chemical Data Available* [c]	*Lowest assessment score*
0002-100	REDW-35	Excellent	Good		E	Good
0008-030	PPYM-1	Excellent	Fair	Poor	M	Poor
0008-030	PPYM-2	Good	Fair	Poor	M	Poor
0008-090	BGYM-1[a]				M	
0008-090	BGCM-2	Excellent	Good		M	Good
0008-090	CLNM-1	Excellent	Fair		M	Fair
0008-100	DKLM-5	Excellent	Good		E	Good
0008-100	PSTM-3	Excellent	Good		E	Good
0008-120	JCKM-6	Excellent	Good		E	Good
0009-050	HMC-1[b]	NG	NG		M	NG
0009-050	HMC-2	Excellent			M	

a. Swamp

b. NG=No assessment guidelines developed for the subecoregion

c. E=evaluated; M=monitored

Table 19c. Estimations of animal concentrations, animal units (A.U.), and percent of acres where pesticides/herbicides applied in the Lower Alabama Cataloging Unit (0315-0204). Numbers of animals and pesicides/herbicides listed by acreage and sub-watershed were provided by the local SWCDs on Conservation Assessment Worksheets completed in 1998.

		0002	0003	0008							0009					
		100	040	010	030	050	070	090	100	120	010	020	030	040	050	060
Cattle	# / Acre	0.04		<0.01	0.01	0.01	0.05	0.05	0.12	0.14				0.01	0.01	0.02
	A.U./Acre	0.04		<0.01	0.01	0.01	0.05	0.05	0.12	0.14				0.01	0.01	0.02
Dairy	# / Acre						0.05	<0.01	0.01							
	A.U./Acre						0.07	<0.01	0.02							
Swine	# / Acre	0.01			<0.01	<0.01	0.01	0.02	<0.01	0.01				<0.01	<0.01	<0.01
	A.U./Acre	0.01			<0.01	<0.01	<0.01	0.01	<0.01	<0.01				<0.01	<0.01	<0.01
Poultry - Broilers	# / Acre	29.64		1.22												
	A.U./Acre	0.24		0.01												
Poultry - Layers	# / Acre	3.00		1.38					1.12							
	A.U./Acre	0.02		0.01					0.01							
Total	A.U./Acre	**0.31**		**0.02**	**0.01**	**0.01**	**0.13**	**0.06**	**0.15**	**0.14**	**0.00**	**0.00**	**0.00**	**0.01**	**0.01**	**0.02**
Potential NPS Impairment		M		L	L	L	M	L	M	M	L	L	L	L	L	L
Aquaculture	% Total Acres	0.01		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potential NPS Impairment		L		L	L	L	L	L	L	L	L	L	L	L	L	L

* No data reported for this portion of the subwatershed; nr = not reported

Table 20c. Sedimentation estimates by source, forest condition, septic tank information and resource concerns by subwatershed in the Escatawpa River cataloging unit (0317-0008) as provided by the local Soil and Water Conservation Districts (SWCD) on Conservation Assessment Worksheets (ASWCC 1998). (* Indicates not reported)

	0002		0003	0008							0009					
Sub-watershed	**080**	**100**	**040**	**010**	**030**	**050**	**070**	**090**	**100**	**120**	**010**	**020**	**030**	**040**	**050**	**060**
% Acres Reported	0	100	100	100	100	100	100	100	100	100	0	100	0	100	100	100
County/SWCD District	Choctaw	Choctaw Washington	Washington	Washington	Mobile Washington	Mobile	Mobile	Mobile	Mobile	Mobile	Mobile	Mobile	Mobile	Mobile	Mobile	Mobile
Forest condition																
% Needing forest improvement[a]	ur	33	ur	96	27	5	10	4	4	6	ur	2	ur	3	4	19
Potential for forestry NPS	---	M	---	H	M	L	L	L	L	L	---	L	---	L	L	L
Sedimentation rates (tons/acre/year)																
Cropland	*	0.3	*	0.1	0.1	0.0	0.7	0.1	0.8	0.5	*		*	0.0	0.4	1.1
Sand & gravel pits	*	0.1	*	<0.1	0.4	0.3	1.0	0.8	0.6	1.7	*		*	0.8	2.7	0.2
Mined land	*		*								*		*			
Developing urban land	*		*		<0.1	<0.1	0.1	0.1	0.1	<.1	*	0.1	*	0.0	0.1	0.0
Critical areas	*	0.9	*	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	*	0.0	*	0.0	0.0	0.0
Gullies	*	0.8	*		<0.1	0.1	0.2	<0.1	<0.1	0.1	*		*	0.0	0.1	0.0
Stream banks	*	0.8	*								*		*			
Dirt roads and roadbanks	*	0.2	*	0.1	0.3	0.7	0.9	1.0	0.7	1.4	*		*	0.3	1.7	0.6
Woodlands	*	0.6	*	0.6	0.4	<0.1	0.1	0.2	0.1	0.1	*	0.0	*	0.2	0.1	0.2
Total sediment	*	3.6	*	0.8	1.2	1.3	3.1	2.2	2.4	3.7	*	0.2	*	1.5	5.1	2.1
Potential for sediment NPS	*	M	*	L	L	L	M	M	M	M	*	L	*	L	H	M
Septic tanks																
# septic tanks per acre	*	<0.01	*	<0.01	0.01	0.01	0.14	0.09	0.08	0.09	*	0.19	*	0.04	0.08	0.01
# septic tanks failing per acre (estimated)	*	<0.001	*	<0.001	0.001	0.000	0.000	0.000	0.000	0.000	*	0.000	*	0.000	0.00	0.00
# of alternative septic systems	*	0	*	0	0	0	0	0	0	0	*	0	*	0	0	0
Resource concerns in the subwatershed																
Excessive erosion on cropland	*		*								*		*			
Gully erosion on agricultural land	*		*								*		*			
Road and roadbank erosion	*	X	*								*		*			
Poor soil condition (cropland)	*		*								*		*			
Excessive animal waste applied to land	*		*								*		*			
Excessive pesticides applied to land	*		*								*		*			
Excessive sediment from cropland	*		*								*		*			
Excessive sediment from roads/roadbanks	*	X	*								*		*			
Excessive sediment from urban development	*		*								*		*			
Inadequate management of animal wastes	*		*								*		*			
Nutrients in surface waters	*		*								*		*			
Pesticides in surface waters	*		*								*		*			
Bacteria and other organisms in surface waters	*		*								*		*			
Low dissolved oxygen in surface waters	*		*								*		*			
Livestock are overgrazing pastures	*		*								*		*			
Livestock commonly have access to streams	*	X	*								*		*			

a. ur=unreported

Table 21c. Physical characteristics and habitat quality of sites assessed in the Upper Chickasawhay (0317-0002) and Escatawpa (0317-0008) River CUs. No assessments were conducted within the Mississippi Coastal (0317-0009) CU.

Station		REDW-35	DKLM-5	PSTM-3	JCKM-6
CU		0002	0008	0008	0008
Sub-watershed #		100	100	100	120
Date (yymmdd)		010523	10516	010516	010516
Ecoregion/ subregion		65f	65f	65f	65f
Drainage area (mi^2)					
Width (ft)		20	15	10	20
Canopy cover[a]		50/50	MS	MS	S
Depth (ft)[b]	Riffle	0.7	np	np	np
	Run	1.5	1.5	2.0	3.0
	Pool	2.8	2.5	2.5	4.0
Substrate (%)	Bedrock	2 (Clay)			
	Boulder	1 (Clay)			
	Cobble	7			
	Gravel	2		3	
	Sand	81	67	50	65
	Silt	3	3	7	5
	Detritus	4	30	37	30
	Clay			3	
	Organic silt				
Habitat assessment form[c]		GP	GP	GP	GP
Habitat survey (% maximum)					
	Instream habitat quality	56	78	71	69
	Sediment deposition	68	81	84	84
	Sinuosity	50	55	68	60
	Bank and vegetative stability	65	85	75	78
	Riparian measurements	90	100	91	83
Habitat assessment score		146	179	172	165
% Maximum		66	81	78	75
Assessment[d]		Excellent	Excellent	Excellent	Excellent

a. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
b. np= not present
e. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
f. NG=Assessment guidelines not established

Table 22c. Bioassessment results conducted in the Upper Chickasawhay (0317-0002) and Escatawpa (0317-0008) River CUs. No assessments were conducted within the Mississippi Coastal (0317-0009) CU.

Cataloging Unit Sub-watershed	0002 100	0008 100	0008 100	0008 120
Station	REDW-35	DKLM-5	PSTM-3	JCKM-6
Subecoregion	65f	65f	65f	65f
Drainage Area (sq mi)		5	10	18
Macroinvertebrate community				
Date (yymmdd)	010523	010516	010516	010516
# EPT families	9	10	9	11
Assessment	Good	Good	Good	Good
Fish community				
Date (yymmdd)				
# species				
# darter species				
# minnow species				
# sunfish species				
# sucker species				
# intolerant species				
% sunfish				
% omnivores and herbivores				
% insectivourous cyprinids				
% top carnivores				
Individuals				
# collected per hour				
% disease and anomalies				
IBI Score				
Assessment				

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REFERENCES

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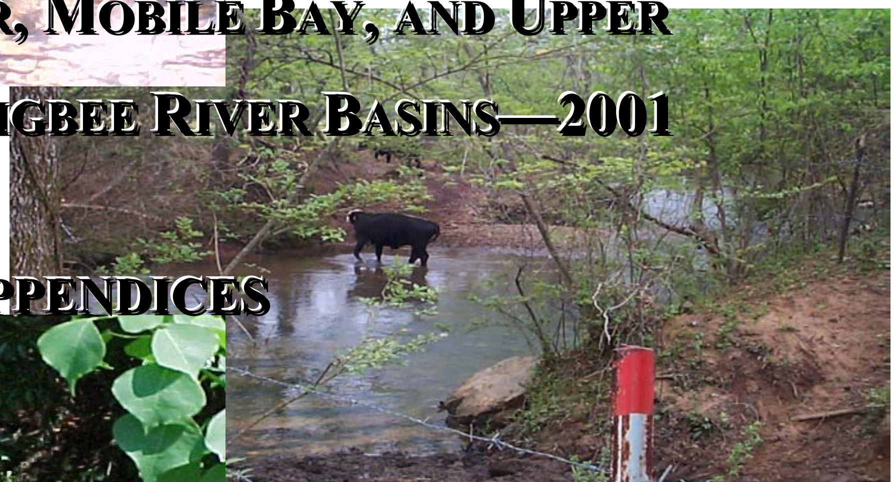

Appendices

Report Date: Sept. 5, 2003

Aquatic Assessment Unit—Environmental Indicators Section

Field Operations Division--Alabama Department of Environmental Management

LIST OF APPENDICES

Appendix A-1a. Land use percentages for the Upper Tombigbee basin (0316-01) from EPA landuse subcategory data (EPA 1997).

	Percent Total Landuse (Category and Subcategory)													
	Open Water	Urban			Mining	Forest				Pasture/ Hay	Row Crops	Other		
Sub-watershed	Open Water	Low Intensity Residential	High Intensity Residential	High Intensity Commercial/ Industrial/ Transportation	Quarries/ Strip Mines/ Gravel Pits	Transitional Forest	Deciduous Forest	Evergreen Forest	Mixed Forest	Pasture/ Hay	Row Crops	Other Grasses	Woody Wetlands	Herbaceous Wetlands
Upper Tombibee (0316-0101)														
060	<1	<1	0	<1	0	4	50	14	20	5	3	<1	2	<1
070	<1	<1	<1	<1	0	4	58	7	21	7	3	<1	0	0
Buttahatchee (0316-0103)														
010	<1	<1	<1	<1	<1	4	41	17	24	9	4	<1	<1	0
020	1	<1	<1	1	0	8	42	11	22	5	4	<1	6	<1
030	<1	<1	<1	<1	0	5	41	13	27	5	2	<1	7	<1
040	1	<1	<1	<1	0	4	33	12	22	5	7	<1	15	<1
050	<1	<1	0	1	0	5	40	12	21	8	7	<1	5	<1
070	<1	<1	0	<1	0	6	39	12	24	7	5	0	7	<1
Luxapallila (0316-0105)														
010	<1	<1	<1	<1	<1	2	36	13	27	11	8	<1	1	<1
020	<1	0	0	<1	0	1	36	15	22	17	9	0	<1	<1
030	<1	<1	<1	<1	<1	3	32	15	29	5	5	<1	9	<1
040	<1	<1	<1	<1	0	5	41	11	29	5	4	<1	5	<1
050	<1	<1	<1	<1	<1	1	32	12	25	6	6	<1	16	<1
060	<1	<1	0	<1	<1	2	33	12	23	8	11	<1	10	<1
100	<1	<1	0	<1	<1	2	34	18	30	6	6	<1	4	<1
120	<1	<1	0	<1	0	10	21	6	18	23	22	0	0	0
Middle Tombigbee-Lubbub (0316-0106)														
020	<1	<1	0	<1	0	1	19	32	29	8	12	0	0	0
040	<1	<1	0	1	0	4	23	27	30	4	6	<1	6	<1
060	1	<1	0	<1	0	2	27	21	33	3	3	<1	9	<1
070	2	<1	<1	<1	<1	2	17	12	24	8	9	<1	24	1
090	6	0	0	<1	<1	<1	6	3	3	20	27	<1	33	2
100	<1	<1	<1	<1	0	4	28	14	34	5	4	<1	9	<1
110	<1	<1	<1	<1	0	4	26	17	32	7	5	<1	7	<1
120	2	<1	<1	<1	0	1	16	14	28	9	9	<1	18	1
130	6	<1	0	<1	0	1	7	1	3	22	24	<1	34	2
140	3	<1	0	<1	0	1	13	5	14	20	16	<1	27	1
150	5	1	<1	<1	0	1	13	10	9	9	11	1	38	2

Appendix A-1a. Land use percentages for the Upper Tombigbee basin (0316-01) from EPA landuse subcategory data (EPA 1997).

	Percent Total Landuse (Category and Subcategory)													
	Open Water	Urban			Mining	Forest				Pasture/ Hay	Row Crops	Other		
Sub-watershed	Open Water	Low Intensity Residential	High Intensity Residential	High Intensity Commercial/ Industrial/ Transportation	Quarries/ Strip Mines/ Gravel Pits	Transitional Forest	Deciduous Forest	Evergreen Forest	Mixed Forest	Pasture/ Hay	Row Crops	Other Grasses	Woody Wetlands	Herbaceous Wetlands
Middle Tombigbee-Lubbub (0316-0106)														
160	1	<1	0	<1	0	3	15	20	27	8	8	<1	16	1
170	2	<1	0	<1	<1	1	16	6	11	30	31	<1	8	<1
180	4	<1	0	<1	<1	3	9	11	18	10	7	0	35	1
190	3	<1	0	<1	0	<1	13	6	12	20	13	<1	31	1
Sipsey (0316-0107)														
010	<1	<1	0	<1	3	9	35	26	21	3	1	<1	0	0
020	<1	<1	<1	<1	1	5	44	15	24	6	3	<1	0	0
030	<1	<1	0	<1	0	3	37	20	29	6	5	0	1	<1
040	<1	<1	<1	<1	<1	3	32	14	26	6	5	<1	12	1
050	<1	<1	0	<1	0	3	31	14	28	4	3	<1	16	<1
060	1	<1	0	<1	0	2	31	10	26	4	4	<1	21	1
070	<1	<1	0	<1	0	5	18	24	36	5	4	0	6	<1
080	1	0	0	<1	0	5	14	25	34	9	8	<1	4	<1
Noxubee (0316-0108)														
010	1	0	0	<1	0	1	8	5	7	18	12	<1	46	2
020	1	<1	0	<1	0	1	9	4	7	27	41	<1	10	<1
030	1	<1	<1	<1	<1	<1	17	5	9	26	23	0	18	<1

Appendix A-1b. Land use percentages for Mobile Bay-Middle Tombigbee Basin (0316-02) from EPA landuse subcategory data (EPA 1997).

	Percent Total Landuse (Category and Subcategory)														
	Open Water	Urban				Mining	Forest				Pasture / Hay	Row Crops	Other		
Sub-watershed	Open Water	Low Intensity Residential	High Intensity Residential	High Intensity Commercial/ Industrial/ Transportation	Bare Rock/ Sand	Quarries/ Strip Mines/ Gravel Pits	Transitional Forest	Deciduous Forest	Evergreen Forest	Mixed Forest	Pasture / Hay	Row Crops	Other Grasses	Forested Wetland	Emergent Wetland
Middle Tombigbee-Chickasaw (0316-0201)															
010	3	<1	0	<1	<1	0	2	14	14	18	8	7	0	34	<1
020	1	<1	0	<1	<1	0	11	10	35	19	1	1	<1	20	1
030	2	1	<1	1	<1	<1	1	14	12	19	14	10	1	25	1
040	<1	<1	0	<1	0	0	<1	20	7	14	39	17	<1	2	<1
050	2	<1	0	<1	0	0	0	16	5	13	45	15	<1	4	<1
060	<1	<1	<1	<1	0	0	7	23	16	20	21	9	<1	3	<1
070	<1	<1	<1	<1	0	0	2	20	21	30	8	8	<1	10	<1
080	4	<1	0	<1	<1	0	1	9	10	10	1	1	<1	60	2
100	1	<1	0	<1	<1	0	4	17	30	32	2	3	<1	8	<1
110	<1	<1	0	<1	0	0	4	16	30	32	4	4	<1	10	<1
130	<1	<1	<1	<1	0	0	9	17	28	32	3	3	<1	7	<1
150	<1	<1	0	<1	0	0	3	16	33	34	3	4	<1	6	<1
160	1	<1	0	<1	0	0	7	15	27	30	2	3	<1	15	<1
170	2	<1	0	<1	0	0	2	13	30	25	6	3	<1	19	<1
180	<1	<1	0	<1	0	0	4	13	35	32	4	4	<1	7	<1
190	1	<1	<1	<1	0	0	1	17	28	29	2	2	<1	16	<1
200	3	<1	0	<1	0	0	1	8	16	16	2	4	0	49	1
210	<1	<1	0	<1	0	0	7	15	38	34	1	2	<1	2	<1
220	3	<1	0	<1	0	0	8	9	35	28	1	1	0	14	1
230	5	0	0	<1	<1	0	<1	8	29	20	2	2	0	33	1
250	<1	0	0	<1	0	0	6	7	45	29	1	1	0	11	<1
270	<1	<1	0	<1	0	0	4	14	32	39	8	3	0	1	0
280	<1	<1	0	<1	0	0	4	10	37	37	4	2	<1	6	<1
290	2	<1	0	<1	0	0	2	9	33	41	2	1	<1	9	1

Appendix A-1b. Land use percentages for Mobile Bay-Middle Tombigbee Basin (0316-02) from EPA landuse subcategory data (EPA 1997).

	Percent Total Landuse (Category and Subcategory)														
	Open Water	Urban				Mining	Forest				Pasture / Hay	Row Crops	Other		
Sub-watershed	Open Water	Low Intensity Residential	High Intensity Residential	High Intensity Commercial/ Industrial/ Transportation	Bare Rock/ Sand	Quarries/ Strip Mines/ Gravel Pits	Transitional Forest	Deciduous Forest	Evergreen Forest	Mixed Forest	Pasture / Hay	Row Crops	Other Grasses	Forested Wetland	Emergent Wetland
Sucarnoochee (0316-0202)															
040	1	0	0	<1	0	0	<1	15	6	18	14	12	0	33	<1
060	1	0	0	<1	0	0	6	10	36	20	1	3	0	23	<1
080	1	<1	<1	<1	0	0	1	11	24	14	24	13	<1	11	<1
100	<1	1	<1	1	0	0	3	18	34	29	3	2	<1	8	<1
110	<1	<1	<1	<1	0	0	4	15	31	26	8	4	<1	11	<1
Lower Tombigbee (0316-0203)															
010	2	<1	<1	<1	0	0	2	8	41	34	4	3	<1	7	<1
020	2	<1	0	<1	0	0	4	5	38	33	<1	<1	<1	17	1
030	<1	<1	<1	<1	0	<1	1	10	40	38	3	2	<1	4	<1
040	<1	<1	0	<1	0	0	4	6	52	30	1	1	<1	7	<1
050	2	<1	0	<1	<1	<1	1	9	40	34	4	2	<1	7	<1
060	7	0	0	<1	0	0	2	4	6	7	1	2	0	71	1
070	<1	<1	<1	<1	0	<1	3	8	42	35	3	2	<1	7	<1
080	3	1	<1	1	0	1	1	9	35	29	2	2	<1	14	1
090	<1	<1	<1	<1	<1	<1	2	11	39	34	3	3	<1	6	<1
100	<1	<1	<1	<1	0	<1	2	7	45	29	4	3	<1	9	<1
110	4	0	0	<1	<1	0	2	7	32	27	1	1	0	25	1
120	2	0	0	<1	<1	<1	2	4	44	16	1	1	<1	28	1
130	1	<1	0	<1	<1	<1	4	13	38	31	2	2	<1	9	<1
140	4	0	0	<1	<1	0	<1	3	7	5	<1	<1	0	78	1

Appendix A-1b. Land use percentages for Mobile Bay-Middle Tombigbee Basin (0316-02) from EPA landuse subcategory data (EPA 1997).

	Percent Total Landuse (Category and Subcategory)														
	Open Water	Urban				Mining	Forest				Pasture / Hay	Row Crops	Other		
Sub-watershed	Open Water	Low Intensity Residential	High Intensity Residential	High Intensity Commercial/ Industrial/ Transportation	Bare Rock/ Sand	Quarries/ Strip Mines/ Gravel Pits	Transitional Forest	Deciduous Forest	Evergreen Forest	Mixed Forest	Pasture / Hay	Row Crops	Other Grasses	Forested Wetland	Emergent Wetland
Mobile River-Tensaw River (0316-0204)															
010	4	<1	<1	<1	0	0	1	3	35	14	3	1	<1	35	3
020	3	<1		1	0	<1	3	8	33	26	2	3	<1	18	2
030	3	3	<1	<1	0	<1	1	6	25	24	4	3	1	29	1
040	14	1	<1	1	0	0	2	2	36	10	4	2	1	19	8
050	1	3	1	1	0	<1	2	5	36	29	7	5	3	7	1
060	11	22	5	14	0	<1	<1	5	10	7	2	3	9	6	6
Mobile Bay (0316-0205)															
010	99	0	0	<1	<1	0	0	<1	<1	<1	0	<1	0	<1	1
020	6	16	4	7	0	<1	<1	4	21	13	6	3	9	8	2
030	2	1	<1	1	<1	<1	1	3	24	13	22	6	2	18	5
040	<1	5	<1	1	0	0	0	3	38	9	23	7	1	11	1
050	2	1	<1	1	0	0	1	6	19	8	34	21	1	7	<1
060	1	1	<1	<1	0	0	<1	5	16	5	43	20	1	7	1
070	7	2	0	1	4	0	3	2	32	6	3	1	2	20	15

Appendix A-1c. Land use percentages for Escatawpa River-Mississippi Coastal Basin (031) from EPA landuse subcategory data (EPA 1997).

	Percent Total Landuse (Category and Subcategory)															
	Open Water	Urban				Mining	Forest					Pasture / Hay	Row Crops	Other		
Sub-watershed	Open Water	Low Intensity Residential	High Intensity Residential	High Intensity Commercial/ Industrial/ Transportation	Bare Rock/ Sand	Quarries/ Strip Mines/ Gravel Pits	Transitional Forest	Deciduous Forest	Evergreen Forest	Mixed Forest	Grassland/ Herbaceous	Pasture / Hay	Row Crops	Other Grasses	Woody Wetlands	Herbaceous Wetlands
Upper Chickasawhay (0002)																
080	0	0	0	<1	0	0	17	16	27	33	0	5	2	<1	0	0
100	<1	<1	0	<1	0	0	2	10	32	37	0	9	8		1	<1
Lower Chickasawhay (0003)																
040	0	0	0	0	<1	0	0	12	18	21	0	40	3	6	0	0
Escatawpa River (0008)																
010	<1	<1	<1	<1	0	0	1	6	48	28	0	4	3	<1	10	<1
030	<1	<1	<1	<1	<1	0	5	9	41	30	0	4	4	<1	6	<1
050	<1	<1	0	<1	<1	0	2	6	39	36	0	4	2	<1	10	1
070	<1	1	<1	<1	<1	0	<1	5	27	20	0	23	21	<1	1	<1
090	5	1	<1	<1	<1	0	1	7	32	24	0	16	12	1	2	<1
100	<1	<1	<1	1	0	<1	<1	4	29	13	0	26	14	1	10	<1
120	<1	<1	<1	1	<1	0	<1	4	19	7	0	46	17	<1	5	<1
Mississippi Coastal (0009)																
010	71	0	0	2	22	0	0	0	0	0	0	1	1	5	0	0
020	42	4	<1	2	17	0	<1	1	10	1	6	1	2	2	2	9
030	99	0	0	<1	<1	0	0	<1	<1	<1	<1	<1	<1	0	<1	1
040	11	1	<1	<1	<1	<1	5	2	15	10	1	6	1	1	18	30
050	1	2	<1	1	0	<1	<1	3	26	7	1	36	11	1	11	1
060	18	<1	0	<1	0	0	1	1	21	2	1	16	5	0	19	17

APPENDIX B-1.

ADEM-FIELD OPERATIONS-ECOLOGICAL STUDIES
RIFFLE/RUN HABITAT ASSESSMENT FIELD DATA SHEET

Name of Waterbody ______________________ Date: ______________

Station Number ______________ Investigators ______________________

Habitat Parameter	Category: Optimal	Suboptimal	Marginal	Poor
1 **Instream Cover**	>50% mix of boulder, cobble, submerged logs, undercut banks, or other stable habitat.	50-30% mix of boulder, cobble, or other stable habitat; adequate habitat.	30-10% mix of boulder, cobble, or other stable habitat; habitat availability less than desirable.	<10% mix of boulder, cobble, or other stable habitat; lack of habitat is obvious.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2 **Epifaunal surface**	Well developed riffle and run; riffles as wide as stream and length extends 2x the width of stream; abundance of cobble.	Riffle is as wide as stream but length is <2 times width; abundance of cobble; boulders and gravel common.	Run area may be lacking; riffle not as wide as stream and its length is <2 times the stream width; gravel or large boulders and bedrock prevalent; some cobble present.	Riffles or run virtually non existent; large boulders and bedrock prevalent; cobble lacking.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
3 **Embeddedness**	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment.	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.	Gravel, cobble and boulder particles are 50-75% surrounded by fine sediment.	Gravel, cobble and boulder particles are >75% surrounded by fine sediment.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4 **Velocity/Depth Regimes**	All 4 velocity/depth regimes present (slow-deep, slow-shallow, fast-shallow, fast-deep).	Only 3 of 4 regimes present. (if fast-shallow is missing, score lower.)	Only 2 of 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/depth regime (usually slow-deep).
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5 **Channel Alteration**	No Channelization or dredging present.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization (>20 years) may be present, but not recent.	New embankments present on both banks; and 40 - 80% of stream reach is channelized and disrupted.	Banks shored with gabion or cement; >80% of the stream reach channelized and disrupted.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
6 **Sediment Deposition**	Little or no enlargement of islands or point bars and less than 5 % of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from coarse gravel; 5-30% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel coarse sand on old and new bars; 30-50% of the bottom affected; sediment deposits at obstruction, constriction,, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; > 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7 **Frequency of Riffles**	Occurrence of riffles relatively frequent; distance between riffles divided by stream width equals 5-7; variety of habitat.	Occurrence of riffles relatively infrequent; distance between riffles divided by the stream width equals 7-15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided stream width is 15-25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by stream width >25.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8 **Channel flow Status**	Water reaches base of both lower banks and minimal amount t of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
9 **Condition of Banks**	Banks stable; no evidence of erosion or bank failure.	Moderately stable; infrequent, small areas of erosion mostly healed over.	Moderately unstable; up to 60% of banks in reach have areas of erosion.	Unstable; many eroded areas; "raw" areas frequent Along straight section and bends; on side slopes, 60-100% of bank has erosional scars.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
10 **Bank Vegetative Protection**	>90% of the stream bank surfaces covered by vegetation.	90-70% of the streambank surfaces covered by vegetation.	70-50% of the stream bank surfaces covered by vegetation.	<50% of the streambank surfaces covered by vegetation.
Score (LB) ______	10 9 8	7 6	5 4 3	2 1 0
Score (RB) ______	10 9 8	7 6	5 4 3	2 1 0
11 **Grazing or other disruptive pressure**	Vegetative disruption, through grazing or mowing, minimal or not evident; almost all plants allowed to grow naturally.	Disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	Disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Disruption of stream bank vegetation is very high; vegetation has been removed to 2 inches or less in average stubble height.
Score (LB) ______	10 9 8	7 6	5 4 3	2 1 0
Score (RB) ______	10 9 8	7 6	5 4 3	2 1 0
12 **Riparian vegetative zone (each bank)**	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clearcuts, lawns, or crops) have not impacted zone.	Width of riparian zone 18-12 meters; human activities have impacted zone only minimally.	Width of riparian zone 12-6 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters;: little or no riparian vegetation due to human activities.
Score (LB) ______	10 9 8	7 6	5 4 3	2 1 0
Score (RB) ______	10 9 8	7 6	5 4 3	2 1 0

APPENDIX B-2.

ADEM-FIELD OPERATIONS-ECOLOGICAL STUDIES
GLIDE/POOL HABITAT ASSESSMENT FIELD DATA SHEET

Name of Waterbody ______________________________ Date: ______________

Station Number ______________ Investigators ______________________

Habitat Parameter	Category			
	Optimal	Suboptimal	Marginal	Poor
1 **Instream Cover**	> 50% mix of snags, submerged logs, undercut banks, or other stable habitat; rubble, gravel may be present.	50-30% mix of stable habitat; adequate habitat for maintenance of populations.	30-10% mix of stable habitat; habitat availability less than desirable.	<10% stable habitat; lack of habitat is obvious.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2 **Pool Substrate Characterization**	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant ; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
3 **Pool Variability**	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4 **Channel Alteration**	No Channelization or dredging present.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization (>20 years) may be present, but not recent.	New embankments present on both banks; channelization may be extensive, usually in urban or agriculture lands; and > 80% of stream reach is channelized and disrupted.	Extensive channelization; banks shored with gabion or cement; heavily urbanized areas; instream habitat greatly altered or removed entirely.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5 **Sediment Deposition**	<20% of bottom affected; minor accumulation of fine and coarse material at snags and submerged vegetation; little or no enlargement of islands or point bars.	20-50% affected; moderate accumulation; substantial sediment movement only during major storm event; some new increase in bar formation.	50-80% affected; major deposition; pools shallow, heavily silted; embankments may be present on both banks; frequent and substantial sediment movement during storm events.	Channelized; mud, silt, and/or sand in braided or non-braided channels; pools almost absent due to deposition.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
6 **Channel Sinuosity**	Bends in stream increase stream length 3 to 4 times longer than if it was in a straight line.	Bends in stream increase stream length 2 to 3 times longer than if it was in a straight line.	Bends in stream increase the stream length 2 to 1 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7 **Channel flow Status**	Water reaches base of both lower banks and minimal amount t of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8 **Condition of Banks**	Banks stable; no evidence of erosion or bank failure; <5% affected.	Moderately stable; infrequent, small areas of erosion mostly healed over; 5-30% affected.	Moderately unstable; 30-60% of banks in reach have areas of erosion.	Unstable; many eroded areas; "raw" areas frequent Along straight section and bends; on side slopes, 60-100% of bank has erosional scars.
Score ______	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
9 **Bank Vegetative Protection (each bank)**	> 90% of the stream bank surfaces covered by vegetation.	90-70% of the streambank surfaces covered by vegetation.	70-50% of the stream bank surfaces covered by vegetation.	<50% of the streambank surfaces covered by vegetation.
Score (LB) ______	10 9 8	7 6	5 4 3	2 1 0
Score (RB) ______	10 9 8	7 6	5 4 3	2 1 0
10 **Grazing or other disruptive pressure (each bank)**	Vegetative disruption, through grazing or mowing, minimal or not evident; almost all plants allowed to grow naturally.	Disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	Disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Disruption of stream bank vegetation is very high; vegetation has been removed to 2 inches or less in average stubble height.
Score (LB) ______	10 9 8	7 6	5 4 3	2 1 0
Score (RB) ______	10 9 8	7 6	5 4 3	2 1 0
11 **Riparian vegetative zone Width (each bank)**	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clearcuts, lawns, or crops) have not impacted zone.	Width of riparian zone 18-12 meters; human activities have impacted zone only minimally.	Width of riparian zone 12-6 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.
Score (LB) ______	10 9 8	7 6	5 4 3	2 1 0
Score (RB) ______	10 9 8	7 6	5 4 3	2 1 0

APPENDIX C.

ADEM-FIELD OPERATIONS-ECOLOGICAL STUDIES

PHYSICAL CHARACTERIZATION / WATER QUALITY FIELD DATA SHEET-Wadeable Streams

Station # ______________ Date: ______________ Collector Names ______________

Reach Description: ______________

WATERSHED CHARACTERISTICS

Watershed Land Use: Forest Pasture Ag. Residential Commercial Ind. Other: ________

Local Watershed Erosion: None Slight Moderate Heavy

Local Watershed NPS Pollution: No Evidence Potential sources Obvious Sources

REACH CHARACTERISTICS

Land Use at Reach: Pasture Crops Residential Forest Commercial Ind. Other: ________

Est. Stream Width: ____ ft *Depth:* Mid Channel ____ ft Riffle: ____ ft Run: ____ ft Pool: ____ ft

Length of Reach: ______ ft *Stream Gradient:* _____ ft drop in 25 feet (representative seg.) *Channelized:* Y N

Rosgen Stream Type: _____ *Bank Height:* _____ ft *High Water Mark:* ______ ft *Dam Present:* Y N

Prev. 7 day precip: Fl. Flood Heavy Mod. light none *Macrophytes:* None Rare Common Abundant

Canopy Cover: Open 0-20% Mostly Open 20-40% Est. 50/50 40-60% Mostly Shaded 60-80% Shaded 80-100% *Canopy Type:* ________

SEDIMENT / SUBSTRATE CHARACTERISTICS

Odors: Normal Sewage Petroleum Chemical Anaerobic Other: ________

Oils: Absent Slight Moderate Profuse

Deposits: Sludge Sawdust Paper-Fiber Sand Relict Shells Other: ________

Are the undersides of stones not deeply embedded, black? Y N N/A

WATER QUALITY CHARACTERISTICS

Water Odors: Normal Sewage Petroleum Chemical Other: ________

Water Surface Oils: None Slick Sheen Globs Flecks

Water Color: Clear Sl. Tannic Mod. Tannic Dk Tannic Green Gray Other: ________

Weather Conditions: Clear P/C Mostly Cloudy Cloudy Raining

Biological Indicators: Periphyton Macrophytes Fish Filamentous Slimes Others

PHOTOS Roll # ______

Picture # ____ Description ______________ Picture # ____ Description ______________

EST. % COMP. IN SAMPLING AREA			***FIELD NOTES***	***WATER QUALITY***
Inorganic + Organic = 100%				
Type	Diameter	Percent		Time ______ hrs (24hrs)
Bedrock		____ %		
Boulder	>10 in.	____ %		Mid Channel Depth ______ ft
Cobble	2.5 - 10 inches	____ %		Sample Depth ______ ft
Gravel	0.1 - 2.5 inches	____ %		
Sand	gritty	____ %		T-Air ______ C
Silt		____ %		T-H2O ______ C
Clay	slick	____ %		pH ______ s.u.
Detritus	Stick, Wood	____ %		Cond. ______ umhos @ 25
	CPOM	____ %		D.O. ______ mg/l
Mud-Muck	fine organic	____ %		Turb. ______ ntu
Marl	Gray Shell Frag.	____ %		

Appendix D-1. Water quality data collected from stations included as part of the 2001 Nonpoint Source Screening of the Upper Tombigbee, Mobile Bay-Lower Tombigbee, and Escatawpa River Basins.

Sub-watershed	Station	Date (yymmdd)	Time (24hr)	Water Temp (°C)	Dissolved Oxygen (mg/L)	pH (su)	Conductivity (umhos @25°C)	Turbidity (ntu)	Flow (cfs)	Fecal Coliform (colonies/100 mL)	Alkalinity Total (mg/L)	Hardness (mg/L)	CBOD-5 (mg/L)	TDS (mg/L)	TSS (mg/L)	NH_3-N (mg/L)	TKN (mg/L)	NO_2/NO_3-N (mg/L)	T-P (mg/L)	TOC (mg/L)	Cl^- (mg/L)
Upper Tombigbee River CU (0316-0101)																					
060	BLGM-93	010628	0715	19.0	7.9	6.2	12.2	17.7	3.6												
060	BLGM-93	010829	0810	21.0	8.3	7.7	8.8	8.2	1.7	260	2.5	3.4	0.4	40.0	6.0	0.020	<0.15	0.049	<0.004		3.40
060	BLMM-95a	010628	0940	21.0	7.9	6.5	21.7	7.9	25.5												
060	BLMM-95a	010829	0735	22.6	7.8	7.6	16.9	6.8	15.4	>700	5.0	5.8	0.3	41.0	8.0	0.030	<0.15	0.148	<0.004		3.83
Buttahatchee River CU (0316-0103)																					
010	BARM-82	010627	1440	22.0	8.6	7.0	43.5	7.1	7.4												
010	BARM-82	010828	1420	23.4	8.6	7.1	31.7	14.1	7.6	133	3.0	13.1	0.5	57.0	25.0	0.070	0.25	0.063	<0.004		3.51
010	CMPM-84	010627	1250	20.0	8.7	7.2	46.9	11.5	11.4												
010	CMPM-84	010828	1500	23.5	8.3	7.1	39.0	169.0	4.8	>1820	15.0	13.6	0.2	85.0	71.0	0.060	<0.15	0.464	0.07		4.17
010	HBSM-81	010627	1655	21.0	8.0	6.5	31.1	8.2	3.7												
010	HBSM-81	010828	1305	22.7	7.7	7.3	28.4	11.3	2.5	267	<1	8.8	0.3	61.0	7.0	0.100	<0.15	0.459	<0.004		4.30
010	STVM-85	010628	1235	22.0	8.4	6.7	21.3	5.3	6.6												
010	STVM-85	010828	1545	23.5	8.1	6.8	18.7	8.8	4.5	310	2.0	6.6	0.2	46.0	4.0	0.080	0.26	0.274	<0.004		4.01
010	WBTM-80	010628	1430	21.0	8.7	7.0	46.8	6.2	21.0												
010	WBTM-80	010711	1500	25.5	8.7	7.5	56.0	4.3													
010	WBTM-80	010828	1340	22.8	8.7	7.4	48.6	24.5	14.4	>740	1.0	13.6	0.6	62.0	10.0	0.030	0.46	0.819	0.04		5.49
030	BVRM-79	010626	1523	22.0	8.4	6.6	28.8	10.2	8.2												
030	BVRM-79	010829	1035	21.7	8.3	6.6	22.5	12.1	6.9	510	8.0	7.5	0.5	52.0	17.0	0.100	0.17	0.134	<0.004		3.76
030	C L-76	010627	1000	19.2	8.5	7.4	8.8	25.7	6.4												
030	C L-76	010829	1110	21.4	8.4	6.4	7.6	11.0	3.2	180 est.	<1	2.5	0.2	48.0	6.0	0.050	0.32	0.009	<0.004		3.44
050	BRDM-89	010627	0830	21.0	7.7	6.7	27.8	9.9	8.2												
050	BRDM-89	010829	0940	22.4	7.9	6.7	24.8	12.8	11.2	390	7.0	9.0	0.7	51.0	8.0	0.040	<0.15	0.141	<0.004		4.06
050	HRCM-87	010627	0855	20.0	8.0	6.5	22.9	8.0	4.4												
050	HRCM-87	010711	1230	26.0	8.0	6.8	25.0	7.2													
050	HRCM-87	010829	0855	21.3	7.8	7.6	20.4	7.9	5.4	127	<1	7.1	0.6	43.0	3.0	0.140	0.26	0.136	<0.004		4.15
Luxapallila River CU (0316-0105)																					
010	EBRM-72	010626	1324	21.0	8.4	7.0	135.0	7.5	2.0												
010	EBRM-72	010711	1330	24.0	7.2	7.4	152.0	8.1													
010	EBRM-72	010918	1215	19.3	7.8	7.1	144.5	6.2	1.1	97	40.0	53.6	0.8	76.0	9.0	0.150	<0.15	0.117	0.04		4.36
010	SGRF-70	010627	1220	18.0	8.3	7.0	22.0	9.9	9.1												
010	SGRF-70	010918	1320	19.2	7.9	5.8	20.3	6.5	6.6	153	2.0	5.1	0.2	8.0	7.0	0.090	<0.15	0.537	0.07		4.25
Middle Tombigbee River-Lubbub Creek CU (0316-0106)																					
120	CWCP-59	010509	1500	23.0	7.8	6.6	76.4	10.1	1.3	400	17.0	20.3	0.2	101.0	4.0	<0.015	<0.15	0.254	0.03	2.30	6.13
120	CWCP-59	010712	1100	27.0	6.4	6.6	103.0	10.9													
120	CWCP-59	010912	0800	23.1	7.7	7.4	59.3	16.7	3.0	>1000	30.0	16.2	0.2	76.0	17.0	0.240	0.73	0.179	0.02		5.91
120	LBB-1	010510	0805	21.0	6.8	6.8	48.6	12.5	45.1												
120	LBB-1	010912	0710	24.2	6.5	6.6	35.7	15.0		180	5.0	11.1	0.3	92.0	12.0	0.090	0.86	0.104	0.04		4.61
120	SNCP-60	010510[b]																			
130	FNCS-103	010509[b]	1110	21.0	2.6	7.5	533.0	3.9	nm	330	198.0	251.0	0.4	307.0	8.0	0.192	<0.15	0.060	0.03	4.94	11.63

Appendix D-1. Water quality data collected from stations included as part of the 2001 Nonpoint Source Screening of the Upper Tombigbee, Mobile Bay-Lower Tombigbee, and Escatawpa River Basins.

Sub-watershed	Station	Date (yymmdd)	Time (24hr)	Water Temp (^oC)	Dissolved Oxygen (mg/L)	pH (su)	Conductivity (umhos @25^oC)	Turbidity (ntu)	Flow (cfs)	Fecal Coliform (colonies/100 mL)	Alkalinity Total (mg/L)	Hardness (mg/L)	CBOD-5 (mg/L)	TDS (mg/L)	TSS (mg/L)	NH_3-N (mg/L)	TKN (mg/L)	NO_2/NO_3-N (mg/L)	T-P (mg/L)	TOC (mg/L)	Cl^- (mg/L)
Middle Tombigbee River-Lubbub Creek CU (0316-0106)																					
160	BRHG-56	010508	1420	25.0	7.4	6.9	156.0	10.2	5.4	57	44.0	46.3	0.8	69.0	8.0	0.066	<0.15	0.161	0.07	4.22	11.58
160	BRHG-56	010718	1300	29.0	5.6	7.2	184.0	9.0													
160	BRHG-56	010919	1230	23.4	6.1	7.1	149.1	13.1	3.7	310	45.0	43.3	0.2	88.0	17.0	0.130	<0.15	0.092	0.10		13.45
160	PIPG-54	010508	1205	21.0	6.6	6.6	87.0	12.5	0.5	230	25.0	25.7	1.1	647.0	10.0	0.076	0.15	0.092	0.06	5.12	6.02
170	FCTS-41	010503	1025	21.0	6.9	7.9	427.8	6.5	0.3	40	192.0	183.0	1.0	260.0	9.0	<0.015	<0.15	0.016	0.08	6.13	9.46
170	FCTS-41	010510	0800	22.0	6.6	7.9	443.0	8.9													
170	FCTS-41	010912	1230	26.3	7.2	7.7	284.1	7.0	6.5	>90	124.0	108.0	0.2	199.0	7.0	0.050	0.60	0.100	0.02		11.17
170	TMSS-44	010508[b]																			
Sipsey River CU (0316-0107)																					
020	LNRM-75	010626	1035	22.0	8.0	7.6	308.0	5.9	16.5												
020	LNRM-75	010918	1040	20.4	8.1	7.4	263.4	7.7	11.2	87	70.0	105.0	0.9	128.0	8.0	0.100	<0.15	0.120	0.04		4.30
040	BRCF-64	010628	0915	22.0	7.6	7.1	16.0	28.8	5.5												
040	BRCF-64	010712	0800	26.0	6.6	6.6	26.0	20.1													
040	BRCF-64	010918	1625	21.4	8.5	6.3	18.6	11.6		330	15.0	5.6	0.9	9.0	15.0	<0.015	<0.15	0.073	0.02		3.93
040	BXSF-67	010627	1640	23.0	7.1	7.0	48.0	10.4	2.5												
040	BXSF-67	010711	1100	28.0	5.2	6.8	55.0	7.0													
040	BXSF-67	010918	1435	20.7	7.5	6.4	42.0	9.3	2.1	187	11.0	14.0	0.2	27.0	9.0	<0.015	<0.15	0.115	0.04		4.29
040	DVSF-65	010628	0725	22.0	7.1	7.4	25.0	18.8	9.3												
040	DVSF-65	010918	1535	21.1	8.3	6.3	23.2	9.0	10.5	380	5.0	7.5	0.3	24.0	10.0	0.130	<0.15	0.165	0.06		4.10
080	HGHG-57	010509	1330	24.0	8.3	6.7	49.1	8.4	0.6	200	12.0	11.7	0.5	58.0	1.0	<0.015	<0.15	0.052	0.04	2.90	4.73
080	HGHG-57	010712	0930	31.0	6.8	6.9	52.0	5.0													
080	HGHG-57	010912	0900	22.9	6.6	7.2	36.5	7.3	0.4	290	21.0	10.8	0.2	66.0	7.0	0.150	0.15	0.166	<0.004		4.51
080	SHMG-58	010510	1010	22.0	8.1	7.0	105.6	6.2	1.0	44	36.0	35.2	0.2	88.0	3.0	<0.015	<0.15	0.062	0.04	2.33	4.88
080	SHMG-58	010718	1130	26.0	7.8	7.9	111.0	4.3													
080	SHMG-58	010919	1120	22.5	7.9	7.5	107.3	4.3	c	110	52.0	41.6	0.2	60.0	6.0	0.150	<0.15	0.045	0.05		4.96
Noxubee River CU (0316-0108)																					
110	WDWS-52	010509	0930	21.0	6.6	7.7	529.0	6.6	0.8	36	137.0	197.0	1.0	285.0	8.0	<0.015	<0.15	0.037	0.05	7.02	51.77
110	WDWS-52	010718	1500	32.2	10.5	8.0	358.0	9.1													
110	WDWS-52	010912	1010	24.7	5.0	7.5	340.4	7.0	1.8	57 est.	113.0	112.0	0.4	218.0	2.0	0.020	0.49	0.273	0.06		23.38
140	BDKS-48	010509	0725	21.0	6.1	7.8	458.2	5.1	1.8	45	189.0	214.0	0.9	247.0	8.0	<0.015	<0.15	0.018	0.07	5.89	14.07
140	BDKS-48	010719	0800	31.0	8.7	8.1	300.0	2.1													
140	BDKS-48	010912	1055	25.4	5.1	7.4	284.7	10.5	23.0	177	75.0	97.5	0.8	200.0	16.0	0.050	0.42	0.155	0.07		14.97
140	BDKS-48	010912[d]								200	75.0	97.9	0.2	225.0	7.0	0.060	0.66	0.148	0.07		15.04
140	CNYS-47	010509[b]																			
140	HCHS-46	010509[b]																			
Middle Tombigbee River-Chickasaw Creek CU (0316-0201)																					
040	DRYM-30	010501	1700	26.0	9.9	8.1	367.0	13.3	1.5	>213	155.0	177.0	1.8	234.0	15.0	<0.015	0.16	0.014	0.04	5.65	9.86
040	DRYM-30	010719	1030	27.1	5.5	7.7	434.0	8.8													
040	DRYM-30	010911	1115	25.2	8.0	7.6	168.6	91.1	73.7	>600	76.0	77.6	1.2	148.0	93.0	0.070	1.00	0.134	0.30		4.25

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Sub-watershed	Station	Date (yymmdd)	Time (24hr)	Water Temp (°C)	Dissolved Oxygen (mg/L)	pH (su)	Conductivity (umhos @25°C)	Turbidity (ntu)	Flow (cfs)	Fecal Coliform (colonies/100 mL)	Alkalinity Total (mg/L)	Hardness (mg/L)	CBOD-5 (mg/L)	TDS (mg/L)	TSS (mg/L)	NH_3-N (mg/L)	TKN (mg/L)	NO_2/NO_3-N (mg/L)	T-P (mg/L)	TOC (mg/L)	Cl^- (mg/L)
Middle Tombigbee River-Chickasaw Creek CU (0316-0201)																					
050	PWLM-32	010501	1310	24.0	8.1	7.9	407.3	7.4	1.3	13 est.	190.0	211.0	1.2	304.0	5.0	<0.015	0.27	0.250	0.05	6.87	26.64
050	PWLM-32	010509	1600		7.7	7.8	479.0	12.3													
050	PWLM-32	010911	1210	25.7	7.7	7.4	167.2	64.5	121.5	>740	68.0	76.4	1.3	135.0	88.0	0.060	1.02	0.205	0.29		5.85
050	PWLM-33[b]																				
050	RKYM-34	010501	1458	25.0	14.1	8.1	492.0	3.2	0.2	390	134.0	161.0	0.8	227.0	12.0	<0.015	<0.15	0.046	<0.004	7.25	6.52
050	RKYM-34	010911	1315	26.5	9.0	7.8	237.4	7.8	2.3	>870	107.0	92.3	0.9	163.0	14.0	0.070	0.66	0.071	0.01		12.10
060	CHBM-26	010501[b]																			
060	LDRM-29	010501[b]																			
060	MCHM-27	010502[b]																			
060	WTKM-28	010502[b]																			
Sucarnoochee River CU (0316-0202)																					
080	CDRS-22	010502	1625	25.0	8.4	8.1	516.0	5.3	1.3	>800	210.0	233.0	0.5	332.0	6.0	<0.015	<0.15	0.021	0.03	3.56	5.87
080	CDRS-22	010912	1410	27.3	7.7	8.1	510.4	6.0	3.0	450	228.0	233.0	0.4	336.0	12.0	0.130	0.15	0.081	0.01		5.57
080	SCLS-21	010503	0712	18.0	8.0	8.2	502.0	2.4	1.0	>700	217.0	225.0	0.6	309.0	4.0	<0.015	<0.15	0.029	0.06	3.87	10.07
080	SCLS-21	010911	1635	28.8	12.6	8.2	472.3	17.2	2.6	53 est.	183.0	149.0	4.3	283.0	26.0	0.030	1.36	0.103	0.12		38.84
080	SNSS-20	010503[b]																			
100	ALMS-15	010502	1300	21.0	8.0	6.6	83.5	16.9	16.8	70	18.0	21.3	0.4	99.0	13.0	<0.015	<0.15	0.038	0.03	4.45	4.80
100	ALMS-15	010510	0930	20.0	7.7	6.8	75.0	33.0													
100	ALMS-15	010911	1440	24.0	7.4	7.1	52.2	34.8	35.5	160	15.0	15.9	0.4	85.0	54.0	0.070	0.16	0.094	0.02		4.61
100	TMBS-17	010502	1440	21.0	8.0	6.7	76.9	13.2	33.5	80	16.0	19.4	0.4	94.0	10.0	<0.015	<0.15	0.095	0.05	6.64	4.71
100	TMBS-17	010706	0800	24.0	6.5	6.8	81.0	19.0													
100	TMBS-17	010911	1530	24.6	7.8	7.2	50.9	31.3	68.4	300	5.0	14.2	0.2	95.0	32.0	0.030	0.22	0.103	0.02		4.66
Lower Tombigbee River CU (0316-0203)																					
050	TLCW-14	010523[b]																			
090	LBAC-11	010702	1205	23.0	8.2	6.5	31.4	12.1	13.3												
090	LBAC-11	010808	1000	26.5	7.1			158.0													
090	LBAC-11	010905	1455	24.7	7.9	6.7	35.3	20.7	14.5	490	17.0	13.7	0.2	52.0	19.0	0.040	<0.15	0.258	<0.004		4.72
090	RBBC-23	010524	0825	20.0	8.4	7.3	51.3	4.8	12.3												
090	RBBC-23	010905	1225	22.5	8.5	6.7	40.5	8.7	23.1	180	25.0	17.8	0.4	34.0	16.0	0.050	<0.15	0.280	<0.004		4.45
Mobile Bay CU (0316-0205)																					
040	FLYB-96[a]	010515																			
050	FSHB-97	010516	0730	19.0	6.9	5.9	35.0	4.5	7.2												
050	FSHB-97	010809	0930	25.0	6.4			5.8													
050	FSHB-97	010904	1425	22.8	7.1	6.1	23.5	6.5	19.7	192	5.0	6.1	0.8	341.0	7.0	<0.015	<0.15	0.144	0.01		5.72
050	PERB-98	010515	1630	22.0	8.2	6.2	56.5	16.2	8.9												
050	PERB-98	010808	0800	25.0	7.4			4.0													
050	PERB-98	010904	1520	22.8	7.8	6.6	46.7	2.9	14.2	130 est.	8.0	14.9	0.2	49.0	3.0	<0.015	<0.15	1.250	<0.004		7.65
050	PLCB-99	010515[b]	1500	21.0	7.8	5.9	61.2	4.6	NF												
050	PLCB-99	010904	1605	23.4	6.7	6.4	35.6	41.1	e	>600	5.0	11.4	1.2	56.0	53.0	<0.015	0.50	0.417	0.08		6.35
060	MGNB-101	010515	1325	21.0	7.4	6.2	73.6	1.4	NG ST												
060	MGNB-101	010904	1635	23.0	6.2	6.2	64.3	15.1	55.0	1410	6.0	18.8	0.6	66.0	13.0	0.020	0.20	1.140	0.05		9.30

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Sub-watershed	Station	Date (yymmdd)	Time (24hr)	Water Temp (°C)	Dissolved Oxygen (mg/L)	pH (su)	Conductivity (umhos @25°C)	Turbidity (ntu)	Flow (cfs)	Fecal Coliform (colonies/100 mL)	Alkalinity Total (mg/L)	Hardness (mg/L)	CBOD-5 (mg/L)	TDS (mg/L)	TSS (mg/L)	NH_3-N (mg/L)	TKN (mg/L)	NO_2/NO_3-N (mg/L)	T-P (mg/L)	TOC (mg/L)	Cl^- (mg/L)
Upper Chickasawhay Creek CU (0317-0002)																					
100	REDW-35	010523	1330	25.0	8.2	6.7	41.1	7.5	7.3												
100	REDW-35	010905	1100	24.2	8.1	5.6	23.5	39.1	54.7	230	6.0	8.6	0.7	37.0	46.0	0.060	<0.15	0.065	0.06		4.54
Escatawpa River CU (0317-0008)																					
090	BGCM-2	010516	1525	25.0	7.5	6.2	30.0	1.8	11.0												
090	BGCM-2	010905	0900	22.9	6.1	4.9	28.7	5.0	94.0	>900	1.0	6.4	0.6	47.0	8.0	0.060	<0.15	0.284	<0.004		5.15
090	BGCM-2	010905[d]	0902							>870	3.0	6.8	0.3	32.0	14.0	0.090	<0.15	0.288	0.05		5.16
100	DKLM-5	010516	1148	25.0	7.4	6.4	51.1	2.9	7.6												
100	DKLM-5	010905	0729	23.2	6.8	6.2	37.0	4.7	16.7	190 est.	20.0	11.6	0.2	34.0	5.0	<0.015	<0.15	0.407	0.03		6.51
100	PSTM-3	010516	1430	23.0	7.2	6.6	54.0	1.3	5.9												
100	PSTM-3	010905	0805	23.1	7.0	6.2	45.8	3.0	16.2	60 est.	19.0	15.8	1.7	41.0	4.0	<0.015	<0.15	0.401	0.09		7.19
120	JCKM-6	010516	1100	23.0	7.3	6.1	48.0	2.6	16.0												
120	JCKM-6	010905	0655	23.3	6.2	6.3	42.1	14.9	e	220	21.0	14.9	0.2	41.0	9.0	<0.015	<0.15	0.546	0.01		5.90

a. unwadeable
b. No flow
c. Flow visible, but not measureable
d. duplicate samples
e. High water event

Appendix D-2. Water quality data collected from stations included as part of the 2001 Nonpoint Source Screening of the Upper Tombigbee, Mobile Bay-Lower Tombigbee, and Escatawpa River Basins.

Sub-watershed	Station	Date (yymmdd)	Time (24hr)	Al, Total (mg/L)	Ca, Total (mg/L)	Fe, Total (mg/L)	Mg, Total (mg/L)	Mn, Total (mg/L)
Upper Tombigbee River CU (0316-0101)								
060	BLGM-93	010829	0810	<0.2	0.62	0.91	0.45	0.026
060	BLMM-95a	010829	0735	<0.200	1.11	0.50	0.74	0.063
Buttahatchee River CU (0316-0103)								
010	BARM-82	010828	1420	<0.200	2.51	0.87	1.67	0.055
010	CMPM-84	010828	1500	<0.200	2.48	0.32	1.79	0.021
010	HBSM-81	010828	1305	<0.200	1.69	1.04	1.12	0.060
010	STVM-85	010828	1545	<0.200	1.31	0.44	0.82	0.042
010	WBTM-80	010828	1340	<0.200	3.70	0.40	1.07	0.020
030	BRDM-89	010829	0940	<0.200	2.36	1.06	0.76	0.070
030	BVRM-79	010829	1035	<0.200	1.92	0.92	0.66	0.144
030	CNML-76	010829	1110	<0.200	0.39	0.45	0.38	0.042
030	HRCM-87	010829	0855	<0.200	1.63	1.50	0.73	0.055
Luxapallila River CU (0316-0105)								
010	EBRM-72	010918	1215	<0.200	9.73	0.66	7.11	0.173
010	SGRF-70	010918	1320	<0.200	1.02	1.13	0.61	0.170
Middle Tombigbee River-Lubbub Creek CU (0316-0106)								
120	CWCP-59	010509	1500	<0.200	4.70	1.32	2.08	0.158
120	CWCP-59	010912	0800	<0.200	3.84	1.88	1.61	0.166
120	LBB-1	010912	0710	<0.200	2.66	4.19	1.08	0.509
130	FNCS-103	010509	1110	<0.200	96.30	0.14	2.61	0.211
160	BRHG-56	010508	1420	<0.200	15.50	1.55	1.85	0.240
160	BRHG-56	010919	1230	<0.200	15.00	1.86	1.42	0.187
170	FCTS-41	010503	1025	<0.200	71.00	0.11	1.43	0.074
170	FCTS-41	010912	1230	<0.200	41.00	0.11	1.40	0.040
Sipsey River CU (0316-0107)								
020	LNRM-75	010918	1040	<0.200	21.70	0.34	12.30	0.118
040	BRCF-64	010918	1625	<0.200	1.19	2.42	0.64	0.425
040	BXSF-67	010918	1435	<0.200	3.47	1.05	1.29	0.123
040	DVSF-65	010918	1535	<0.200	1.75	2.09	0.77	0.170
080	HGHG-57	010509	1330	<0.200	2.62	1.39	1.26	0.120
080	HGHG-57	010912	0900	<0.200	2.52	1.42	1.09	0.108
080	SHMG-58	010510	1010	<0.200	10.80	0.78	1.99	0.073
080	SHMG-58	010919	1120	<0.200	13.20	0.80	2.11	0.054

Appendix D-2. Water quality data collected from stations included as part of the 2001 Nonpoint Source Screening of the Upper Tombigbee, Mobile Bay-Lower Tombigbee, and Escatawpa River Basins.

Sub-watershed	Station	Date (yymmdd)	Time (24hr)	Al, Total (mg/L)	Ca, Total (mg/L)	Fe, Total (mg/L)	Mg, Total (mg/L)	Mn, Total (mg/L)
Noxubee River CU (0316-0108)								
110	WDWS-52	010509	0930	<0.200	74.80	0.16	2.58	0.067
110	WDWS-52	010912	1010	<0.200	42.30	0.29	1.58	0.077
140	BDKS-48	010509	0725	<0.200	81.30	0.13	2.62	0.105
140	BDKS-48	010912	1055	<0.200	35.70	0.51	2.03	0.081
140	BDKS-48	010912	1100	<0.200	36.00	0.46	1.95	0.072
Middle Tombigbee River-Chickasaw Creek CU (0316-0201)								
040	DRYM-30	010501	1700	<0.200	69.00	0.14	1.24	0.063
040	DRYM-30	010911	1115	0.632	29.40	0.46	1.02	0.057
050	PWLM-32	010501	1310	<0.200	81.60	0.23	1.68	<0.020
050	PWLM-32	010911	1210	0.501	29.30	0.46	0.78	0.126
050	RKYM-34	010501	1458	<0.200	61.50	1.10	1.75	0.021
050	RKYM-34	010911	1315	<0.200	34.90	0.26	1.25	0.029
Sucarnoochee River CU (0316-0203)								
080	CDRS-22	010502	1625	<0.200	91.10	0.21	1.27	0.022
080	CDRS-22	010912	1410	<0.200	91.00	0.25	1.41	0.027
080	SCLS-21	010503	0712	<0.200	87.90	0.07	1.35	0.024
080	SCLS-21	010911	1635	<0.200	56.70	0.17	1.91	0.062
100	ALMS-15	010502	1300	<0.200	4.97	2.20	2.17	0.100
100	ALMS-15	010911	1440	0.217	3.78	2.30	1.57	0.125
100	TMBS-17	010502	1440	<0.200	4.45	2.82	2.02	0.128
100	TMBS-17	010911	1530	0.271	3.46	2.37	1.35	0.172
Lower Tombigbee River CU (0316-0203)								
090	LBAC-11	010905	1455	<0.200	3.83	1.15	1.00	0.031
090	RBBC-23	010905	1225	<0.200	6.17	0.58	0.58	0.037
Mobile Bay CU (0316-0205)								
050	FSHB-97	010904	1425	<0.200	1.19	0.84	0.75	0.035
050	PERB-98	010904	1520	<0.200	2.35	0.55	2.19	0.029
050	PLCB-99	010904	1605	0.429	1.98	1.70	1.58	0.297
060	MGNB-101	010904	1635	0.261	2.86	0.32	2.84	0.080
Upper Chickasawhay Creek CU (0317-0002)								
100	REDW-35	010905	1100	0.269	2.18	1.16	0.75	0.139
Escatawpa River CU (0317-0008)								
090	BGCM-2	010905	0900	0.269	1.11	0.59	0.88	0.090
090	BGCM-2	010905	0902	0.265	1.10	0.59	0.99	0.088
100	DKLM-5	010905	0729	<0.200	2.23	0.75	1.47	0.039
100	PSTM-3	010905	0805	<0.200	2.96	0.58	2.03	0.035
120	JCKM-6	010905	0655	0.223	3.52	0.53	1.49	0.035

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Upper Tombigbee (0316-0101)										
060	Marion	BLGM-93	Bluegut Cr	Marion CR 89	2001 NPS Screening Station	9S/15W/18	65i	34.2830	-88.1227	8
060	Marion	BLMM-95A	Bull Mountain Cr	unnamed Marion CR	2001 NPS Screening Station	9S/14W/12	65i	34.2959	-88.0007	3
Buttahatchee R. (0316-0103)										
010	Marion	BARM-82	Barn Cr	US Hwy 278	2001 NPS Screening Station	11S/12W/4	68e	34.1359	-87.7999	20
010	Marion	UT01U2-19	Buttahatchee R	approx. 2.8 mi. us of confluence with Barn Cr.	1998 ALAMAP	11S/12W/3	68e	34.1253	-87.7951	84
010	Marion	CMC-3	Camp Cr	unnamed rd. 1.5 mi. SE of Union Hill Church.	1999 303(d) Monitoring Program	9S/12W/32	65i	34.2274	-87.8252	5
010	Marion	CMC-2	Camp Cr	Marion CR 48	1999 303(d) Monitoring Program	10S/12W/19	65i	34.1749	-87.8384	13
010	Marion	CMPM-84	Camp Cr	Marion CR 257	2001 NPS Screening Station	10S/13W/35	65i	34.1429	-87.8709	18
010	Marion	CMC-1	Camp Cr	Marion CR 257	1999 303(d) Monitoring Program	10S/13W/35	65i	34.1428	-87.8707	18
010	Marion	HBSM-81	Hobson Cr	AL Hwy 129	2001 NPS Screening Station	11S/11W/6	68e	34.1342	-87.7313	8
010	Marion	MR-1	Moore Cr	approx. 75' us of WWTP	Moore Creek, Haleyville WQDS	10S/11W/1	65i	34.2149	-87.6432	<1
010	Marion	MR-2	Moore Cr	approx. 0.25 mi. ds of WWTP	Moore Creek, Haleyville WQDS	10S/11W/1	65i	34.2103	-87.6490	<1
010	Marion	MR-3	Moore Cr	approx. 0.5 mi. ds of WWTP	Moore Creek, Haleyville WQDS	10S/11W/2	65i	34.2116	-87.6545	1
010	Marion	MR-4	Moore Cr	Marion CR 81, approx. 1.5 mi. ds of WWTP	Moore Creek, Haleyville WQDS	10S/11W/2	65i	34.2103	-87.6685	2
010	Marion	STVM-85	Stevens Cr	unnamed Marion CR	2001 NPS Screening Station	10S/14W/23	65i	34.1799	-87.9727	10
010	Marion	WBTM-80	West Br Buttahatchee Cr	Marion CR 48	2001 NPS Screening Station	10S/11W/17	68e	34.1836	-87.7159	17
020	Marion	UT09	Buttahatchee R	US Hwy 278	Clean Water Strategy Project	11S/ 13W/2	65i	34.1061	-87.9892	277
020	Lamar	UT10	Buttahatchee R	Lamar CR 16	Clean Water Strategy Project	12S/ 14W/18	65i	34.0186	-88.0536	329
020	Lamar	BUTL-2	Buttahatchee R	Lamar CR 16	2001 303(d) Monitoring Program	12S/14W/18	65i	34.0192	-88.0530	329

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Buttahatchee R. (0316-0103)										
020	Marion	02438000	Buttahatchee R	RM 82.6 2 mi s of Hamilton and 0.5 mi ds of Woods Creek	USGS Surface Water Station	11S/14W/15	65i	34.1061	-87.9894	277
020	Marion	BUTL-3	Buttahatchee R	Military St (US Hwy 278) in Hamilton	2001 303(d) Monitoring Program	10S/14W/36	65i	34.1435	-87.9694	277
020	Marion	CLKM-4	Clark Cr	Marion CR 35	Ecoregional Reference	11S/14W/28	65i	34.0809	-88.0266	4
020	Lamar	CTML-6	Cantrell Mill Cr	2nd Rd. up Lamarion WMA	Ecoregional Reference	12S/14W/8	65i	34.0410	-88.0333	11
030	Marion	BVRM-79	Beaver Cr	US Hwy 78	2001 NPS Screening Station	12S/13W/20	65i	33.9959	-87.9296	19
030	Lamar	CNML-76	Cannon Mill Cr	unnamed Lamar CR	2001 NPS Screening Station	13S/14W/10	65i	33.9506	-87.9975	7
030	Marion	UT02U2-57	Flurry Br, UT to	approx. 1.7 mi. us of confluence with Flurry Branch.	1998 ALAMAP	11S/13W/34	65i	34.0451	-87.9000	<1
040	Lamar	BUTL-1	Buttahatchee R	AL Hwy 17	2001 303(d) Monitoring Program	13S/15W/19	65i	33.9193	-88.1461	472
040	Lamar	UT11	Buttahatchee R	AL Hwy 17	Clean Water Strategy Project	13S/ 15W/19	65i	33.9192	-88.1467	472
050	Marion	BRDM-89	Boardtree Cr	Marion CR 33	2001 NPS Screening Station	11S/15W/5	65i	34.1354	-88.1339	17
050	Marion	HRCM-87	Hurricane Cr	unnamed Marion CR	2001 NPS Screening Station	10S/15W/9	65i	34.2072	-88.1193	18
Luxapallila R. (0316-0105)										
010	Marion	EBLC-1	East Br of Luxapallila Cr	unnamed drive ds of Winfield WWTP.	1999 303(d) Monitoring Program	13S/12W/17	65i	33.9111	-87.8281	15
010	Marion	EBLC-2	East Br of Luxapallila Cr	at street us of US Hwy 78.	1999 303(d) Monitoring Program	13S/12W/9	65i	33.9320	-87.8084	14
010	Marion	EBLC-3	East Br of Luxapallila Cr	Marion CR 47.	1999 303(d) Monitoring Program	12S/12W/33	65i	33.9709	-87.8034	8
010	Marion	EBRM-72	East Br	Marion CR 47	2001 NPS Screening Station	12S/12W/33	65i	33.9720	-87.8055	8
010	Fayette	LXC-1	Luxapallila Cr	unnamed Fayette CR	1999 303(d) Monitoring Program	13S/12W/30	65i	33.8896	-87.8401	53
010	Marion	UT04	Luxapallila Cr	CR 69	Clean Water Strategy Project	13S/12W/18	65i	33.9181	-87.8369	23
010	Fayette	LXC-2	Luxapallila Cr	CR 36.	1999 303(d) Monitoring Program	13S/12W/19	65i	33.9166	-87.8372	51

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Luxapallila R. (0316-0105)										
010	Fayette	SGRF-70	Sugar Cr	unnamed Fayette CR	2001 NPS Screening Station	13S/13W/36	65i	33.8795	-87.8586	9
010	Fayette	UT03U2-36	Turkey Cr	approx. 0.9 mi. us of confluence with Luxapallila Cr.	1998 ALAMAP	14S/13W/35	65i	33.7994	-87.8679	4
030	Lamar	UT02U1	Luxapallila Cr	approx. 25.3 miles us of confluence with Yellow Cr.	1997 ALAMAP	16S/14W/25	65i	33.6372	-87.9489	200
030	Lamar	UT06	Luxapallila Cr	AL Hwy 17	Clean Water Strategy Project	17S/ 15W/14	65i	33.5747	-88.0833	247
030	Lamar	UT01U3-40	Cooper Cr	us of Lamar CR 12.	1999 ALAMAP	16S/14W/32	65i	33.6281	-88.0329	4
030	Fayette	LUXL-2	Luxapallila Cr	Fayette CR 37	2001 303(d) Monitoring Program	16S/13W/4	65i	33.6921	-87.8953	143
030	Fayette	UT05	Luxapallila Cr	Fayette CR 37	Clean Water Strategy Project	16S/13W/4	65i	33.6922	-87.8956	143
030	Lamar	LUXL-1	Luxapallila Cr	AL Hwy 17	2001 303(d) Monitoring Program	17S/15W/14	65i	33.5750	-88.0834	247
030	Lamar	LXCUA01	Luxapallila Cr	AL Hwy 17	University Reservoir Tributary Nutrient Study	17S/15W/14	65i	33.5750	-88.0833	247
030	Lamar	02442500	Luxapallila Cr	AL Hwy 17	USGS Surface Water Station	17S/15W/14	65i	33.5750	-88.0833	247
050	Lamar	UT01U1	Yellow Cr	approx. 10.5 mi. us of confluence with Hells Cr.	1997ALAMAP	14S/14W/10	65i	33.8545	-87.9938	18
060	Lamar	UT3U5-58	Cut Bank Cr, UT to	approx. 1.5 mi. us of confluence with Cut Bank Cr.	2001 ALAMAP	14S/16W/28	65i	33.8233	-88.2226	2
Middle Tombigbee R.-Lubbub Cr. (0316-0106)										
060	Pickens	CLFP-13	Coal Fire Cr	approx. 2 mi. west of Palmetto, 8 mi. north of Reform	2002 NPS Reference Site Project	18S/14W/16	65i	33.4880	-88.0237	30
060	Pickens	Aliceville2	Tombigbee R	embayment at deepest point of main channel, immed. us of Lindsey Cr confluence.	ADEM Reservoir Monitoring Program	20S/17W/22	65p	33.3053	-88.3075	5619
060	Pickens	Aliceville3	Coal Fire Cr	embayment at deepest point of main channel, approx. 1 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	20S/17W/34	65p	33.2669	-88.2936	129
060	Pickens	UT16	Coal Fire Cr	AL Hwy 14	Clean Water Strategy Project	18S/14W/3	65i	33.2939	-88.2659	22
060	Pickens	CFCUA01	Coal Fire Cr	AL Hwy 14	University Reservoir Tributary Nutrient Study	18S/14W/3	65i	33.2942	-88.2656	22

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Middle Tombigbee R.-Lubbub Cr. (0316-0106)										
060	Pickens	UT17	Coal Fire Cr	1st bridge off of CR 35	Clean Water Strategy Project	19S/15W/32	65i	33.3647	-88.1184	83
060	Pickens	UT18	Coal Fire Cr	CR 27	Clean Water Strategy Project	19S/15W/1	65i	33.4361	-88.0575	47
070	Pickens	UT14	Woolbank Cr	Dirt Rd. off CR 12	Clean Water Strategy Project	20S/16W/32	65i	33.2766	-88.2282	6
070	Pickens	UT15	Woolbank Cr	2nd dirt Rd. to right off CR 12	Clean Water Strategy Project	20S/16W/27	65i	33.2920	-88.2037	4
070	Pickens	BLBP-1	Blubber Cr	AL Hwy 14	Ecoregional Reference Site Program	22S/2W/13	65i	33.1473	-88.1705	17
070	Marengo	LT03U3-30	Greer Br	approx. 0.3 mi. east of unnamed dirt rd. in S5.	1999 ALAMAP	15N/2E/5	65p	32.2978	-87.8965	6
070	Pickens	TORUA03	Tombigbee R	Bevill Dam Tailrace	University Reservoir Tributary Nutrient Study	21N/3W/26	65p	33.2106	-88.2886	5750
070	Pickens	Aliceville1	Tombigbee R	dam forebay at deepest point, main channel	USEPA/ADEM Alabama Lakes Trophic Classification	22S/17W/28	65p	33.2191	-88.2861	5750
070	Pickens	T4	Tombigbee R	Aliceville Lock and Dam	Ambient Monitoring Program	21S/17W/14	65p	33.2333	-88.2833	5750
070	Pickens	02444160	Tombigbee R	Bevill Lock and Dam	USGS Surface Water Station	21S/17W/26	65p	33.2106	-88.2886	5750
070	Pickens	02444500	Tombigbee R	AL Hwy 17	USGS Surface Water Station	24N/2W/7	65p	33.0811	-88.2378	5940
070	Pickens	Aliceville1	Tombigbee R	dam forebay at deepest point, main channel	ADEM Reservoir Monitoring Program	22S/17W/28	65p	33.2191	-88.2861	5750
090	Pickens	Gainesville4	Boguechitto Cr	embayment at deepest point of main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	24N/3W/2	65p	33.0734	-88.1774	327
090	Pickens	02444490	Boguechitto Cr	Pickens CR 1	USGS Surface Water Station	24N/3W/4	65a	33.0922	-88.2994	53
090	Pickens	Gainesville3	Tombigbee R	approx. 0.5 mi. ds of Boguechitto Cr confluence at deepest point of main channel	ADEM Reservoir Monitoring Program	24N/3W/12	65p	33.0808	-88.2626	5941
100	Pickens	UT21	Lubbub Cr	Going south, 1st left turn past Reform Temple 1st bridge	Clean Water Strategy Project	20S/14W/8	65i	33.3284	-88.0235	78
100	Pickens	UT22	Lubbub Cr	western-most of 3 bridges on dirt rd. off CR 3	Clean Water Strategy Project	19S/14W/11	65i	33.4148	-87.9769	39
110	Pickens	UT01	Little Bear Cr	Culvert on CR 4	Clean Water Strategy Project	20S/13W/4	65i	33.3349	-87.8925	3
110	Pickens	UT02	Little Bear Cr	US Hwy 82 Bridge east of Gordo by pump station	Clean Water Strategy Project	20S/13W/16	65i	33.3121	-87.8975	9

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Middle Tombigbee R.-Lubbub Cr. (0316-0106)										
110	Pickens	UT03	Little Bear Cr	Pickens CR 9 at AL Hwy 86	Clean Water Strategy Project	20S/13W/20	65i	33.2963	-87.9197	16
110	Pickens	BRP-1	Bear Cr	Pickens CR 38	Ecoregional Reference Site Program	19S/13W/28	65i	33.3696	-87.9036	15
110	Pickens	UT03U1	Sneads Cr, UT to	approx. 0.3 mi. us of confluence with Sneads Cr.	1997 ALAMAP	21S/13W/20	65i	33.2132	-87.9128	1
110	Pickens	LBRP-1	Little Bear Cr	Pickens CR 9	2001 303(d) Monitoring Program	20S/13W/20	65i	33.2961	-87.9194	16
110	Pickens	LBRP-2	Little Bear Cr	US Hwy 82	2001 303(d) Monitoring Program	20S/13W/16	65i	33.3152	-87.8981	9
110	Pickens	LBRP-3	Little Bear Cr	Pickens CR 4	2001 303(d) Monitoring Program	20S/13W/4	65i	33.3350	-87.8928	3
110	Pickens	SNDP-61	Snead Cr	at unnamed Pickens CR	2001 NPS Screening Station	21S/14W/36	65i	33.1786	-87.9432	23
120	Pickens	UT19	Lubbub Cr	AL Hwy 14	Clean Water Strategy Project	22S/15W/31	65b	33.1026	-88.1405	58
120	Pickens	UT20	Lubbub Cr	Pickens CR 24	Clean Water Strategy Project	22S/15W/9	65i	33.1556	-88.1042	301
120	Pickens	LBB-1	Lubbub Cr	Pickens CR 24	2001 NPS Screening Station	22S/15W/9	65i	33.1556	-88.1042	301
120	Pickens	LBB-1	Lubbub Cr	Pickens CR 24	Ambient Monitoring Program	22S/15W/9	65i	33.1556	-88.1042	301
120	Pickens	UT04U1	Cow Cr	approx. 6.1 mi. us of confluence with Lubbub Cr.	1997 ALAMAP	22S/15W/13	65i	33.1340	-88.0474	1
120	Pickens	CWCP-59	Cow Cr	Pickens CR 2	2001 NPS Screening Station	22S/1W/28	65b	33.1104	-88.1117	9
120	Pickens	SNCP-60	Seneca Cr	near Pickens CR 24.	2001 NPS Screening Station	22S/1W/9-10	65i	33.1538	-88.1042	9
120	Pickens	LBCUA01	Lubbub Cr	Pickens CR 24	University Reservoir Tributary Nutrient Study	22S/15W/9	65i	33.1553	-88.1042	301
120	Pickens	Gainesville5	Lubbub Cr	embayment at deepest point of main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	24N/2W/11	65a	33.0789	-88.2618	368
130	Sumter/ Greene	Gainesville2	Tombigbee R	deepest point of channel, approx. 1.5 mi. ds of Sipsey R confluence.	ADEM Reservoir Monitoring Program	23N/2W/11	65p	32.9818	-88.1694	7213

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Middle Tombigbee R.-Lubbub Cr. (0316-0106)										
130	Sumter	FNCS-103	Fenache Cr	Sumter CR 4	2001 NPS Screening Station	23N/2W/18	65a	32.9735	-88.2349	11
140	Greene	Gainesville1	Tombigbee R	dam forebay at deepest point of main channel	ADEM Reservoir Monitoring Program	22N/2W/36	65p	32.8559	-88.1545	7230
140	Greene	TORUA04	Tombigbee R	Gainesville Dam Tailrace	University Reservoir Tributary Nutrient Study	22N/2W/36	65p	32.8481	-88.1561	7230
140	Greene	02447025	Tombigbee R	at Heflin Lock and Dam	USGS Surface Water Station	22N/2W/35	65p	32.8481	-88.1561	7230
160	Greene	Demopolis3	Tombigbee R	approx. two miles ds of Tubbs Cr confluence at deepest point of main channel	ADEM Reservoir Monitoring Program	21N/1W/16	65p	32.8036	-88.1078	8668
160	Greene	TRSG-1	Trussells Cr	Greene CR 20	2001 303(d) Monitoring Program	21N/1W/2	65b	32.8335	-88.0628	71
160	Greene	TRSG-2	Trussells Cr	AL Hwy 14	2001 303(d) Monitoring Program	22N/1E/4	65b	32.9142	-87.9915	38
160	Greene	Demopolis5	Trussels Cr	embayment at deepest point of main channel, approx. 0.5 miles us of confluence with Tombigbee	ADEM Reservoir Monitoring Program	21N/1W/10	65p	32.8070	-88.0807	77
160	Greene	Demopolis6	Brush Cr	embayment at deepest point of main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	21N/1W/14	65p	32.7954	-88.0646	55
160	Greene	BRHG-56	Brush Cr	Greene CR 20	2001 NPS Screening Station	21N/1E/7	65b	32.8139	-88.0320	50
160	Greene	PIPG-54	Pippen Cr	Greene CR 131	2001 NPS Screening Station	22N/1E/26	65a	32.8561	-87.9712	11
170	Sumter	Demopolis7	Factory Cr	embayment at deepest point of main channel, approx. 0.5 miles us of confluence with Tombigbee	ADEM Reservoir Monitoring Program	20N/1W/19	65p	32.7040	-88.1122	54
170	Sumter	FC-1	Factory Cr	Sumter CR 24	Factory and Bodka Creek Arsenic Monitoring Project	21N/3W/36	65a	32.7560	-88.2505	8
170	Sumter	FC-2	Factory Cr	unnamed Sumter CR	Factory and Bodka Creek Arsenic Monitoring Project	21N/3W/28	65a	32.7664	-88.2958	<1
170	Sumter	FCTS-41	Factory Cr	Sumter CR 21	2001 NPS Screening Station	20N/1W/6	65a	32.7377	-88.1325	35
170	Sumter	FC-3	tributary to Factory Cr.	unnamed Sumter CR	Factory and Bodka Creek Arsenic Monitoring Project	21N/3W/27	65a	32.7735	-88.2771	2
170	Sumter	JNS-1	Jones Cr	Sumter CR 20	2001 NPS Screening Station	20N/2W/S23	65a	32.7016	-88.1478	21
170	Sumter	TMSS-44	Toms Cr	Sumter CR 21	2001 NPS Screening Station	21N/2W/36	65b	32.7608	-88.1334	14
190	Greene	Demopolis2	Tombigbee R	deepest point of main channel, immed. ds of Cobb Cr confluence.	ADEM Reservoir Monitoring Program	19N/1E/30	65p	32.5994	-88.0281	9033

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Sipsey R. (0316-0107)										
010	Marion	NR1	New R	US Hwy 78	Ambient Monitoring Program	13S/11W/10	68f	33.9325	-87.6798	59
020	Marion	LNR1	Little New R	US Hwy 78	Ambient Monitoring Program	13S/11W/7	65i	33.9359	-87.7382	48
020	Marion	LNRM-75	Little New R	AL Hwy 233	2001 NPS Screening Station	13S/11W/17	65i	33.9286	-87.7152	48
030	Fayette	UT07	Stud Horse Cr.	CR 31 at Marion/Fayette county line	Clean Water Strategy Project	13S/12W/24	65i	33.9150	-87.7525	2
030	Fayette	UT08	Stud Horse Cr	AL Hwy 129	Clean Water Strategy Project	14S/ 12W/7	65i	33.8469	-87.7342	137
040	Fayette	UT1U5-21	Sipsey R	approx. 1.25 mi. ds of Fayette CR 12.	2001 ALAMAP	17S/12W/34	65i	33.5288	-87.7710	359
040	Fayette	UT2U5-22	Sipsey R	approx. 1 mi. ds of AL. Hwy 102	2001 ALAMAP	15S/12W/10	65i	33.7584	-87.7714	234
040	Fayette	BRCF-64	Bear Cr	AL Hwy 171	2001 NPS Screening Station	17S/12W/33	65i	33.5238	-87.8022	24
040	Fayette	BXSF-67	Boxes Cr	Fayette CR 26	2001 NPS Screening Station	16S/12W/10	65i	33.6701	-87.7778	11
040	Fayette	DVSF-65	Davis Cr	Fayette CR 35	2001 NPS Screening Station	17S/12W/13	65i	33.5770	-87.7444	22
050	Tuscaloosa	UT04U2-17	Sipsey R	approx. 21.6 mi. us of confluence with Dunn Cr.	1998 ALAMAP	18S/12W/10	65i	33.5079	-87.7697	394
060	Tuscaloosa	02446500	Sipsey R	AL Hwy 104	USGS Surface Water Station	21S/12W/3	65i	33.2569	-87.7764	528
070	Greene	UT13	Sipsey R	Greene CR 156 /Pickens CR 2	Clean Water Strategy Project	22S/13W/14	65i	33.1028	-87.9503	607
070	Greene	SPYG-2	Sipsey R	Greene CR 156 /Pickens CR 2	2001 303(d) Monitoring Program	22S/14W/25	65i	33.1034	-87.9505	607
070	Greene	UT02U3-39	Sipsey R, UT to	approx. 1.25 mi. us of confuence with Sipsey R.	1999 ALAMAP	22S/13W/14	65i	33.1350	-87.8658	<1
070	Tuscaloosa	SPYG-3	Sipsey R	AL Hwy 140	2001 303(d) Monitoring Program	21S/12W/3	65i	33.2574	-87.7772	528
080	Greene	HGHG-57	Hughes Cr	Pickens CR 23	2001 NPS Screening Station	24N/1W/9	65p	33.0707	-88.0992	12
080	Greene	SHMG-58	Shambley Cr	Greene CR 60	2001 NPS Screening Station	24N/1W/25	65p	33.0278	-88.0417	11
080	Pickens	UT12	Sipsey R	Pickens CR 23 (new Greene CR 181)	Clean Water Strategy Project	24N/1W/13	65p	33.0534	-88.0395	745

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Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Sipsey R. (0316-0107)										
080	Greene	SPYG-1	Sipsey R	Pickens CR 23 (Greene CR 181)	2001 303(d) Monitoring Program	24N/1W/13	65p	33.0546	-88.0394	745
080	Pickens	SIRUA01	Sipsey R	AL Hwy 14	University Reservoir Tributary Nutrient Study	24N/1W/29	65p	33.0386	-88.1117	769
080	Pickens	Gainesville6	Sipsey R	embayment at deepest point of main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	23N/2W/2	65a	33.0837	-88.26757	789
Noxubee R. (0316-0108)										
090	Sumter	Demopolis4	Noxubee R	approx. 1 mi. us of Tombigbee R confluence at deepest point of main channel	ADEM Reservoir Monitoring Program	21N/2W/3	65p	32.8274	-88.1816	1418
090	Sumter	NBRUA01	Noxubee R	AL Hwy 17	University Reservoir Tributary Nutrient Study	23N/3W/33	65b	32.9325	-88.2978	1097
090	Sumter	02448500	Noxubee R	AL Hwy 17	USGS Surface Water Station	23N/3W/33	65b	32.9325	-88.2978	1097
110	Sumter	WDWS-52	Woodward Cr	AL Hwy 17	2001 NPS Screening Station	23N/3W/28	65b	32.9483	-88.2973	67
140	Sumter	BC-1	Bodka Cr	Railroad crossing	Factory and Bodka Creek Arsenic Monitoring Project	21N/3W/18	65a	32.7962	-88.3277	157
140	Sumter	BC-2	Bodka Cr	AL Hwy 17	Factory and Bodka Creek Arsenic Monitoring Project	21N/3W/8	65a	32.8068	-88.3119	158
140	Sumter	BDKS-48	Bodka Cr	AL Hwy 17	2001 NPS Screening Station	21N/3W/8	65a	32.8068	-88.3121	158
140	Sumter	02448900	Bodka Cr	AL Hwy 17	USGS Surface Water Station	21N/3E/8	65a	32.8069	-88.3119	158
140	Sumter	BC-3	Bodka Cr	unnamed Sumter CR	Factory and Bodka Creek Arsenic Monitoring Project	21N/3W/3	65a	32.8210	-88.2822	183
140	Sumter	UT05U1	Caney Cr	approx. 3.1 mi. us of confluence of Bodka Cr and Noxubee R.	1997ALAMAP	22N/3W/35	65p	32.8412	-88.2655	20
140	Sumter	CNYS-47	Caney Cr	unnamed Sumter CR	2001 NPS Screening Station	22N/3W/21	65p	32.8611	-88.2932	6
140	Sumter	HCHS-46	Hatchet Cr	AL Hwy 17	2001 NPS Screening Station	22N/3W/32	65a	32.8374	-88.3086	9
Middle Tombigbee R.-Chickasaw R. (0316-0201)										
030	Sumter	Demopolis1	Tombigbee R	dam forebay at deepest point of main channel	ADEM Reservoir Monitoring Program	18N/2E/22	65p	32.5201	-87.8748	15385

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Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Middle Tombigbee R.-Chickasaw R. (0316-0201)										
030	Sumter	TORUA01	Tombigbee R	Demopolis Dam Tailrace	University Reservoir Tributary Nutrient Study	18N/2E/22	65p	32.5208	-87.8775	15385
030	Sumter	Demopolis1	Tombigbee R	dam forebay at deepest point of main channel	USEPA/ADEM Alabama Lakes Trophic Classification	18N/2E/22	65p	32.5201	-87.8748	15385
030	Marengo	02467000	Tombigbee R	Demopolis Lock and Dam	USGS Surface Water Station	18N/2E/22	65p	32.5208	-87.8775	15385
030	Marengo	02467001	Tombigbee R	RM 171.1 ds of Demopolis Lock and Dam	USGS Surface Water Station	18N/2E/22	65p	32.5208	-87.8800	15385
040	Marengo	DRYM-30	Dry Cr	AL Hwy 25	2001 NPS Screening Station	16N/4E/36	65b	32.3203	-87.6298	30
050	Marengo	PWLM-32	Powell Cr	Marengo CR 44	2001 NPS Screening Station	16N/3E/23	65b	32.3369	-87.7556	68
050	Marengo	PWLM-33	Powell Cr	Marengo CR 54	2001 NPS Screening Station	17N/4E/16	65a	32.4375	-87.6859	13
050	Marengo	RKYM-34	Rocky Br	AL Hwy 69	2001 NPS Screening Station	17N/4E/32	65a	32.3974	-87.7096	7
060	Marengo	CKBM-1	Chickasaw Bogue	Marengo CR 39	2001 303(d) Monitoring Program	16N/4E/32	65b	32.3142	-87.7038	111
060	Marengo	CHBM-26	Chickasaw Bogue	unnamed Marengo CR	2001 NPS Screening Station	15N/5E/17	65b	32.2773	-87.6075	31
060	Marengo	LT6U5-56	Little Dry Cr	approx. 2.5 mi. us of confluence with Chickasaw Bogue.	2001 ALAMAP	16N/4E/21	65b	32.3432	-87.6858	20
060	Marengo	LDRM-29	Little Dry Cr	Marengo CR 44	2001 NPS Screening Station	16N/4E/14	65b	32.3543	-87.6553	15
060	Marengo	MCHM-27	Michigan Cr	AL Hwy 28	2001 NPS Screening Station	15N/4E/13	65b	32.2649	-87.6353	21
060	Marengo	PPM-1	Poplar Cr	Marengo CR 53	2002 NPS Reference Site Project	15N/5E/S17	65b	32.2773	-87.6067	14
060	Marengo	LT4U4-49	Sandy Br, UT to	Tributary to Sandy Branch	2000 ALAMAP	15N/4E/17	65b	32.2655	-87.7057	1
060	Marengo	WTKM-28	Watkins Cr	AL Hwy 28	2001 NPS Screening Station	15N/3E/12	65b	32.2818	-87.7407	25
070	Marengo	Coffeeville5	Chickasaw Bogue Cr	embayment at deepest point if main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	15N/2E/6	65p	32.2937	-87.9254	344
070	Marengo	CHBUA01	Chickasaw Bogue	US Hwy 43	University Reservoir Tributary Nutrient Study	16N/3E/20	65b	32.3292	-87.7908	257
100	Choctaw	Coffeeville3	Tombigbee R	main channel at deepest point, approx. two miles ds of Chickasaw Bogue Cr confluence.	ADEM Reservoir Monitoring Program	15N/1E/6	65p	32.2924	-87.9380	16924

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Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Middle Tombigbee R.-Chickasaw R. (0316-0201)										
100	Sumter	KBCUA01	Kinterbish Cr	AL Hwy 17	University Reservoir Tributary Nutrient Study	16N/2W/28	65d	32.3214	-88.1806	72
130	Choctaw	LT05	Tuckabum Cr	AL Hwy 10	Clean Water Strategy Project	15N/ 4W/33	65d	32.2318	-88.3890	9
130	Choctaw	LT06	Tuckabum Cr	AL Hwy 17	Clean Water Strategy Project	14N/ 2W/3	65d	32.1846	-88.1700	115
130	Choctaw	LT02U2-24	Tuckabum Cr	approx. 9.0 mi. us of confluence with Yantley Cr.	1998 ALAMAP	14N/2W/17	65d	32.1788	-88.2190	110
150	Choctaw	LT16	Yantley Cr	Choctaw CR 1	Clean Water Strategy Project	15N/4W/22	65d	32.2639	-88.3834	10
150	Choctaw	LT17	Yantley Cr	AL Hwy 17	Clean Water Strategy Project	14N/2W/3	65d	32.2139	-88.1668	84
160	Choctaw	Coffeeville6	Tuckabum Cr	embayment at deepest point of main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	14N/1E/30	65p	32.1565	-88.0189	257
160	Choctaw	LT07	Tuckabum Cr	AL Hwy 114	Clean Water Strategy Project	14N/ 2W/22	65p	32.1739	-88.0627	239
170	Choctaw-Marengo	02469525	Tombigbee R	AL Hwy 10	USGS Surface Water Station	13N/1W/2	65p	32.1300	-88.0411	17487
180	Marengo	Coffeeville7	Horse Cr	embayment at deepest pointof main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	13N/1W/23	65p	32.0761	-88.0528	149
180	Marengo	LT08	Horse Cr	CR 7	Clean Water Strategy Project	12N/2E/34	65d	32.0480	-87.8751	60
180	Marengo	LT09	Horse Cr	AL Hwy 69	Clean Water Strategy Project	12N/1E/6	65d	32.0440	-88.0317	137
190	Choctaw-Marengo	Coffeeville2	Tombigbee R	main channel at deepest point, approx. 1.5 miles us of Big Bunny Cr confluence.	ADEM Reservoir Monitoring Program	12N/1W/22	65p	31.9946	-88.0796	17670
190	Choctaw-Marengo	T2	Tombigbee R	AL Hwy 10	Ambient Monitoring Program	13N/1E/1	65p	32.1304	-88.0429	17492
190	Choctaw	Coffeeville8	Wahalak Cr	embayment at deepest point of main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	12N/1W/7	65p	32.0217	-88.1200	69
190	Choctaw	WHKC-1	Wahalak Cr	Choctaw CR 43	2001 303(d) Monitoring Program	12N/2W/3	65d	32.0329	-88.1763	52
190	Choctaw	WHKC-2	Wahalak Cr	AL Hwy 17	2001 303(d) Monitoring Program	13N/2W/30	65d	32.0699	-88.2279	24
210	Clarke	Coffeeville9	Bashi Cr	embayment at deepest point of main channel, approx. 0.5 miles us of confluence with Tombigbee	ADEM Reservoir Monitoring Program	11N/1W/3	65p	31.9544	-88.0701	128
210	Clarke	BSCC-1	Bashi Cr	AL Hwy 69	2001 NPS Screening Station	11N/1E/9	65d	31.9450	-87.9807	77

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Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Middle Tombigbee R.-Chickasaw R. (0316-0201)										
220	Choctaw	LT4U5-35	Big Tallawampa Cr	approx. 4.5 mi. us of confluence with Middle Tallawampa Cr.	2001 ALAMAP	12N/3W/25	65d	31.8724	-87.5776	8
220	Choctaw	LT02U3-21	Middle Tallawampa Cr	Middle Tallawampa Cr	1999 ALAMAP	12N/2W/30	65q	32.0082	-88.2214	3
220	Choctaw	Coffeeville10	Tallawampa Cr	embayment at deepest point of main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	10N/2W/3	65p	31.8569	-88.1577	48
250	Choctaw	LT14	Okatuppa Cr	Choctaw CR 18	Clean Water Strategy Project	11N/ 4W/8	65q	31.9398	-88.4016	71
270	Choctaw	LT3U4-32	Puss Cuss Cr	Puss Cuss Cr. at CR 39	2000 ALAMAP	10N/5W/24	65q	31.8157	-88.4456	13
280	Choctaw	LT2U4-28	Surveyors Cr	Surveyors Cr. at unnamed CR	2000 ALAMAP	11N/3W/24	65q	31.9032	-88.2292	18
280	Choctaw	LT3U5-18	Bogueloosa Cr	approx. 1/16 mi. ds of Choctaw CR 18	2001 ALAMAP	12N/4W/25	65q	31.9883	-88.3315	20
280	Choctaw	LT15	Okatuppa Cr	Choctaw CR 14	Clean Water Strategy Project	10N/ 3W/13	65p	31.8401	-88.2280	263
290	Choctaw	Coffeeville1	Tombigbee R	dam forebay at deepest point of main channel	ADEM Reservoir Monitoring Program	9N/2W/12	65p	31.7529	-88.1338	18417
290	Choctaw	02469761	Tombigbee R	Coffeeville Lock and Dam	USGS Surface Water Station	9N/2W/13	65p	31.7583	-88.1292	18417
290	Choctaw	Coffeeville11	Okatuppa Cr	embayment at deepest point of main channel, approx. 0.5 miles us of confluence with Tombigbee	ADEM Reservoir Monitoring Program	10N/2W/21	65p	31.8242	-88.1818	312
290	Choctaw	Coffeeville12	Turkey Cr	embayment at deepest point of main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	9N/2W/5	65p	31.7902	-88.1689	50
Sucarnoochee R. (0316-0202)										
080	Sumter	LT01	Sucarnoochee R	Unnamed Sumter CR	Clean Water Strategy Project	19N/4W/13	65b	32.6121	-88.3491	486
080	Sumter	LT02	Sucarnoochee R	US Hwy 11	Clean Water Strategy Project	19N/2W/33	65a	32.5737	-88.1943	607
080	Sumter	SUCS-1	Sucarnoochee R	US Hwy 11	2001 303(d) Monitoring Program	19N/2W/33	65a	32.5739	-88.1943	607
080	Sumter	SURUA01	Sucarnoochee R	US Hwy 11	University Reservoir Tributary Nutrient Study	19N/2W/33	65a	32.5736	-88.1933	607
080	Sumter	02467500	Sucarnoochee R	US Hwy 11	USGS Surface Water Station	19N/2W/33	65a	32.5736	-88.1933	607

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Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Sucarnoochee R. (0316-0202)										
080	Sumter	CDRS-22	Cedar Cr	AL Hwy 28	2001 NPS Screening Station	19N/2W/35	65a	32.5773	-88.1575	8
080	Sumter	SCLS-21	Sicolocco Cr	AL Hwy 28	2001 NPS Screening Station	19N/3W/10	65a	32.6472	-88.2768	20
080	Sumter	SNSS-20	Sanusi Cr	AL Hwy 17	2001 NPS Screening Station	19N/3W/8	65b	32.6288	-88.3026	17
100	Sumter	LT1U4-3	Alamuchee Cr	approx. 0.75 mi. us of AL. Hwy 17	2000 ALAMAP	17N/3W/4	65d	32.4743	-88.3000	79
100	Sumter	LT1U5-3	Alamuchee Cr	approx. 0.75 mi. us of AL. Hwy 17	2001 ALAMAP	17N/3W/4	65d	32.4763	-88.2993	79
100	Sumter	LT03	Alamuchee Cr	Sumter CR 10	Clean Water Strategy Project	17N/ 4W/26	65d	32.4199	-88.3693	48
100	Sumter	ALMS-15	Alamuchee Cr	Sumter CR 10	2001 NPS Screening Station	17N/4W/26	65d	32.4196	-88.3689	48
100	Sumter	LT04	Alamuchee Cr	Sumter CR 13	Clean Water Strategy Project	18N/2W/21	65b	32.5222	-88.1868	208
100	Sumter	LT01U1	Alamuchee Cr	approx. 1.0 mi. us of confluence with Toomsuba Cr.	1997ALAMAP	17N/3W/4	65d	32.4759	-88.2999	80
100	Sumter	LT01U3-3	Alamuchee Cr	approx. 0.5 mi. us of AL Hwy 17 .	1999 ALAMAP	17N/3W/4	65d	32.4759	-88.3002	80
100	Sumter	LT01U2-3	Alamuchee Cr	approx. 20.8 mi. us of confluence with Sucarnoochee R.	1998 ALAMAP	17N/3W/4	65d	32.4775	-88.2958	78
100	Sumter	YLWS-1	Yellow Cr	US Hwy 11	2001 303(d) Monitoring Program	18N/2W/5	65b	32.5641	-88.2150	5
100	Sumter	TMBS-17	Toomsuba Cr	US Hwy 11	2001 NPS Screening Station	17N/3W/5	65d	32.4811	-88.3170	84
110	Sumter	T1	Tombigbee R	US Hwy 80	Ambient Monitoring Program	17N/1E/17	65p	32.4297	-88.0408	15453
110	Sumter	Coffeeville4	Sucarnoochee Cr	embayment at deepest point of main channel, approx. 0.5 mi. us of confluence with Tombigbee R.	ADEM Reservoir Monitoring Program	17N/1W/26	65p	32.4196	-88.0444	974
Lower Tombigbee R. (0316-0203)										
010	Clarke	ULCC-1	Ulcanush Cr	Clarke CR 31	2001 NPS Screening Station	9N/2W/S5	65q	31.7841	-88.1081	33
030	Washington	LT02U1	Santa Bogue Cr	approx. 7.0 mi. us of confluence with Tombigbee R.	1997ALAMAP	8N/2W/22	65q	31.6537	-88.1656	150
030	Washington	SABW-1	Santa Bogue Cr	Washington CR 31	2001 303(d) Monitoring Program	8N/2W/14	65q	31.6653	-88.1583	167
040	Clarke	02469795	Harris Cr	at AL Hwy 69	USGS Surface Water Station	11N/1E/30	65q	31.8981	-88.0122	1

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Lower Tombigbee R. (0316-0203)										
040	Clarke	LT5U5-47	Satilpa Cr, UT to	approx. 3.75 mi. us of confluence with Satilpa Cr.	2001 ALAMAP	9N/3E/17	65q	31.7488	-87.7864	2
040	Clarke	LT12	Satilpa Cr	US Hwy 84	Clean Water Strategy Project	9N/1E/18	65q	31.7444	-88.0213	164
040	Clarke	LT13	Satilpa Cr	Clarke CR 17	Clean Water Strategy Project	10N/2E/36	65q	31.7990	-87.8198	21
040	Clarke	02469800	Satilpa Cr	at AL Hwy 84	USGS Surface Water Station	9N/1E/18	65q	31.7442	-88.0225	164
050	Washington	LT2U5-11	Nail Br, UT to	approx. 0.5 mi. us of confluence with Nail Branch.	2001 ALAMAP	8N/1W/20	65q	31.6464	-88.1082	<1
050	Washington	TLCW-14	Tauler Cr.	Washington CR 34	2001 NPS Screening Station	7N/1W/38-41	65f	31.5535	-88.0975	19
090	Clarke	LT10	Bassett Cr	Clarke CR 27	Clean Water Strategy Project	9N/ 3E/12	65p	31.4918	-87.8929	42
090	Clarke	LT11	Bassett Cr	Clarke CR 15	Clean Water Strategy Project	6N/2E/17	65q	31.7676	-87.7198	261
090	Clarke	BSTC-1	Bassett Cr	Clarke CR 27	2001 303(d) Monitoring Program	9N/3E/12	65q	31.7676	-87.7200	42
090	Clarke	BSTC-2	Bassett Cr	AL Hwy 178	2001 303(d) Monitoring Program	10N/3E/36	65q	31.7872	-87.7283	39
090	Clarke	BSTC-3	Bassett Cr, UT to	Rural Rd. nr. Rural	2001 303(d) Monitoring Program	10N/3E/2	65d	31.8659	-87.7415	3
090	Clarke	BSTC-4	Bassett Cr	US Hwy 43	2001 303(d) Monitoring Program	10N/3E/2	65d	31.8641	-87.7471	11
090	Clarke	02470072	Bassett Cr	US Hwy 43	USGS Surface Water Station	10N/3E/2	65d	31.8639	-87.7472	11
090	Clarke	JMCC-1	James Cr	Clarke CR 22	2001 303(d) Monitoring Program	8N/4E/18	65f	31.6709	-87.7060	11
090	Clarke	LBAC-11	Little Bassett Cr	Clarke CR 30	2001 NPS Screening Station	9N/4E/8	65q	31.7669	-87.6924	28
090	Clarke	RBBC-23	Rabbit Cr	Clarke CR 10	2001 NPS Screening Station	7N/2E/14	65f	31.5729	-87.8419	22
130	Washington	LT03U2-32	Bates Cr	approx. 16.6 mi. us	1998 ALAMAP	3N/2W/15	65f	31.2252	-88.1596	38
130	Washington	BLBW-1	Bilbo Cr	Washington CR 35	2001 NPS Screening Station	3N/1W/1	65f	31.2610	-88.0386	67

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Mobile R.-Tensaw R. (0316-0204)										
010	Mobile	MR01U1	Big Chippewa Lake , UT to	approx. 3.1 mi. us of confluence with Middle R.	1997ALAMAP	1N/1E/21	75i	31.0391	-87.9827	6
010	Baldwin	MR04U3-12	Big Briar Cr, UT to	Mobile R delta.	1999 ALAMAP	2S/1E/15	75i	30.8788	-87.9714	1
010	Baldwin	MR1U5-17	Flat Cr	approx. 1 mi. us of AL Hwy 59	2001 ALAMAP	1S/2E/12	65f	30.9768	-87.8457	3
010	Baldwin	HLB-1	Halls Cr	AL Hwy 59	Ecoregional Reference Site	1N/2E/S14	65f	31.0526	-87.8370	19
010	Baldwin	MAJB-1	Majors Cr	AL Hwy 59	USEPA Region IV Joint Bioassessment	2N/3E/18	65f	31.1287	-87.8205	44
020	Mobile	MR1U4-12	Barrow Cr	Barrow Cr.	2000 ALAMAP	2N/1E/28	75i	31.1124	-87.9774	10
020	Mobile	CCSM-1	Cold Creek Swamp	US Hwy 43	2001 303d Monitoring Program	1S/1W/12	75i	30.9763	-88.0269	20
020	Mobile	CCSM-2	Cold Creek Swamp	end of jeep trail	2002 303(d) Monitoring Program	1S/1E/7	75i	30.9847	-88.0133	2
020	Mobile	MO01	Mobile Bay	I-65	Ambient Monitoring Program	1S/1E/10	75i	30.9150	-87.9631	43662
020	Baldwin	TE2	Tensaw R	RM 9.0 below Gravine Island	Ambient Monitoring Program	3S/1E/42	75i	30.9150	-87.9631	Indeter.
020	Mobile	02470630	Mobile R	Barry Steam Plant	USGS Surface Water Station	1N/1E/31	75i	30.0028	-88.0278	43000
030	Mobile	MR2U5-28	Steele Cr	Burlington Northern RR crossing.	2001 ALAMAP	2S/1W/22	75i	30.8613	-88.0611	2
030	Mobile	BYSM-1	Bayou Sara	canal crossing approx. 1 mi. us of mouth.	2001 303(d) Monitoring Program	3S/1E/6	75i	30.8146	-88.0211	75
030	Mobile	BYSM-2	Bayou Sara	pipeline crossing ds of Gunnison Cr.	2001 303(d) Monitoring Program	2S/1W/25	75i	30.8406	-88.0252	70
030	Mobile	BYSM-3	Bayou Sara	approx. 200 yds us of Gunnison Cr.	2001 303(d) Monitoring Program	2S/1W/25	75i	30.8397	-88.0314	37
030	Mobile	BYSM-4	Bayou Sara	approx. 0.75 mi. us of Gunnison Cr.	2001 303(d) Monitoring Program	2S/1W/35	75i	30.8353	-88.0352	37
030	Mobile	BYSM-5	Bayou Sara	approx. 200 yds ds of Norton Cr.	2001 303(d) Monitoring Program	3S/1W/2	75i	30.8204	-88.0557	28
030	Mobile	BYSM-6	Bayou Sara	US Hwy 43.	2001 303(d) Monitoring Program	2S/1W/34	75i	30.8253	-88.0700	23
030	Mobile	BYSM-7	Norton Cr	US Hwy 43.	2001 303(d) Monitoring Program	3S/1W/3	75i	30.8163	-88.0711	5

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Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Mobile R.-Tensaw R. (0316-0204)										
040	Mobile	MO1A	Mobile River	L&N RailRd. crossing	Ambient Monitoring Program	2S/1E/35	75i	30.8386	-87.9450	Indeter.
040	Baldwin	TE1	Tensaw R	L&N RailRd. crossing	Ambient Monitoring Program	2S/2E/30	75i	30.8428	-87.9108	Indeter.
040	Baldwin	MR02U2-6	Tensaw R	approx. 1.1 mi. us of confluence with Apalachee R.	1998 ALAMAP	3S/1E/44	75i	30.7547	-87.9202	Indeter.
040	Mobile	AT-1	Mobile R	approx. 2-3 mi. north of Chickasaw Cr. at the Alabama Power Company power transmission line crossing.	93 Mobile R/ Chickasaw Cr Cl^- Study	3S/1E/24	75i	30.7838	-88.0130	Indeter.
040	Mobile	AT-5	Mobile R	approx. 1.0-1.5 mi. ds of E.I. Dupont de Nemours NPDES discharge point, at the Alabama Power Company power transmission line crossing.	93 Mobile R/ Chickasaw Cr Cl^- Study	3S/1E/24	75i	30.7838	-88.0130	Indeter.
050	Mobile	MR2U4-22	Chickasaw Cr	Chickasaw Cr.	2000 ALAMAP	2S/2W/21	65f	30.8543	-88.1778	85
050	Mobile	CS1	Chickasaw Cr	US Hwy 43	Ambient Monitoring Program	3S/1W/16	75i	30.7839	-88.0731	185
050	Mobile	EPAC-1	Chickasaw Cr	US 43	Water quality and biological assessment of Rocky, Hollinger, and Chickasaw Creeks	3S/1W/15	75i	30.7823	-88.0727	185
050	Mobile	CS2	Chickasaw Cr	CSX RR crossing bridge at confluence with Moblie R	Ambient Monitoring Program	3S/1W/35	75i	30.7583	-88.0500	---
050	Mobile	02471001	Chickasaw Cr	RM 12.2	USGS Surface Water Station	3S/2W/11	65f	30.8028	-88.1433	125
050	Mobile	EPAC-2	Chickasaw Cr	Port Facility	Water quality and biological assessment of Rocky, Hollinger, and Chickasaw Creeks	3S/1W/23	75i	30.7687	-88.0555	Indeter.
050	Mobile	EPAC-3	Chickasaw Cr	Below round island	Water quality and biological assessment of Rocky, Hollinger, and Chickasaw Creeks	3S/1W/36	75i	30.7525	-88.0477	Indeter.
050	Mobile	EPAC-5	Chickasaw Cr	at mouth of creek	Water quality and biological assessment of Rocky, Hollinger, and Chickasaw Creeks	3S/1W/37	75k	30.7376	-88.0434	Indeter.
050	Mobile	MR01A2-14	Drinking Br	approx. 0.1 mi. us of confluence with Chickasaw Cr.	1998 ALAMAP	1S/3W/12	65f	30.9717	-88.2383	2

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Mobile R.-Tensaw R. (0316-0204)										
050	Mobile	MO04	Eight Mile Cr.	Pritchard Water Intake	Clean Water Strategy Project	3S/1W/20	75a	30.7678	-88.1000	35
050	Mobile	HB1	Hog Bayou	buried pipeline crossing 1/2 mile us from mouth	Ambient Monitoring Program	3S/1W/26	75i	30.7503	-88.0547	Indeter.
050	Mobile	EPAC-4	Hog Bayou	mid-length of Hog Bayou	Water quality and biological assessment of Rocky, Hollinger, and Chickasaw Creeks	3S/1W/27	75i	30.7518	-88.0569	Indeter.
050	Mobile	MR01U3-50	Mill Br	Alver Miller Rd.	1999 ALAMAP	1S/3W/34	65f	30.9102	-88.2691	<1
050	Mobile	MO03	Mobile R.	us of confluence with Chickasaw Cr.	Clean Water Strategy Project	3S/1W/38	75k	30.7411	-88.0417	Indeter.
050	Mobile	EPAC-6	Mobile R	upstream of confluence with Chickasaw Cr	Water quality and biological assessment of Rocky,	3S/1W/38	75k	30.7423	-88.0401	Indeter.
050	Mobile	MR02U3-24	Sweetwater Br	approx. 0.75 mi. us of AL Hwy 17	1999 ALAMAP	1S/3W/14	65f	30.9573	-88.2445	6
050	Mobile	AT-2	Chickasaw Creek	US Hwy 43	93 Mobile R/ Chickasaw Cr Cl^- Study	3S/1W/15	75i	30.7823	-88.0727	185
050	Mobile	AT-3	Chickasaw Creek	approx. 100-200 yds us of Hog Bayou at the International Paper NPDES discharge pipeline crossing	93 Mobile R/ Chickasaw Cr Cl^- Study	3S/1W/26	75i			Indeter.
060	Mobile	MO2	Mobile R	Government Sreet (Bankhead Tunnel) in Mobile at Alabama State Docks	Ambient Monitoring Program	4S/1W/11	75k	30.7083	-88.0386	43662
060	Mobile	TM1	Three Mile Cr	between US Hwy 43 & RR. crossing	Ambient Monitoring Program	4S/1W/3	75a	30.7333	-88.0708	29
050	Mobile	EPATMC	Three Mile Cr	near mouth	Mobile Bay Intensive Survey, 2000-2001	4S/1W/2	75k	30.7270	-88.0487	29
060	Mobile	MO01	Threemile Cr.	US Hwy 98	Clean Water Strategy Project	4S/2W/12	75a	30.7005	-88.1242	12
060	Mobile	02471013	Three Mile Cr	Zeigler Park Blvd, just ds of Municipal Park Dam	USGS Surface Water Station	4S/2W/11	65f	30.7061	-88.1511	10
060	Mobile	0247101490	Three Mile Cr	Stanton Rd in Mobile	USGS Surface Water Station	4S/1W/17	75a	30.6967	-88.0881	19
060	Mobile	02471016	Three Mile Cr	US Hwy 43	USGS Surface Water Station	4S/1W/16	75k	30.7242	-88.0589	28

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Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Mobile Bay (0316-0205)										
010	Mobile	EPASC2	Mobile Bay	ship channel	Mobile Bay Intensive Survey, 2000-2001			30.6000	-88.0333	Indeter.
010	Mobile	EPASC3	Mobile Bay	ship channel	Mobile Bay Intensive Survey, 2000-2001	------	------	30.4800	-88.0167	Indeter.
010	Mobile	EPASC4	Mobile Bay	ship channel	Mobile Bay Intensive Survey, 2000-2001	------	------	30.3800	-88.0217	Indeter.
010	Mobile	EPASC5	Mobile Bay	ship channel	Mobile Bay Intensive Survey, 2000-2001	------	------	30.2583	-88.0383	Indeter.
010	Baldwin	EPAMB1	Mobile Bay	near Montrose	Mobile Bay Intensive Survey, 2000-2001	------	------	30.6085	-87.9667	Indeter.
010	Baldwin	EPAMB2	Mobile Bay	near Point Clear	Mobile Bay Intensive Survey, 2000-2001	------	------	30.4717	-87.9667	Indeter.
010	Mobile	EPAMB3	Mobile Bay	below Fowl River	Mobile Bay Intensive Survey, 2000-2001	------	------	30.3667	-88.0667	Indeter.
010	Baldwin	EPAMB4	Bon Secour Bay	Bon Secour Bay	Mobile Bay Intensive Survey, 2000-2001	------	------	30.3167	-88.8312	Indeter.
010	Mobile	EPAMS0	Mississippi Sound	Mississippi Sound	Mobile Bay Intensive Survey, 2000-2001	------	------	30.2917	88.1183	Indeter.
010	Mobile	EPASC1	Mobile Bay	ship channel	Mobile Bay Intensive Survey, 2000-2001	------	75k	30.7167	-88.0417	Indeter.
010	Mobile	MB2	Mobile Bay	Mobile Bay	Ambient Monitoring Program	------	------	30.2383	-88.0183	Indeter.
010	Mobile	MB3	Mobile Bay	Mobile Bay	Ambient Monitoring Program	------	------	30.3056	-87.8525	Indeter.
010	Mobile	MB5	Mobile Bay	Mobile Bay	Ambient Monitoring Program	------	------	30.4442	-87.9867	Indeter.
010	Mobile	MB6	Mobile Bay	Mobile Bay	Ambient Monitoring Program	------	------	30.5394	-87.9847	Indeter.
010	Mobile	MB7	Mobile Bay	Mobile Bay	Ambient Monitoring Program	------	------	30.6133	-87.9828	Indeter.
010	Mobile	MB9	Mobile Bay	Mobile Bay	Ambient Monitoring Program	------	------	30.4063	-88.0667	Indeter.
010	Mobile	AT-4	Mobile R	approx. 100-200 yds us of Cochrane Bridge and ds of confluence with Chickasaw Cr.	93 Mobile R/ Chickasaw Cr Cl^- Study	4S/1W/2	75k	30.7353	-88.0424	Indeter.
020	Mobile	DR1	Dog R	Luscher (Cr) Park Boat Launch near I-10	2001 303d Monitoring Program	5S/1W/8	75a	30.6250	-88.1292	11
020	Mobile	DR1	Dog R	Luscher (Cr) Park Boat Launch near I-10	Ambient Monitoring Program	5S/1W/8	75a	30.6250	-88.1292	11

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Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Mobile Bay (0316-0205)										
020	Mobile	CDR-3	Dog R	approx. 0.25 mi ds of the I-10 bridge	ADEM Coastal Program	5S/1W/8	75a	30.6327	-88.0943	11
020	Mobile	DGRM-1	Dog R	AL Hwy 163.	2001 303(d) Monitoring Program	5S/1W/1	75a	30.5651	-88.0878	93
020	Mobile	DGRM-2	Dog R	approx. 200 yds ds of Robinson Bayou.	2001 303(d) Monitoring Program	5S/1W/40	75a	30.6128	-88.0894	16
020	Mobile	CDR-2	Dog R	1.0 mi us of confluence with Robinson Bayou	ADEM Coastal Program	5S/1W/35	75a	30.6196	-88.0933	13
020	Mobile	CDR-1	Dog R	0.5 mi ds of confluence with Halls Mill Cr	ADEM Coastal Program	5S/1W/1	75a	30.5911	-88.1174	67
020	Mobile	EPADR	Dog R	near mouth	Mobile Bay Intensive Survey, 2000-2001	5S/1W/1	75a	30.5700	-88.0950	93
020	Mobile	CRB	Robinson Bayou	0.25 mi us of mouth of bayou	ADEM Coastal Program	5S/1W/35	75a	30.6113	-88.0826	3
020	Mobile	CMC	Moore Cr	0.5 mi us of mouth	ADEM Coastal Program	5S/1W/18	75a	30.6140	-88.1180	14
020	Mobile	CHMC	Halls Mill Cr	1.0 mi us of mouth	ADEM Coastal Program	5S/2W/24	75a	30.6011	-88.1229	33
020	Mobile	CRC	Rabbit Cr	2.0 mi us of mouth	ADEM Coastal Program	5S/2W/36	75a	30.5746	-88.1321	13
020	Mobile	RBTM-1	Rabbit Cr	AL Hwy 193	2001 303(d) Monitoring Program	5S/2W/40	75a	30.5734	-88.1343	12
020	Mobile	RBTM-2	Rabbit Cr	Todd Acres Rd.	2001 303(d) Monitoring Program	5S/2W/35	75a	30.5616	-88.1604	8
020	Mobile	RBTM-3	Rabbit Cr	Carol Plantation Rd	2001 303(d) Monitoring Program	5S/2W/33	65f	30.5589	-88.1813	8
020	Mobile	RBTM-4	Rabbit Cr	Old Pascagoula Rd	2001 303(d) Monitoring Program	5S/2W/32	65f	30.5731	-88.1934	7
030	Mobile	FR1	Fowl R	AL Hwy 163	Ambient Monitoring Program	17S/1W/9	75a	30.4442	-88.1131	56
030	Mobile	MR03U3-6	Fowl R	approx. 0.25 mi. north of unnamed rd.	1999 ALAMAP	7S/2W/11	75a	30.4487	-88.1430	52
030	Mobile	02471078	Fowl R	Half Mile Rd	USGS Surface Water Station	6S/2W/28	75a	30.5006	-88.1814	17
030	Mobile	TC1	Theodore Industrial Canal	AL Hwy 193	Ambient Monitoring Program	6S/1W/7	75a	30.5333	-88.1239	------
040	Baldwin	FLYB-96	Fly Creek	US Hwy 98	2001 NPS Screening Station	6S/2E/8	75a	30.5526	-87.8917	7

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Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Mobile Bay (0316-0205)										
040	Baldwin	MR02U1	Red Gully	Red Gully near Daphne.	1997ALAMAP	5S/2E/29	75a	30.5800	-87.9003	<1
050	Baldwin	GSA-5A	Baker Br.	Baldwin CR 55	GSA's Weeks Bay Monitoring Project	6S/3E/34	65f	30.4755	-87.7506	4
050	Baldwin	GSA-17	Barner Br.	Baldwin CR 9	GSA's Weeks Bay Monitoring Project	7S/2E/5	75a	30.4705	-87.9030	5
050	Baldwin	GSA-8	Caney Br.	nr. Silverhill Airfield	GSA's Weeks Bay Monitoring Project	5S/2E/36	65f	30.5722	-87.8271	5
050	Baldwin	GSA-8A	Caney Br.	us of AL Hwy 104	GSA's Weeks Bay Monitoring Project	6S/3E/5	65f	30.5456	-87.7983	10
050	Baldwin	CNYB-1	Caney Br.	us of AL Hwy 104	2001 303(d) Monitoring Program	6S/3E/5	65f	30.5456	-87.7983	10
050	Baldwin	GSA-10	Corn Br.	nr. Loxley	GSA's Weeks Bay Monitoring Project	5S/3E/20	65f	30.5971	-87.7895	6
050	Baldwin	CWPB-100	Cowpen Cr	Baldwin CR 33	2001 NPS Screening Station	6S/2E/36	65f	30.4831	-87.8189	6
050	Baldwin	GSA-4	Cowpen Cr.	Baldwin CR 33	GSA's Weeks Bay Monitoring Project	6S/2E/36	65f	30.4823	-87.8184	6
050	Baldwin	FSHB-1	Fish R	US Hwy 98	2001 303(d) Monitoring Program	7S/2E/24	75a	30.4155	-87.8241	152
050	Baldwin	FSHB-2	Fish R	Baldwin CR 48.	2001 303(d) Monitoring Program	6S/3E/18	65f	30.5238	-87.8092	67
050	Baldwin	FSHB-3	Fish R	US Hwy 90	2001 303(d) Monitoring Program	5S/3E/5	65f	30.6367	-87.7494	17
050	Baldwin	FSHB-97	Fish R	US Hwy 90	2001 NPS Screening Station	5S/3E/5	65f	30.6366	-87.7996	17
050	Baldwin	GSA-9	Fish R.	US Hwy 90	GSA's Weeks Bay Monitoring Project	5S/3E/5	65f	30.6366	-87.7996	17
050	Baldwin	FI-1	Fish R	AL Hwy 104	Ambient Monitoring Program	6S/3E/8	65f	30.5458	-87.7983	55
050	Baldwin	FI-1	Fish R	AL Hwy 104	2001 303(d) Monitoring Program	6S/3E/8	65f	30.5458	-87.7983	55
050	Baldwin	02378500	Fish R	AL Hwy 104	USGS Surface Water Station	7S/3E/8	65f	30.5453	-87.7986	55
050	Baldwin	GSA-2	Fish R.	Baldwin CR 48	GSA's Weeks Bay Monitoring Project	6S/3E/18	65f	30.5237	-87.8092	67
050	Baldwin	GSA-1	Fish R.	US Hwy 98	GSA's Weeks Bay Monitoring Project	7S/2E/24	75a	30.4155	-87.8241	152

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Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Mobile Bay (0316-0205)										
050	Baldwin	GSA-2A	Fish R.	Baldwin CR 32	GSA's Weeks Bay Monitoring Project	6S/3E/31	65f	30.4742	-87.8022	119
050	Baldwin	GSA-6	Pensacola Br.	Baldwin CR 48	GSA's Weeks Bay Monitoring Project	6S/3E/18	65f	30.5237	-87.8122	5
050	Baldwin	PERB-98	Perone Br	AL Hwy 104	2001 NPS Screening Station	6S/3E/5	65f	30.5456	-87.7882	9
050	Baldwin	GSA-7	Perone Br.	AL Hwy 104	GSA's Weeks Bay Monitoring Project	6S/3E/5	65f	30.5456	-87.7882	9
050	Baldwin	PLCB-99	Polecat Cr	Baldwin CR 9	2001 NPS Screening Station	6S/3E/29	65f	30.4909	-87.7967	28
050	Baldwin	GSA-5	Polecat Cr.	Baldwin CR9	GSA's Weeks Bay Monitoring Project	6S/3E/29	65f	30.4909	-87.7967	28
050	Baldwin	MR03U1	Polecat Cr	Polecat Cr nr Silverhill.	1997ALAMAP	6S/3E/14	65f	30.5252	-87.7462	2
050	Baldwin	GSA-3	Turkey Br	Baldwin CR 27	GSA's Weeks Bay Monitoring Project	7S/2E/23	75a	30.4216	-87.8434	7
050	Baldwin	GSA-18	Waterhole Br.	Baldwin CR 27	GSA's Weeks Bay Monitoring Project	7S/2E/10	65f	30.4451	-87.8518	5
050	Baldwin	WB1	Weeks Bay	US Hwy 98	Ambient Monitoring Program	7S/2E/24	75a	30.4150	-87.8253	152
050	Baldwin	MR05U3-11	Threemile Cr, UT to	Tributary to Threemile Cr. approximately 0.5 mi. sw of Steelwood	1999 ALAMAP	4S/3E/21	65f	30.6844	-87.7758	<1
060	Baldwin	GSA-15	Brantley Br.	Baldwin CR 24	GSA's Weeks Bay Monitoring Project	7S/3E/13	65f	30.4363	-87.7323	6
060	Mobile	EPACC	Chickasaw Cr	near mouth	Mobile Bay Intensive Survey, 2000-2001	3S/1W/38	75k	30.7395	-88.0458	Indeter.
060	Baldwin	GSA-11	Eslava Br.	US Hwy 98	GSA's Weeks Bay Monitoring Project	7S/3E/29	65f	30.4065	-87.7954	3
060	Baldwin	02378300	Magnolia R	US Hwy 98	USGS Surface Water Station	7S/3E/26	65f	30.4064	-87.7369	17
060	Baldwin	MGNB-101	Magnolia R	US Hwy 98	2001 NPS Screening Station	7S/3E/26	75a	30.4066	-87.7367	17
060	Baldwin	MGRB-1	Magnolia R	Baldwin CR 49	2001 303(d) Monitoring Program	7S/3E/28	75a	30.3998	-87.7694	17
060	Baldwin	GSA-12	Magnolia R.	Baldwin CR 49	GSA's Weeks Bay Monitoring Project	7S/3E/28	65f	30.3998	-87.7694	17
060	Baldwin	MGRB-2	Magnolia R	Baldwin CR 24	2001 303(d) Monitoring Program	7S/4E/17	65f	30.4362	-87.6987	5

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Mobile Bay (0316-0205)										
060	Baldwin	GSA-16	Magnolia R.	Baldwin CR 24	GSA's Weeks Bay Monitoring Project	7S/4E/17	65f	30.4362	-87.6989	5
060	Baldwin	UTMB-1	Magnolia R, UT to	Baldwin CR 24	2001 303(d) Monitoring Program	7S/3E/13	65f	30.4362	-87.7325	5
060	Baldwin	GSA-14	Schoolhouse Br.	US Hwy 98	GSA's Weeks Bay Monitoring Project	7S/3E/38	75a	30.4072	-87.7557	3
060	Baldwin	GSA-13	Weeks Cr.	Baldwin CR 26	GSA's Weeks Bay Monitoring Project	7S/3E/33	75a	30.3847	-87.7727	6
060	Baldwin	UTBB-1	Bon Secour Bay, UT to	Baldwin CR 65	2001 303(d) Monitoring Program	8S/4E/7	65f	30.3582	-87.7170	<1
060	Baldwin	CBS-1	Bon Secour R	Baldwin CR 12	ADEM Coastal Program	8S/4E/7-18	65f	30.3534	-87.7071	1
060	Baldwin	CBS-2	Bon Secour R	Baldwin CR 10	ADEM Coastal Program	8S/4E/30	75a	30.3337	-87.7072	17
060	Baldwin	BSCB-102	Bon Secour R	Baldwin CR 10	2001 NPS Screening Station	8S/4E/30	75a	30.3339	-87.7071	17
060	Baldwin	CUTNW	Unnamed trib to Bon Secour R	Baldwin CR 65	ADEM Coastal Program	8S/3E/12-8S/4E/7	65f	30.3585	-87.7172	3
060	Baldwin	CUTF	Unnamed trib to Bon Secour R	S. Cedar St in Foley	ADEM Coastal Program	8S/4E/32	65f	30.3894	-87.6922	<1
060	Baldwin	CNEBS-1	Unnamed trib to Bon Secour R	Riverwood Dr.	ADEM Coastal Program	8S/4E/31-32	75a	30.3421	-87.7043	<1
060	Baldwin	CNEBS-2	Unnamed trib to Bon Secour R	Baldwin CR 20	ADEM Coastal Program	8S/4E/5-8	65f	30.3628	-87.6892	3
060	Baldwin	CBB-1	Boggy Br	AL Hwy 59	ADEM Coastal Program	8S/4E/20-21	65f	30.3296	-87.6830	3
060	Baldwin	CBB-2	Boggy Br	0.5 mi us of mouth	ADEM Coastal Program	8S/4E/37	75a	30.3283	-87.7046	4
060	Baldwin	CSC	Shutt Cr	Baldwin CR 10	ADEM Coastal Program	8S/3E/25	75a	30.3246	-87.7265	<1
060	Baldwin	CSHC	Schoolhouse Cr	Baldwin CR 10	ADEM Coastal Program	8S/3E/24	75a	30.3159	-87.7289	1
070	Baldwin	BS1	Bon Secour R	Oyster Bay Canal	Ambient Monitoring Program	8S/3E/34	75k	30.3083	-87.7375	Indeter.
	Baldwin	EPAGULF	Gulf of Mexico	east of Bay inlet	Mobile Bay Intensive Survey, 2000-2001	---	---	30.1450	-88.0367	Indeter.

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Upper Chickasawhay R. (0317-0002)										
100	Washington	REDW-35	Red Cr	unnamed Washington CR	FY2001 NPS Screening Station	7N/5W/11	65f	31.5815	-88.4508	31
Escatawpa R. (0317-0008)										
030	Washington	EW2U5-37	Long Br	approx. 0.5 mi. us of confluence with Pond Cr.	2001 ALAMAP	3N/4W/19	65f	31.2144	-88.4248	2
030	Mobile	ES01	Puppy Cr.	AL Hwy 45	Clean Water Strategy Project	1N/3W/1	65f	31.0830	-88.2381	3
030	Mobile	ES02	Tributary to Puppy Cr.	Russell Rd.	Clean Water Strategy Project	1N/3W/10-15	65f	31.0558	-88.2500	2
030	Mobile	ES03	Puppy Cr.	AL Hwy 217	Clean Water Strategy Project	1N/4W/26	65f	31.0178	-88.3481	29
030	Mobile	PPYM-2	Puppy Cr	AL Hwy 217	2001 303(d) Monitoring Program	1N/4W/26	65f	31.0180	-88.3476	29
030	Mobile	ES04	Puppy Cr.	Mobile CR 21	Clean Water Strategy Project	1S/4W/5	65f	30.9841	-88.4012	40
030	Mobile	EW01U3-32	Bennett Cr, UT to	approx. 1.5 mi. northwest of Mobile CR 96	1999 ALAMAP	2N/3W/32	65f	31.0971	-88.3081	<1
030	Mobile	PPYM-1	Puppy Cr	Mobile CR 21 nr. Mouth	2001 303(d) Monitoring Program	1S/4W/5	65f	30.9842	-88.4011	40
030	Mobile	PPYM-3	Puppy Cr	Russell Rd.	2001 303(d) Monitoring Program	1N/3W/11	65f	31.0563	-88.2680	7
030	Mobile	PPYM-4	Puppy Cr	approx. 0.5 mi. ds of Citronelle WWTP at pipeline crossing.	2001 303(d) Monitoring Program	1N/3W/10	65f	31.0614	-88.2694	7
030	Mobile	PPYM-5	Puppy Cr	approx. 100 yds us of the Citronelle WWTP	2001 303(d) Monitoring Program	1N/3W/2	65f	31.0640	-88.2711	6
070	Mobile	E-1	Escatawpa River	US Hwy 98	Ambient Monitoring Program	2S/4W/19	65f	30.8375	-88.4167	511
090	Mobile	Big Creek2	Big Cr	deepest point of main channel, approx. 0.5 mi. ds of the Crooked Cr confluence.	ADEM Reservoir Monitoring Program	3S/4W/36	65f	30.7401	-88.3351	82
090	Mobile	Big Creek3	Big Cr	deepest point of main channel, approx. 2 mi. s of US Hwy. 98.	ADEM Reservoir Monitoring Program	3S/4W/13	65f	30.7692	-88.3505	61
090	Mobile	BGCM-1	Big Cr	unnamed Mobile CR	2001 NPS Screening Station	1S/3W/31	65f	30.9158	-88.3245	14
090	Mobile	BGCM-2	Big Cr	Mobile CR 63	2001 303(d) Monitoring Program	2S/4W/24	65f	30.8559	-88.3343	32
090	Mobile	02479945	Big Creek	Mobile CR 63	USGS Surface Water Station	2S/2W/24	65f	30.8558	-88.3394	32

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Escatawpa R. (0317-0008)										
090	Mobile	USGSBIG	Big Creek	Mobile CR 63	USGS Assessment of JB Converse Lake Watershed	2S/2W/24	65f	30.8558	-88.3394	32
090	Mobile	Big Creek1	Big Cr	dam forebay at deepest point of main channel	ADEM Reservoir Monitoring Program	4S/4W/12	65f	30.7164	-88.3337	105
090	Mobile	Big Creek1	Big Cr	dam forebay at deepest point of main channel	USEPA/ADEM Alabama Lakes Trophic Classification	4S/4W/12	65f	30.7164	-88.3337	105
090	Mobile	BGYM-1	Boggy Br	Mobile CR 5	2001 303(d) Monitoring Program	3S/4W/15	65f	30.7873	-88.3667	3
090	Mobile	02479960	Boggy Br	Mobile CR 5	USGS Surface Water Station	3S/4W/15	65f	30.7869	-88.3669	3
090	Mobile	USGSBOG	Boggy Br	Mobile CR 5	USGS Assessment of JB Converse Lake Watershed	3S/4W/15	65f	30.7869	-88.3669	3
090	Mobile	CLNM-1	Collins Cr	Glenwood Rd., north of Fairview	2001 303(d) Monitoring Program	3S/3W/6	65f	30.8112	-88.3158	9
090	Mobile	02479950	Collins Cr	Glenwood Rd.	USGS Surface Water Station	3S/3W/6	65f	30.8111	-88.3158	9
090	Mobile	USGSCOL	Collins Cr	Glenwood Rd.	USGS Assessment of JB Converse Lake Watershed	3S/3W/6	65f	30.8111	-88.3158	9
090	Mobile	Big Creek4	Crooked Cr	embayment at deepest point of main channel, approx. 2 mi. s of US Hwy 98	ADEM Reservoir Monitoring Program	3S/4W/24-- 3S/3W/19	65f	30.7713	-88.3251	9
090	Mobile	02479980	Crooked Cr	1 mi southwest of Fairview	USGS Surface Water Station	3S/3W/18	65f	30.7800	-88.3189	8
090	Mobile	USGSCRO	Crooked Cr	1 mi southwest of Fairview	USGS Assessment of JB Converse Lake Watershed	3S/3W/18	65f	30.7800	-88.3189	8
090	Mobile	USGSLCRO	Crooked Cr	Crooked Cr embayment	USGS Assessment of JB Converse Lake Watershed	3S/4W/24-- 3S/3W/19	65f	30.7633	-88.3289	9
090	Mobile	02480002	Hamilton Cr	Snow Rd	USGS Surface Water Station	4S/3W/4	65f	30.7258	-88.2764	8
090	Mobile	USGSHAM	Hamilton Cr	Snow Rd	USGS Assessment of JB Converse Lake Watershed	4S/3W/4	65f	30.7258	-88.2764	8
090	Mobile	USGSLHAM	Hamilton Cr	Hamilton Cr. embayment	USGS Assessment of JB Converse Lake Watershed	4S/4W/6	65f	30.7208	-88.3042	14
090	Mobile	Big Creek5	Hamilton Cr	embayment at deepest point of main channel, approx. 1 mi. us of confluence with Big Cr.	ADEM Reservoir Monitoring Program	4S/4W/6	65f	30.7232	-88.3215	14
090	Mobile	02479948	Juniper Cr	Glenwood Rd, 2.0 mi n of US Hwy 98	USGS Surface Water Station	3S/3W/6	65f	30.8214	-88.3147	9
090	Mobile	USGSJUN	Juniper Cr	Glenwood Rd, 2.0 mi n of US Hwy 98	USGS Assessment of JB Converse Lake Watershed	3S/3W/6	65f	30.8214	-88.3147	9

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Escatawpa R. (0317-0008)										
090	Mobile	JNCM-2	Juniper Cr	Coleman Dairy Rd.	2001 303(d) Monitoring Program	2S/3W/21	65f	30.8393	-88.2993	9
090	Mobile	2479955	Long Br	Long Br near Wilmer	USGS Surface Water Station	2S/4W/35	65f	30.8083	-88.3367	3
090	Mobile	USGSLON	Long Br	Long Br near Wilmer	USGS Assessment of JB Converse Lake Watershed	2S/4W/35	65f	30.8083	-88.3367	3
100	Mobile	DKLM-5	Deakle Cr	unnamed Mobile CR	2001 NPS Screening Station	5S/4W/24	65f	30.6001	-88.3351	5
100	Mobile	BGCM-4	Big Cr	Mobile CR 56	2001 NPS Screening Station	5S/4W/4	65f	30.6400	-88.3930	143
100	Mobile	EW1U5-36	Pasture Cr	approx. 1 mi. us of Airport Blvd.	2001 ALAMAP	4S/4W/32	65f	30.6544	-88.3998	11
100	Mobile	PSTM-3	Pasture Cr	Mobile Co Rd 56	2001 NPS Screening Station	5S/4W/5	65f	30.6412	-88.3965	10
100	Mobile	EW01A2-42	Pierce Cr, UT to	approx. 5.4 mi. us of confluence of Pierce Cr and Big Cr.	1998 ALAMAP	4S/3W/15	65f	30.6910	-88.2753	4
120	Mobile	EW1U4-48	Franklin Cr, UT to	Tributary to Franklin Cr.	00 ALAMAP	7S/4W/5	75a	30.4652	-88.3994	11
120	Mobile	EW02U2-30	Franklin Cr, UT to	approx. 1.1 mi. us of confluence with Franklin Cr.	1998 ALAMAP	6S/3W/32	65f	30.4793	-88.3040	2
120	Mobile	JCKM-6	Jackson Cr	Mobile CR 11	2001 NPS Screening Station	6S/4W/12	65f	30.5360	-88.3422	18
Mississippi Coastal (0316-0009)										
010	Mobile	MB4	Mobile Bay	Mobile Bay	Ambient Monitoring Program	---	---	30.3486	-87.9933	Indeter.
010	Mobile	MB8	Mobile Bay	Mobile Bay	Ambient Monitoring Program	---	---	30.5250	-87.8650	Indeter.
030	Mobile	GB1	Grand Bay	Grand Bay	Ambient Monitoring Program	---	---	30.3567	-88.3628	Indeter.
030	Mobile	MB1	Mobile Bay	Mobile Bay	Ambient Monitoring Program	---	---	30.2650	-88.1733	Indeter.

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Mississippi Coastal (0316-0009)										
030	Mobile	PV-01	Portersville Bay	Approx. 3,500' ESE of WWTP	Water Quality Study of Portersville Bay	8S/3W/2	---	30.3758	-88.2495	---
030	Mobile	PV-01a	Portersville Bay	Approx. 4,600' SE of WWTP	Water Quality Study of Portersville Bay	8S/3W/2	---	30.3717	-88.2495	---
030	Mobile	PV-03	Portersville Bay	150' NW of WWTP	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3774	-88.2648	---
030	Mobile	PV-04	Portersville Bay	150' W of WWTP	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3770	-88.2651	---
030	Mobile	PV-05	Portersville Bay	150' SW of WWTP	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3766	-88.2649	---
030	Mobile	PV-06	Portersville Bay	800' NW of WWTP	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3788	-88.2659	---
030	Mobile	PV-07	Portersville Bay	800' W of WWTP	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3768	-88.2667	---
030	Mobile	PV-08	Portersville Bay	800' SW of WWTP	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3758	-88.2662	---
030	Mobile	PV-10	Portersville Bay	150' NW of SFID	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3774	-88.2683	---
030	Mobile	PV-11	Portersville Bay	150' W of SFID	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3771	-88.2684	---
030	Mobile	PV-12	Portersville Bay	150' SW of SFID	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3768	-88.2680	---
030	Mobile	PV-13	Portersville Bay	800' NW of SFID	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3789	-88.2690	---
030	Mobile	PV-14	Portersville Bay	800' W of SFID	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3774	-88.2699	---
030	Mobile	PV-15	Portersville Bay	800' SW of SFID	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3759	-88.2690	---
030	Mobile	PV-16	Bayou La Batre	at mouth	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3832	-88.2712	---
030	Mobile	PV-17	Bayou La Batre	Approx. 0.5 mi. us of mouth	Water Quality Study of Portersville Bay	8S/3W/3	---	30.3896	-88.2675	---
050	Mobile	BLBM-1	Bayou La Batre	channel next to light approx. 0.4 mile us of the mouth.	2002 303(d) Monitoring Program	7S/3W/39	---	30.3867	-88.2700	---

Appendix E-1. Description of stations established within the EMT Basin Group.

Sub	County	Station	Stream	Station Description	Purpose/ Project	TRS	Eco-region	Lat Dec	Lon Dec	Drainage Area (m^2)
Mississippi Coastal (0316-0009)										
050	Mobile	BLBM-4	Bayou La Batre	East Davenport St.	2002 303(d) Monitoring Program	7S/2W-3W/25-3	75a	30.4062	-88.2254	1
050	Mobile	BLBM-2	Bayou La Batre	channel off the end of Seafood House Rd.	2002 303(d) Monitoring Program	7S/3W/39	75a	30.3969	-88.2600	32
050	Mobile	BLB-1	Bayou La Batre	AL Hwy 188	2002 303(d) Monitoring Program	7S/3W/26	75a	30.4059	-88.2481	22
050	Mobile	BLB-1	Bayou La Batre	AL Hwy 188	Ambient Monitoring Program	7S/3W/26	75a	30.4059	-88.2481	22
050	Mobile	MO02	Bayou La Batre	AL Hwy 188	Clean Water Strategy Project	7S/3W/26	75k	30.4056	-88.2492	22
050	Mobile	BLBM-3	Carls Cr	East Davenport Rd.	2002 303(d) Monitoring Program	7S/3W/26	75a	30.4071	-88.2469	24
050	Mobile	BLBM-5	Carls Cr	Rasmussen St.	2002 303(d) Monitoring Program	7S/3W/26	75a	30.4136	-88.2429	24
050	Mobile	HMC-1	Hammar Cr	Padgett Switch Rd.	1999 303(d) Monitoring Program	7S/3W/24	75a	30.4282	-88.2305	13
050	Mobile	HMC-2	Hammar Cr	Three Mile Rd.	1999 303(d) Monitoring Program	7S/3W/1	65f	30.4581	-88.2396	7
	Mobile	AT-6	Mobile R	approx. 0.5 mi. us of Ergon facility	93 Mobile R/ Chickasaw Cr Cl^- Study					Indeter.

Appendix F-1. Ecoregional Reference Reach Program

Lead agency: ADEM

Purpose: Ecoregions are relatively homogeneous ecological areas defined by similarity of climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables. Since 1991, ADEM has maintained a network of least-impaired ecoregional reference reaches. Intensive monitoring assessments, including chemical, physical, habitat, and biological data, are collected to develop baseline reference conditions for each of Alabama's 29 Level IV subecoregions (Griffith et al. 2001). The reference condition establishes the basis for making comparisons and detecting use impairment.

Appendix F-1a. Habitat assessment data

Appendix F-1b. Biological assessment data

Appendix F-1c. Physical/ chemical data

References:

ADEM. 2000a. Ecoregional reference reach data collected by ADEM 1992 to 2000 (unpublished). Field Operations Division, Alabama Department of Environmental Management. Montgomery, AL.

Appendix F-1a. Physical characteristics of ecoregional reference sites assessed in the EMT Basin Group. Habitat parameter categories are presented as percent of maximum score.

Station		CLKM-4	CTML-6	CLFP-13	BLBP-1	BLBP-1	BLBP-1[c]	BRP-1	BRP-1	BRP-1	JNS-1	JNS-1	JNS-1	JNS-1	JNS-1	JNS-1
CU/Sub-watershed #		0103-020	0103-020	0106-060	0106-070	0106-070	0106-070	0106-110	0106-110	0106-110	0106-170	0106-170	0106-170	0106-170	0106-170	0106-170
Ecoregion/ Subregion		65i	65i	65i	65i	65i	65i	65i	65i	65i	65a	65a	65a	65a	65a	65a
Drainage area (mi^2)		4	11	30	17	17	17	15	15	15	21	21	21	21	21	21
Date (yymmdd)		010627	010627	010626	930610	950608	010510	930610	950607	010619	910730	920623	930420	930617	950515	010503
Width (ft)		15	15	20	15	15		16	11	12	8	10	22.5	12	12.5	20
Canopy Cover[a]		S	MS	MS	MS	50/50		MS	MS	S	MS	MS	MO	MO	MO	50/50
Depth (ft)	Riffle	0.3	0.4	---	0.5	---		---	---	---	0.2	0.2	0.3	---	---	0.2
	Run	0.5	1.0	2.0	1.5	1.0		0.8	1.3	1.0	0.3	1.0	1.5	---	0.5	1.5
	Pool	1.5	2.5	3.5	3.0	3.0		1.8	2.0	2.5	3.0	2.5	2.5	2.5	3.0	2.5
Substrate (%)	Bedrock	50														
	Boulder	5	5												1 (Clay)	
	Cobble	10	5									13 (Clay)		15 (Clay)	5 (Clay)	2 (Clay)
	Gravel	25	40	5		5						50 (Clay)	10	25 (Clay)	15 (Clay)	15 (Clay)
	Sand	4	30	50	88	75		93	93	90		30	40	40	71	50
	Silt	3	10	10	2	3		1	2	2		2 (Clay)	4	15 (Clay)	4	15
	Detritus	3	10	15	10	16		6	3	5	5	5	5	5	4	7
	Clay			20		1			2	2	95		40			11
Habitat assessment form[b]		RR	RR	GP	O	O		O	O	GP	O	O	O	O	O	GP
Habitat Survey (% maximum)																
Instream Habitat Quality		76	67	68	55	45		35	53	33	38	60	70	38	24	59
Sediment Deposition		64	53	74	37	41		30	33	69	54	43	49	57	60	61
Sinuosity		93	65	55	47	63		47	70	43	87	60	67	93	80	45
Bank and Vegetative Stability		84	59	59	60	65		35	30	39	50	45	45	50	48	25
Riparian Measurements		79	96	100	90	85		90	95	90	60	70	70	80	75	18
Habitat Assessment Score		188	166	162	67	70.5		52	64	118	71	70	80	71	67	94
% Maximum		78	69	73	56	59		39	47	53	59	58	67	59	55	43
Assessment[d]		Excellent	Excellent	Excellent	Excellent	Excellent		Fair	Good	Good	Excellent	Excellent	Excellent	Excellent	Good	Fair

a. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open

b. Habitat assessment form: O=original (Plafkin et al. 1989; RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)

c. Beaver dam; assessment not conducted

d. NA=not assessed; NG=assessment guidelines not developed or not comparable to current guidelines

Appendix F-1a. Physical characteristics of ecoregional reference sites assessed in the EMT Basin Group. Habitat parameter categories are presented as percent of maximum score.

Station		PPM-1	PPM-1	PPM-1	PPM-1	PPM-1	ULCC-1	ULCC-1	HLB-1	HLB-1	HLB-1	HLB-1	HLB-1
CU/Sub-watershed #		0201-060	0201-060	0201-060	0201-060	0201-060	0203-010	0203-010	0204-010	0204-010	0204-010	0204-010	0204-010
Ecoregion/ Subregion		65b	65b	65b	65b	65b	65q	65q	65f	65f	65f	65f	65f
Drainage area (mi^2)		14	14	14	14	14	33	33	19	19	19	19	19
Date (YYMMDD)		920623	930617	940628	950608	010502	950607	010524	910723	920707	930608	940614	950427
Width (ft)		6	5	10	5	7	20	8	25	28	25	30	25
Canopy Cover[a]		MS	MS	MS	50/50	MS	MS	MS	MO	MS	MS	S	50/50
Depth (ft)	Riffle	---	---	---	---	---	---	0.5	---	---	---	---	---
	Run	0.5	0.3	0.4	0.5	0.5	0.5	1.0	1.0	0.5	75	0.5	2.0
	Pool	0.8	---	1.0	1.0	1.0	1.0	2.0	1.5	1.5	2.3	1.3	2.5
Substrate (%)	Bedrock							2 (Clay)					
	Boulder												
	Cobble												
	Gravel		1	1	2	3 (Clay)	10	20	1	1	1	1	3
	Sand	87	80	90	83	75	71	62	93	80	88	79	87
	Silt	1	3	1	1	2	2	5		1	1	1	1
	Detritus	7	6	3	9	17	13	10	5	18	10	18	9
	Clay	5	10	5	5	3	4	1	1			1	
Habitat assessment form[b]		O	O	O	O	GP	O	GP	O	O	O	O	O
Habitat Survey (% maximum)													
Instream Habitat Quality		20	23	43	19	33	46	52	43	48	58	50	55
Sediment Deposition		31	37	44	26	64	41	63	26	29	40	23	33
Sinuosity		67	33	67	93	55	70	48	87	60	67	73	87
Bank and Vegetative Stability		50	65	75	43	40	55	53	80	65	65	55	68
Riparian Measurements		70	80	80	80	86	80	95	80	80	80	80	80
Habitat Assessment Score		49	50	72	51	116	69	132	75	67	77	63	77.5
% Maximum		41	42	53	38	53	57	60	63	56	64	53	65
Assessment		Fair	Fair	Good	Fair	Good	NG	NG	Excellent	Excellent	Excellent	Good	Excellent

a. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open

b. Habitat assessment form: O=original (Plafkin et al. 1989; RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)

c. Beaver dam; assessment not conducted

d. NA=not assessed; NG=assessment guidelines not developed or not comparable to current guidelines

Appendix F-1a. Physical characteristics of ecoregional reference sites assessed in the EMT Basin Group. Habitat parameter categories are presented as percent of maximum score.

Station		HLB-1	HLB-1	HLB-1	HLB-1
CU/Sub-watershed #		0204-010	0204-010	0204-010	0204-010
Ecoregion/ Subregion		65f	65f	65f	65f
Drainage area (mi^2)		19	19	19	19
Date (YYMMDD)		971002	980527	990504	010515
Width (ft)		30	20	25	25
Canopy Cover[a]		S	MS	MS	MS
Depth (ft)	Riffle	---	---	---	---
	Run	0.8	1.0	1.0	0.5
	Pool	2.0	2.0	1.5	1.0
Substrate (%)	Bedrock				
	Boulder				
	Cobble				
	Gravel	15	10	10	5
	Sand	70	72	77	89
	Silt	5	3	3	1
	Detritus	8	13	10	5
	Clay	2	2		
Habitat assessment form[b]		O	GP	GP	GP
Habitat Survey (% maximum)					
Instream Habitat Quality		63	42	58	42
Sediment Deposition		43	75	80	68
Sinuosity		80	40	58	50
Bank and Vegetative Stability		70	60	44	75
Riparian Measurements		80	90	85	95
Habitat Assessment Score		88	137	144	146
% Maximum		73	62	65	66
Assessment		Excellent	Excellent	Excellent	Excellent

a. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open

b. Habitat assessment form: O=original (Plafkin et al. 1989; RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)

c. Beaver dam; assessment not conducted

d. NA=not assessed; NG=assessment guidelines not developed or not comparable to current guidelines

Appendix F-1b. Aquatic macroinvertebrate and fish community bioassessment results for ecoregional reference sites assessed in the EMT Basin Group, 1990 - 2001.

Station Number	CLKM-4	CTML-6	CLFP-13	BLBP-1	BLBP-1	BRP-1	BRP-1	BRP-1	JNS-1	JNS-1	JNS-1	JNS-1	JNS-1	JNS-1
Cataloging unit	0103	0103	0106	0106	0106	0106	0106	0106	0106	0106	0106	0106	0106	0106
Sub-watershed #	020	020	060	070	070	110	110	110	170	170	170	170	170	170
Subecoregion #	65i	65i	65i	65i	65i	65i	65i	65i	65a	65a	65a	65a	65a	65a
Macroinvertebrate community														
Assessment Date	010627	010627	010626	930610	950608	930610	950607	010619	910730	920623	930420	930617	950515	010503
# EPT families	18	9	11	11	7	7	6	7	7	5	8	6	8	7
Assessment	Excellent	Good	Good	Good	Fair	Fair	Fair	Fair	Good	Fair	Good	Good	Good	Good
Fish community														
Assessment Date	010705	010705	010705											
# species	21	17	16											
# darter species	3	3	1											
# minnow species	9	10	6											
# sunfish species	6	3	5											
# sucker species	1	0	1											
# intolerant species	2	1	3											
% sunfish	6	6	27											
% omnivores and herbivores	15	7	11											
% insectivorous cyprinids	72	78	38											
% top carnivores	<1	0	14											
# collected per hour	407	210	56											
% disease and anomalies	0	0	0											
IBI Score	50	44	42											
Assessment	Good	Fair	Fair											

Appendix F-1b. Aquatic macroinvertebrate and fish community bioassessment results for ecoregional reference sites assessed in the EMT Basin Group, 1990 - 2001.

Station Number	PPM-1	PPM-1	PPM-1	PPM-1	PPM-1	ULCC-1	ULCC-1	HLB-1	HLB-1	HLB-1	HLB-1	HLB-1	HLB-1	HLB-1	HLB-1	HLB-1
Cataloging unit	0201	020	0201	0201	0201	0203	0203	0204	0204	0204	0204	0204	0204	0204	0204	0204
Sub-watershed #	060	060	060	060	060	010	010	010	010	010	010	010	010	010	010	010
Subecoregion #	65b	65b	65b	65b	65b	65q	65q	65f	65f	65f	65f	65f	65f	65f	65f	65f
Macroinvertebrate community																
Assessment Date	920623	930617	940628	950608	010502	950607	010524	910723	920707	930608	940614	950427	971002	980527	990504	010515
# EPT families	6	7	6	6	6	14	12	5	16	11	10	9	4	5	7	6
Assessment	Good	Good	Good	Good	Good	NG	NG	Fair	Excellent	Good	Good	Good	Poor	Fair	Fair	Fair
Fish community																
Assessment Date							010509									
# species							13									
# darter species							0									
# minnow species							4									
# sunfish species							3									
# sucker species							0									
# intolerant species							2									
% sunfish							28									
% omnivores and herbivores							26									
% insectivorous cyprinids							31									
% top carnivores							3									
# collected per hour							59									
% disease and anomalies							0									
IBI Score							36									
Assessment							Fair/Poor									

Appendix F-1c.
Accounting Units during various water quality monitoring activities conducted by ADEM since 1990.

Sub	Stream	Station	Date	Time	Temp.	D.O.	pH	Cond.	Turbidity	Stream Flow	Fecal Coliform	CBOD-5	TSS	TDS	TOC	ALK	Hard	T-P	DRP	Chl a	NO_3+ NO_2-N	NH3-N	TKN	TON	Cl
			yymmdd	*24hr*	*C*	*mg/l*	*s.u.*	*umhos @25° C*	*NTU*	*cfs*	*col/100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*
Buttahatchee (0316-0103)																									
020	Clark Cr	CLKM-4	010627	0645	19	9.3	6.9	14.2	5.4	2.5															
020	Clark Cr	CLKM-4	010705	1130	21	7.9	7.5	19.0	50.1																
020	Clark Cr	CLKM-4	010828	1640	23	8.2	6.9	13.4	6.8	1.5	470	0.3	6	38											
020	Clark Cr	CLKM-4	020321	0900							430	0.7	47	29	3.1		6.7	0.05	0.01	0.27	0.042	<0.015	<0.15		
020	Clark Cr	CLKM-4	020416	0930							370	0.7	7	38	2.1	2.0	4.1	0.02	0.011	1.95	0.075	<0.015	<0.15	<0.015	
020	Clark Cr	CLKM-4	020509	0950	25	9.1	7.7	30.0	10.9	12.6	90		11	26	2.3		3.4	0.04	0.005	0.8	0.066	<0.015	0.246	0.246	
020	Clark Cr	CLKM-4	020611	1205	23	8.6	6.9	19.4	7.2	2.7															
020	Clark Cr	CLKM-4	020807	0850	21	6.2	6.8	19.0	10.1	2.6	360	1.0	16	57	2.2		2.9	0.07	0.007	1.87	0.122	<0.015	<0.15	<0.015	
020	Clark Cr	CLKM-4	020911	0950	20	8.7	8.0	30.0	2.4	1.6	540		16	40	1.4		5.0	0.04	0.019	0.8	0.182	0.109	<0.15		
020	Clark Cr	CLKM-4	021010	0840	20	8.5	6.3	24.0	9.7	4.8	1040														
020	Clark Cr	CLKM-4	021107	0940	14	10.9	7.2		11.1	15.6	170														
020	Clark Cr	CLKM-4	021219	0740	14	9.8	8.4	20.0	5.8		380			22	1.7		6.0	0.04	0.031	0.8	0.098	0.079	0.236		
020	Cantrell Mill Cr	CTML-6	010627	0830	20	8.7	7.2	31.5	7.6	6.8															
020	Cantrell Mill Cr	CTML-6	010705	1400	23	7.5	6.3	30.0	24.9																
020	Cantrell Mill Cr	CTML-6	010829	1145	22	8.5	6.6	26.3	11.4	2.0															
020	Cantrell Mill Cr	CTML-6	020321	1030							67	0.3	114	23	2.8		8.6	0.07	0.01	<0.1	0.052	0.060	0.230		
020	Cantrell Mill Cr	CTML-6	020416	1015							110	0.7	5	9	2.4	6.0	7.2	0.03	0.012	0.85	0.022	<0.015	<0.15	<0.015	
020	Cantrell Mill Cr	CTML-6	020509	1100	21	8.6	6.9	45.0	15.7	23.5	520		12	32	2.8		5.6	0.04	0.005	5.34	0.095	<0.015	0.307	0.307	
020	Cantrell Mill Cr	CTML-6	020611	1100	23	8.3	6.5	40.1	8.0	2.3															
020	Cantrell Mill Cr	CTML-6	020807	0945	22	6.0	6.0	43.0	8.4	2.1	200	0.6	4	79	2.7		6.1	0.08	0.008	1.6	0.117	0.018	<0.15	0.018	
020	Cantrell Mill Cr	CTML-6	020911	1035	20	8.6	7.3	60.0	7.9		>3520		12	75	2.3		20.6	0.06	0.04	0.36	0.134	<0.015	<0.15		
020	Cantrell Mill Cr	CTML-6	021010	0945	20	8.3	6.6	40.0	11.5	8.6	38														
020	Cantrell Mill Cr	CTML-6	021107	1050	16	10.5	7.0		15.9	39.2	140														

Appendix F-1c.
Accounting Units during various water quality monitoring activities conducted by ADEM since 1990.

Sub	Stream	Station	Date	Time	Temp.	D.O.	pH	Cond.	Turbidity	Stream Flow	Fecal Coliform	CBOD-5	TSS	TDS	TOC	ALK	Hard	T-P	DRP	Chl a	NO_3+ NO_2-N	NH3-N	TKN	TON	Cl
			yymmdd	*24hr*	*C*	*mg/l*	*s.u.*	*umhos @25° C*	*NTU*	*cfs*	*col/100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*
Middle Tombigbee - Lubbub (0316-0106)																									
060	Coalfire Cr	CLFP-13	010626	1129	22	7.4	6.1	20.0	16.9	8.0															
060	Coalfire Cr	CLFP-13	010705	1600	24	6.4	6.3	25.0	20.8																
060	Coalfire Cr	CLFP-13	010919	0748	21	7.2	6.3	18.9	10.3	11.9	130	0.2	13	26		3.0	5.2	0.05			0.178	0.059	0.239		4.3
060	Coalfire Cr	CLFP-13	020321	1320	23	8.3	7.0	20.7	21.4		420	1.3	28	44	9.5		5.3	0.06	0.006	3.74	0.017	0.080	0.930		
060	Coalfire Cr	CLFP-13	020416	1210							209	1.9	15	39	6.3	2.0	5.1	0.05	0.012	3.74	0.104	<0.015	<0.15	<0.015	
060	Coalfire Cr	CLFP-13	020509	1250	24	6.8	6.6	40.0	21.6		123		17	31	5.5		4.5	0.09	0.099	<0.1	0.149	<0.015	0.465	0.465	
060	Coalfire Cr	CLFP-13	020604	1430	26	7.5	6.1	26.0	27.5																
060	Coalfire Cr	CLFP-13	020807	1130	25	5.5	5.5	31.0	12.3		43 est.	1.1	13	55	4.1		3.7	0.08	0.012	3.2	0.446	<0.015	0.447	0.447	
060	Coalfire Cr	CLFP-13	020911	1240	24	7.1	7.0	30.0	8.9		270		15	63	3.8		8.3	0.06	<0.004	2.49	0.640	<0.015	0.680		
060	Coalfire Cr	CLFP-13	021010	1200	20	6.8	6.2	30.0	10.7		197														
060	Coalfire Cr	CLFP-13	021107	1340	15	9.5	5.9		11.4		>2310														
060	Coalfire Cr	CLFP-13	021219	1000	14	9.3	5.8	20.0	6.7		23			24	3.8		6.2	0.05	0.038	0.1	0.142	0.075	<0.15		
070	Blubber Cr	BLBP-1	930610	1151	26	6.7	7.0	50.0	18.0	4.1	>473				4.5	20.0		0.04			0.041	<0.015	0.345		
070	Blubber Cr	BLBP-1	950608	0920	25	6.4	7.1	40.0		2.2	250				4.6	14.0		0.07			0.110	<0.015	0.484		
110	Bear Cr	BRP-1	930610	1000	22	6.9	6.6	53.0	52.0	2.1	>80				6.3	18.0		0.05			0.300	0.020	<0.150		
110	Bear Cr	BRP-1	950607	1705	27	6.5	6.8	43.0	32.0	6.0	44				6.2	15.0		0.10			0.360	<0.015	0.590		
110	Bear Cr	BRP-1	010619	1035	24	7.1	6.8	68.8	25.0	3.4															
110	Bear Cr	BRP-1	010919	0925	21	7.8	7.1	50.9	35.0	4.6	170	0.4	17	41		15.0	14.3	0.11			0.123	0.059	<0.150		
170	Jones Cr	JNS-1	910730	1035	26	5.6	7.8	390.0	17.0		34				6.1	177.0					0.100	<0.2	<0.400		
170	Jones Cr	JNS-1	920623	1033	22	6.7	7.8	402.0	6.2	0.1	21				4.0	185.0		0.04			0.010	<0.015	0.278		
170	Jones Cr	JNS-1	930420	1145	19	9.0	7.9	455.0	4.3		17				3.5	208.0	194.0	0.01			0.006	<0.015	0.202		7.0
170	Jones Cr	JNS-1	930617	0950	25	3.0	7.5	400.0	6.1	0.1	<1				7.3	178.0		0.02			0.014	<0.015	0.271		
170	Jones Cr	JNS-1	950515	1105	25	6.1	7.7	480.0	4.4		147				6.9	216.0		0.06			0.050	<0.015	0.282		
170	Jones Cr	JNS-1	010503	0900	18	6.9	8.0	487.0	6.2	0.6	14 est.	0.6	8	307	3.5	205.0	213.0	0.03			0.027	<0.015	<0.15		8.0
170	Jones Cr	JNS-1	010912	1315	26	7.5	7.8	389.0	7.8	2.4	224	6.2	65	237		170.0	165.0	<0.004			0.096	0.039	0.430		7.8

Appendix F-1c.
Accounting Units during various water quality monitoring activities conducted by ADEM since 1990.

Sub	Stream	Station	Date	Time	Temp.	D.O.	pH	Cond.	Turbidity	Stream Flow	Fecal Coliform	CBOD-5	TSS	TDS	TOC	ALK	Hard	T-P	DRP	Chl a	NO_3+ NO_2-N	NH3-N	TKN	TON	Cl
			yymmdd	*24hr*	*C*	*mg/l*	*s.u.*	*umhos @25° C*	*NTU*	*cfs*	*col/100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*
Middle Tombigbee - Chickasaw (0316-0201)																									
060	Poplar Cr	PPM-1	910730	1340	25	5.9	6.5	100.0	66.0		>670				15.9	25.0		0.17			0.040	0.100	0.490		
060	Poplar Cr	PPM-1	920623	1348	23	7.4	7.4	187.0	8.9	0.6	16 est.				10.6	73.0		0.06			0.280	0.097	0.429		
060	Poplar Cr	PPM-1	930617	1215	26	6.4	7.5	59.0	24.0	0.7	>104				8.0	45.0		0.07			0.053	<0.015	0.457		
060	Poplar Cr	PPM-1	940628	1000	25	6.1	7.6	160.0	24.0	0.5	13 est.				8.7	67.0		0.08			0.075	<0.015	0.471		
060	Poplar Cr	PPM-1	950608	0934	25	6.0	7.2	160.0	7.0	0.4	73				8.25	65		0.10			0.19	<0.015	0.49		
060	Poplar Cr	PPM-1	970617	0949								0.8	15	86		67.0		<0.004			0.070	0.020	<0.150		
060	Poplar Cr	PPM-1	000520[a]	1125																					
060	Poplar Cr	PPM-1	010502	0935	18	8.3	7.1	162.9	11.5	0.9	100	0.5	18	122	7.0	57.0		0.07			0.033	<0.015	0.596		6.0
060	Poplar Cr	PPM-1	010911	1030	24	7.5	6.9	73.6	67.7	21.9		1.5	85	157		39.0		0.05			0.082	0.080	1.110		4.1
060	Poplar Cr	PPM-1	020307	1205	18	10.9	7.1	110.0	14.3	6.7															
060	Poplar Cr	PPM-1	020402	1055	25	8.2	6.6	140.0	15.5	7.2		<2	13	106	9.5	73.0	71.0	0.06	0.02	2.14	<0.003	<0.015	0.834		
060	Poplar Cr	PPM-1	020501	1050	24	7.1	7.6	170.0	10.3	0.4															
060	Poplar Cr	PPM-1	020702	1115	26	7.2	6.9	150.0	9.5																
060	Poplar Cr	PPM-1	021030	1125			7.1	115.0	21.6	10.6															
Lower Tombigbee (0316-0203)																									
010	Ulcanush Cr	ULCC-1	950607	1523	26	7.3	7.6	157.0	5.0	8.1	133				5.2	66		0.07			0.14	<0.015	0.166		
010	Ulcanush Cr	ULCC-1	010509	1200	21	8.1	7.8	135.0	18.4																
010	Ulcanush Cr	ULCC-1	010524	1005	22	8.2	7.7	196.6	9.0	3.5															
010	Ulcanush Cr	ULCC-1	010905	1346	25	8.1	7.1	141.3	20.9	18.2	220	0.3	28	103		52	65	<0.01			0.177	0.09	0.389		5.0
Mobile - Tensaw (0316-0204)																									
010	Halls Cr	HLB-1	910723	1253	25	6.9	6.0	35.0	4.0	31.3	23				5.6	5		0.03			0.13	<0.200	<0.400		
010	Halls Cr	HLB-1	920707	1704	25	7.5	6.4	20.0	2.4	11.3	1 est.				3.3	7		0.01			0.088		0.257		
010	Halls Cr	HLB-1	930608	1500	26	7.4	6.2	29.0	2.2	13.8	4				3.15	7		0.01			0.05	<0.015	0.713		
010	Halls Cr	HLB-1	940614	1630	25	7.6	6.0	25.0	2.4	14.7	20				4.8	7		0.01			0.034	<0.015	0.32		
010	Halls Cr	HLB-1	950427	1245	17	8.5	5.3	25.0	4.0	40.3					4.42	3		0.10			0.03	<0.015	<0.150		

Appendix F-1c.
Accounting Units during various water quality monitoring activities conducted by ADEM since 1990.

Sub	Stream	Station	Date	Time	Temp.	D.O.	pH	Cond.	Turbidity	Stream Flow	Fecal Coliform	CBOD-5	TSS	TDS	TOC	ALK	Hard	T-P	DRP	Chl a	NO_3+ NO_2-N	NH3-N	TKN	TON	Cl
			yymmdd	*24hr*	*C*	*mg/l*	*s.u.*	*µmhos @25^o C*	*NTU*	*cfs*	*col/100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/l*	*mg/l*	*mg/l*	*mg/l*	*mg/l*
Mobile - Tensaw (0316-0204)																									
010	Halls Cr	HLB-1	980527	1532	24	7.4	5.4	15.0	4.1	17.3		1	2	28		3		<0.004			0.1	<0.015	<0.150		
010	Halls Cr	HLB-1	980714	1330	25	7.2	4.5	16.0		84.22	260	5.4	40	40		5		0.00			0.07	<0.015	0.33		
010	Halls Cr	HLB-1	981005	1230	24	7.8	4.4	14.0	10.0	71.1	190	0.3	26	42		2		0.01			0.03	<0.015	<0.150		
010	Halls Cr	HLB-1	990513	1015	20	9.6	5.0	20.0	5.5	16.2	28		6	27				<0.005			0.057	0.015	0.41		
010	Halls Cr	HLB-1	990601	0905	22	7.8	4.7	30.0	12.0	74.2	>400		18.0	24.0				0.01			0.024	0.020	0.610		
010	Halls Cr	HLB-1	990621	0948	22	8.2	5.8	10.0	4.9	13.1	106		8.0	31.0				0.01			0.042	<0.024	0.380		
010	Halls Cr	HLB-1	990713		24	7.8	3.8	17.0	48.4		300	1.1	100.0	24.0	9.0	9.0		0.04			0.070	<0.01	0.580	0.580	
010	Halls Cr	HLB-1	990902	0930	22	7.9	5.5	20.0	4.4	14.0	1100		<5.0	30.0								<0.015	0.140		

a. nw=not wadeable

Appendix F-1d. Water column metals and pesticide data collected from reference sites in the EMT Basin Group during the various water quality monitoring activities conducted by ADEM since 1990. (All metals analyses are for total fractions, unless otherwise noted)

Sub-Watershed	Stream	Station	Date	Time	Al	Al, dissolved	Ag	As	Cd	Ca	Cr-T	Cr+6	Cu	Cu, dissolved	Fe	Fe, dissolved	Hg	Hg, dissolved	Pb	Pb, dissolved	Mg	Mn	Ni	Zn	Zn, dissolved	Atrazine
			yymmdd	*24hr*	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L
Buttahatchee (0316-0103)																										
020	Clark Cr	CLKM-4	290203	0645																						
020	Clark Cr	CLKM-4	020611	1205																						
020	Clark Cr	CLKM-4	020611	1205																						
020	Cantrell Mill Cr	CTML-6	020611	1100																						
Middle Tombigbee - Lubbub (0316-0106)																										
020	Cantrell Mill Cr	CTML-6	010627	0830																						
020	Cantrell Mill Cr	CTML-6	010705	1400																						
020	Cantrell Mill Cr	CTML-6	010829	1145																						
020	Cantrell Mill Cr	CTML-6	020321	1030	0.845								<0.02	<0.02	1.42	<0.1	<0.3	<0.3	<2	<2				<0.03	<0.03	
020	Cantrell Mill Cr	CTML-6	020416	1015	<0.2	<0.2							<0.02	<0.02	0.972	0.12	<0.3	<0.3	<2	<2				<0.03	<0.03	0.060
020	Cantrell Mill Cr	CTML-6	020807	0945	0.520	<0.2							<0.02	<0.02	1.45	0.778	<0.3	<0.5	<2	<2				<0.03	<0.03	
060	Coalfire Cr	CLFP-13	020321	1320	<0.2	<0.2							<0.02	<0.02	1.75	0.302	<0.3	<0.3	<2	<2				<0.03	<0.03	
060	Coalfire Cr	CLFP-13	020416	1210	0.218	<0.2							<0.02	<0.02	3.23	0.285	<0.3	<0.3	<2	<2				<0.03	<0.03	<0.05
060	Coalfire Cr	CLFP-13	020807	1130	<0.2	<0.2							<0.02	<0.02	2.63	4.07	<0.3	<0.5	<2	<2				<0.03	<0.03	
110	Bear Cr	BRP-1	010919	0925	<0.2					3.02					5.02											
170	Jones Cr	JNS-1	910730	1035																						
170	Jones Cr	JNS-1	920623	1033																						
170	Jones Cr	JNS-1	930420	1145																						
170	Jones Cr	JNS-1	930617	0950																						
170	Jones Cr	JNS-1	950515	1105																						
170	Jones Cr	JNS-1	010503	0900	<0.02					82.9					0.134						1.52	0.069				
170	Jones Cr	JNS-1	010912	1315	<0.02					64.2					0.101						1.23	0.044				
Middle Tombigbee - Chickasaw (0316-0201)																										
060	Poplar Cr	PPM-1	970617	0949						23.28					2						2.02	0.095				
060	Poplar Cr	PPM-1	010502	0935	<0.2					22.5					2						1.31	0.077				
060	Poplar Cr	PPM-1	010911	1030	0.461					11.2					1						0.99	0.068				
Lower Tombigbee (0316-0203)																										
010	Ulcanush Cr	ULCC-1	010905	1346	<0.02					23.4					1						1.48	0.049				
Mobile - Tensaw (0316-0204)																										
	Halls Cr	HLB-1	980527	1532						0.5											0.43					
	Halls Cr	HLB-1	980714	1330			<0.015	<10	<0.003	0.582	<0.015	<0.02	<0.02	<0.02			<0.5		<2		0.49		<0.03	<0.03		
	Halls Cr	HLB-1	981005	1230			<0.15	<10	<0.003	0.527	<0.015	<0.02	<0.02	<0.02			<0.3		<2		0.46		<0.03	<0.03		
	Halls Cr	HLB-1	990713		0.949					0.659			<0.02	<0.02	1.2						0.44	0.037				
	Halls Cr	HLB-1	990902	0930																						

Appendix F-2. §303(d) Waterbody Monitoring Project

***Lead agency*: ADEM**

***Purpose*:** In accordance with Section 303(d) of the Federal Clean Water Act, each state must identify its impaired waterbodies that do not meet surface water quality standards and submit this list to the EPA. In an effort to address water quality problems within Alabama, some waterbodies included on ADEM's §303(d) list are only suspected to have water quality problems based on evaluated assessment data. ADEM conducts monitored assessments of impaired waterbodies to support §303(d) listing and de-listing decisions. The program includes intensive chemical, habitat, and biological data collected using ADEM's SOPs and QA/QC manuals.

Appendix F-2a. Habitat assessment data

Appendix F-2b. Biological assessment data

Appendix F-2c. Physical/chemical data

References:

ADEM. 2000c. Water quality monitoring data collected by ADEM in support of CWA §303(d) listing and de-listing decisions 1999-2000 (unpublished). Field Operations Division, Alabama Department of Environmental Management. Montgomery, AL.

Appendix F-2a. Physical characteristics and habitat assessment results for sites located in the EMT Basin Group and assessed as part of the CWA Section 303(d) Monitoring Program during 1999-2002.

Station		CMC-1	CMC-2	BUTL-2[a]	BUTL-3	BUTL-1[a]	EBLC-1	LXC-1	LXC-2	LUXL-1	LUXL-2	LBRP-3[d]
CU		0103	0103	0103	0103	0103	0105	0105	0105	0105	0105	0106
Sub-watershed		010	010	020	020	040	010	010	010	030	030	110
Ecoregion/Subregion		65i	65i	65i	65i	65i	65i	65i	65i	65i	65i	65i
Drainage area (mi^2)												
Date (yymmdd)		990624	991104	010626	010626	010626	990706	990706	990706	010626	010627	010626
Width (ft)		30	30		90		30	45	25	100	50	
Canopy Cover[a]		O	50/50		O		S	O	MO	MO	MS	
Depth (ft)	Riffle	0.5	0.2		np		0.8	np	0.5	0.8	np	
	Run	0.7	0.5		1.5		0.8	0.8	1.0	2.5	2.5	
	Pool	2.0	N/A		2.5		1.0	2.0	2.0	>3.0	np	
Substrate (%)	Bedrock	2	0		54		0	0	0	0	0	
	Boulder	30	0		2		0	0	0	0	0	
	Cobble	54	25		2		1	1	0	0	0	
	Gravel	1	25		35		30	50	68	34	50	
	Sand	5	25		10		2	19	12	60	45	
	Silt	5	10		3		15	25	13	1	0	
	Detritus	3	5		2		2	4	6	1	4	
	Clay	0	10		0		50	1	1	4	1	
	Org. Silt	0	0		0		0	0	0	0	0	
Habitat assessment form[b]		RR	RR		GP		RR	GP	RR	GP	GP	
Habitat Survey (% maximum)												
Instream Habitat Quality		70	65		50		32	72	65	69	47	
Sediment Deposition		68	75		84		43	68	33	54	64	
Sinuosity		95	100		35		95	50	95	13	20	
Bank and Vegetative Stability		58	83		80		63	58	25	59	50	
Riparian Measurements		90	73		90		60	55	58	48	73	
Habitat Assessment Score		176	188		156		126	133	127	119	125	
% Maximum		73	78		71		53	60	53	54	57	
Assessment		Excellent	Excellent		Excellent		Good	Excellent	Good	Excellent	Excellent	

np=none present
NG= assessment guidelines not developed
a. unwadeable
b. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
c. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
d. swamp
e. no flow

Appendix F-2a. Physical characteristics and habitat assessment results for sites located in the EMT Basin Group and assessed as part of the CWA Section 303(d) Monitoring Program during 1999-2002.

Station		LBRP-1[a]	LBRP-2[a]	SNCP-60[e]	TRSG-1	TRSG-2	SPYG-3[a]	CKBM-1	WHKC-1	WHKC-2	YLWS-1[e]	BSCC-1
CU		0106	0106	0106	0106	0106	0107	0201	0201	0201	0202	0201
Sub-watershed		110	110	120	160	160	070	060	190	190	100	210
Ecoregion/Subregion		65i	65i	65i	65b	65b	65i	65b	65d	65d	65b	65d
Drainage area (mi^2)												
Date (yymmdd)		010626	010626	010510	010508	010508	010619	010502	010524	010524	010502	010524
Width (ft)					35	25		40	15	20		25
Canopy Cover[b]					MO	MS		MO	MS	50/50		50/50
Depth (ft)	Riffle				0.4	np		0.2	np	0.4		np
	Run				0.8	1.5		1.5	1.5	1.0		1.5
	Pool				1.0	2.5		3.0	3.0	3.0		3.0
Substrate (%)	Bedrock				61 (Clay)	2 (Clay)		50 (Clay)	0	0		0
	Boulder				0	0		5	0	0		0
	Cobble				5 (Clay)	1 (Clay)		2	0	0		0
	Gravel				15 (Clay)	1		1	1	2		1
	Sand				10 (Clay)	73		30	72	75		64
	Silt				5	15		10	15	10		15
	Detritus				4	7		2	11	12		19
	Clay				0	1		0	1	1		1
	Org. Silt				0	0		0	0	0		0
Habitat assessment form[c]					RR	GP		GP	GP	GP		GP
Habitat Survey (% maximum)												
Instream Habitat Quality					52	44		37	54	56		53
Sediment Deposition					75	66		70	61	66		55
Sinuosity					80	45		40	40	43		40
Bank and Vegetative Stability					46	49		70	35	50		26
Riparian Measurements					88	85		95	90	95		53
Habitat Assessment Score					164	130		140	125	137		100
% Maximum					68	59		63	57	62		46
Assessment					Excellent	Excellent		Excellent	NG	NG		NG

np=none present
NG= assessment guidelines not developed
a. unwadeable
b. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
c. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
d. swamp
e. no flow

Appendix F-2a. Physical characteristics and habitat assessment results for sites located in the EMT Basin Group and assessed as part of the CWA Section 303(d) Monitoring Program during 1999-2002.

Station		SABW-1	BSTC-1	BSTC-2	BSTC-3	BSTC-4[a]	JMCC-1	BLBW-1	PPYM-1	PPYM-2	BGYM-1[e]	BGCM-2	CLNM-1	HMC-1	HMC-2
CU		0203	0203	0203	0203	0203	0203	0203	0008	0008	0008	0008	0008	0009	0009
Sub-watershed		030	090	090	090	090	090	130	030	030	090	090	090	050	050
Ecoregion/Subregion		65q	65q	65q	65d	65d	65f	65f	65f	65f	65f	65f	65f	75a	65f
Drainage area (mi^2)															
Date (yymmdd)		010523	010702	010702	010702	010702	010525	010523	010517	010517	010516	010516	010516	990504	990913
Width (ft)		35	25		15		12	30	25	20		20	15	30	8
Canopy Cover[b]		S	50/50	S	S		S	MS	MS	O		S	MS	S	MS
Depth (ft)	Riffle	np	1.0	0.4	np		0.2	np	np	np		np	np	np	np
	Run	1.0	1.5	1.0	1.0		0.8	2.5	1.0	1.0		np	1.0	1.5	np
	Pool	>3.5	2.5	2.5	2.0		1.5	>3.5	2.5	3.5		4.0+	2.5	4.0	4.0
Substrate (%)	Bedrock	0	0	35	0		0	0	0	0		0	0	0	0
	Boulder	0	0	5	0		0	0	0	0		0	0	0	0
	Cobble	0	2	5	0		0	0	0	0		0	0	0	0
	Gravel	5	3	5	0		7	10	0	0		0	5	0	0
	Sand	78	80	45	90		84	35	90	40		50	80	10	25
	Silt	2	2	4	3		5	10	3	10		5	13	15	3
	Detritus	15	13	5	5		4	45	5	5		45	2	5	67
	Clay	0	0	1	2		0	0	2	45		0	0	65	0
	Org. Silt	0	0	0	0		0	0	0	0		0	0	5	5
Habitat assessment form[c]		GP	GP	RR	GP		RR	GP	GP	GP		GP	GP	GP	GP
Habitat Survey (% maximum)															
Instream Habitat Quality		60	59	66	29		52	68	42	29		73	51	65	85
Sediment Deposition		70	64	68	64		38	85	68	65		88	71	90	95
Sinuosity		40	43	63	38		83	48	43	40		45	63	50	90
Bank and Vegetative Stabili		46	48	80	36		80	74	48	48		58	80	90	95
Riparian Measurements		85	83	90	90		95	95	95	95		91	73	90	100
Habitat Assessment Score		139	136	179	110		159	170	126	117		161	150	176	205
% Maximum		63	62	74	50		66	77	58	53		73	68	80	93
Assessment		NG	NG	NG	NG		Excellent	Excellent	Excellent	Good		Excellent	Excellent	NG	Excellent

np=none present
NG= assessment guidelines not developed
a. unwadeable
b. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
c. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
d. swamp
e. no flow

Appendix F-2b. Aquatic macroinvertebrate and fish community bioassessment results for sites located within the EMT Basin Group and assessed as part of the CWA Section 303(d) Monitoring Program, 1999-2002.

Cataloging Unit	0103	0103	0103	0103	0105	0105	0105	0105	0105	0106	0106
Station Number	CMC-1	BUTL-2[a]	BUTL-3	BUTL-1[a]	EBLC-1	LXC-1	LXC-2	LUXL-1	LUXL-2	LBRP-3[b]	LBRP-1[a]
Sub-watershed	010	020	020	040	010	010	010	030	030	110	110
Subecoregion	65i	65i	65i	65i	65i	65i	65i	65i	65i	65i	65i
Macroinvertebrate community											
Assessment Date (yymmdd)	990624	010626	010626	010626	990706	990706	990706	010626	010627	010626	010626
# EPT families	11		13		1	5	6	8	10		
Assessment	Good		Excellent		Poor	Fair	Fair	Fair	Good		
Fish community											
Assessment Date								010712			
# species								20			
# darter species								3			
# minnow species								5			
# sunfish species								3			
# sucker species								2			
# intolerant species								4			
% sunfish								17.2			
% omnivores and herbivores								4.3			
% insectivorous cyprinids								44.1			
% top carnivores								6.4			
# collected per hour								139.5			
% disease and anomalies								0			
IBI Score								42			
Assessment								Fair			

NG= assessment guidelines not developed
a. unwadeable
b. swamp
c. no flow

Appendix F-2b. Aquatic macroinvertebrate and fish community bioassessment results for sites located within the EMT Basin Group and assessed as part of the CWA Section 303(d) Monitoring Program, 1999-2002.

Cataloging Unit	0106	0106	0106	0106	0107	0201	0201	0201	0201
Station Number	LBRP-2[a]	SNCP-60[c]	TRSG-1	TRSG-2	SPYG-3[a]	CKBM-1	WHKC-1	WHKC-2	BSCC-1
Sub-watershed	110	120	160	160	070	060	190	190	210
Subecoregion	65i	65i	65b	65b	65i	65b	65d	65d	65d
Macroinvertebrate community									
Assessment Date (yymmdd)	010626	010510	010508	010508	010619	010502	010524	010524	010524
# EPT families			7	4		6	11	9	9
Assessment			Good	Fair		Good	NG	NG	NG
Fish community									
Assessment Date						010509			
# species						12			
# darter species						1			
# minnow species						5			
# sunfish species						2			
# sucker species						2			
# intolerant species						1			
% sunfish						22.7			
% omnivores and herbivores						25.77			
% insectivorous cyprinids						45.4			
% top carnivores						1			
# collected per hour						145.5			
% disease and anomalies						0			
IBI Score						34			
Assessment						Poor			

NG= assessment guidelines not developed
a. unwadeable
b. swamp
c. no flow

Appendix F-2b. Aquatic macroinvertebrate and fish community bioassessment results for sites located within the EMT Basin Group and assessed as part of the CWA Section 303(d) Monitoring Program, 1999-2002.

Cataloging Unit	0202	0203	0203	0203	0203	0203	0203	0203	0008	0008	0008	0008	0008	0009
Station Number	YLWS-1[c]	SABW-1	BSTC-1	BSTC-2	BSTC-3	BSTC-4[a]	JMCC-1	BLBW-1	PPYM-1	PPYM-2	BGYM-1[b]	BGCM-2	CLNM-1	HMC-1
Sub-watershed	100	030	090	090	090	090	090	130	030	030	090	090	090	050
Subecoregion	65b	65q	65q	65q	65d	65d	65f	65f	65f	65f	65f	65f	65f	75a
Macroinvertebrate community														
Assessment Date (yymmdd)	010502	010523	'010702	010702	010702	010702	010525	010523	010517	010517	010516	010516	010516	990504
# EPT families		10	6	5	3		7	4	7	6		10	7	5
Assessment		NG	NG	NG	NG		Fair	Poor	Fair	Fair		Good	Fair	NG
Fish community														
Assessment Date			010808	010808					010808	010808				
# species			13	26					8	11				
# darter species			3	4					1	2				
# minnow species			6	9					2	3				
# sunfish species			2	3					4	2				
# sucker species			0	3					0	0				
# intolerant species			2	2					2	1				
% sunfish			9	18					32	15				
% omnivores and herbivores			6	23					0	0				
% insectivorous cyprinids			71	49					56	71				
% top carnivores			0	3					2	1				
# collected per hour			115.5	231					85.5	162				
% disease and anomalies			0.0	0					0	0				
IBI Score			38	52					34	34				
Assessment			Fair/Poor	Good					Poor	Poor				

NG= assessment guidelines not developed
a. unwadeable
b. swamp
c. no flow

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA §303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_{5}*/ $CBOD_5$[a]	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Buttahatchee R. (0316-0103)																				
010	Camp Creek	CMC-1	990526	1450	29	21.0	8.7	6.8	38.1	11.8	41.2	64		3		<0.004	0.315		0.189	
010	Camp Creek	CMC-1	990624	1050	28	27.0	8.0	6.6	45.7	94.5	17.6									
010	Camp Creek	CMC-1	990629	1400	33	25.5	7.6	6.8	40.8	15.0	10.2	62	0.2*	10	1.69	0.053	0.231	<0.015	0.310	13.1
010	Camp Creek	CMC-1	990727	1425			7.4			29.0	7.3	180		17		<0.004	0.240		0.214	
010	Camp Creek	CMC-1	990825	1200	30	21.5	7.1	6.8	42.6	6.9	1.9	164		9		0.104	0.126		0.196	
010	Camp Creek	CMC-1	990921	1403	19	20.3	8.0	7.0	31.2	7.6		490		4		0.015	0.126		0.279	
010	Camp Creek	CMC-2	990526	1420	29	20.7	8.6	6.6	31.7	17.9		132		4		<0.004	0.431		0.326	
010	Camp Creek	CMC-2	990629	1310	32	25.0	6.9	6.3	30.6	28		100	0.2*	32	2	0.02	0.357	<0.015	0.410	10.8
010	Camp Creek	CMC-2	990727	1335			7.1			28		116		44		<0.004	0.376		0.228	
010	Camp Creek	CMC-2	990824	1200	29	21.0	6.3	6.6	38.1	32		>1200		84		0.041	0.312		0.317	
010	Camp Creek	CMC-2	990921	1322	17	25	5.9	6.8	28.7	9.3		410		45		0.026	0.315		0.234	
010	Camp Creek	CMC-3	990526	1330	29	19.2	7.47	6.6	37.5	32	1.0	>240		69		0.087	0.440		0.762	
010	Camp Creek	CMC-3	990629	1230	30	24.5	6.29	6.57	51	33	0.7	3600	1.5*	45	3.79	0.105	0.366	0.050	1.300	12.9
010	Camp Creek	CMC-3	990727	1303			6.5			13.4	0.1	530		10		0.116	0.525		1.211	
020	Buttahatchee R.	BUTL-2	010509	1100	18	18.8	8.6	7.3	34	217		>600	1.6	111		0.105	0.325	0.081	<0.15	10.3
020	Buttahatchee R.	BUTL-2	010613	1045	27	22.7	8.2	8.0	34	17.4		180	1.2	16		0.02	0.397	<0.015	0.15	10.2
020	Buttahatchee R.	BUTL-2	010725	1200	33	27.8	7.7	8.0	43	13.9		64	0.9	13		0.02	0.199		0.174	12.8
020	Buttahatchee R.	BUTL-2	010913	1100	28	24.6	6.8	7.9	43	14.8		104	0.5	9		0.01	0.27	0.07	<0.15	12.2
020	Buttahatchee R.	BUTL-2	011031	1100	22	10.1	8.1	7.5	42	4.6		108	0.9	3		0.01	0.113	<0.015	<0.15	54
020	Buttahatchee R.	BUTL-2	011205	0910	15	10.6	10.8	8.6	37	13.4		96	0.7	4		<0.004	0.237	<0.015	<0.15	19
020	Buttahatchee R.	BUTL-2	020227	1030	-4	6.2	12.4	6.8	21	7.52		19	1.5	6		<0.004	0.353	<0.015	<0.15	20
020	Buttahatchee R.	BUTL-2	020319	0915	20	15.0	9.0	6.7												
020	Buttahatchee R.	BUTL-3	010509	1200	24	18.6	8.5	7.3	33	124		>600	1.8	67		0.049	0.283	<0.015	<0.15	9.62
020	Buttahatchee R.	BUTL-3	010613	1115	27	21.9	8.6	7.1	33	8.6		208	1	11		0.03	0.385	<0.015	0.15	9.85
020	Buttahatchee R.	BUTL-3	010725	1230	34	28.7	8.1	8.1	39	2.4		74	0.7	10		0.02	0.251		0.48	11.5
020	Buttahatchee R.	BUTL-3	010913	1130	29	24.4	7.4	7.7	38	7.6		216	0.9	5		<0.004	0.273	0.07	<0.15	11
020	Buttahatchee R.	BUTL-3	011031	1200	23	10.2	8.1	7.9	42	4.3		29	0.9	3		<0.004	0.144	<0.015	<0.15	44
020	Buttahatchee R.	BUTL-3	011205	0840	9	10.3	11.1	9.0	36	8.8		76	0.1	8		<0.004	0.318	<0.015	0.36	32
020	Buttahatchee R.	BUTL-3	020227	0945	-4	5.3	12.8	7.7	34	7.01		16	1.4	8		<0.004	0.347	<0.015	<0.15	24
020	Buttahatchee R.	BUTL-3	020319	0845	20	16.0	9.1	6.8												
040	Buttahatchee R.	BUTL-1	010509	1030	22	19.4	7.2	8.2	34	239		>600	1.3	115		0.091	0.261	0.088	<0.15	9.59
040	Buttahatchee R.	BUTL-1	010613	1000	26	22.8	7.6	8.9	33	38.7		104	0.6	26		0.06	0.363	0.168	<0.15	9.77
040	Buttahatchee R.	BUTL-1	010725	1100	30	27.0	7.3	9.7	42	9.05	128.8	160	0.4	12		0.005	0.168		0.15	13
040	Buttahatchee R.	BUTL-1	010913	1030	24	24.5	7.3	7.6	42	24.9										
040	Buttahatchee R.	BUTL-1	010913	1030	24	24.5	7.3	7.6	42	24.9		112	1	16		0.005	0.253	0.23	0.29	12.4
040	Buttahatchee R.	BUTL-1	011031	1030	21	10.0	7.9	7.8	41	9.4	184.7	30	0.4	6		0.008	0.028	<0.015	<0.15	46
040	Buttahatchee R.	BUTL-1	011205	0940	17	11.1	10.6	8.4	36	20.4		108	0.8	11		<0.004	0.135	<0.015	<0.15	25
040	Buttahatchee R.	BUTL-1	020227	1045	3	6.9	11.9	7.6	21	13.6		48	1.5	<1		<0.004	0.251	<0.015	<0.15	34
040	Buttahatchee R.	BUTL-1	020319	1000	21	16.0	8.8	6.7												

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Luxapallila R. (0316-0105)																				
010	E. Br. of Luxapallila Cr.	EBLC-1	990527	1330	28	22	9.19	6.46	42.7	7.7	27.2	128	0.7*	2		<0.004	0.505		0.384	16
010	E. Br. of Luxapallila Cr.	EBLC-1	990609	1250	30	26	8.66	7.08	89	11.6	7.8	1620	1.1*	8		0.088	0.491		0.45	22
010	E. Br. of Luxapallila Cr.	EBLC-1	990706	1140	35	25.8	7.57	6.1	61	31	7.4									
010	E. Br. of Luxapallila Cr.	EBLC-1	990713	0930	27	23	7.72	6.63	47	47	24.5	200	<0.1*	20	3.09	0.027	0.428		0.406	50
010	E. Br. of Luxapallila Cr.	EBLC-1	990803	1200			6.95		83.1	13	3.9	1600	0.8*	7	2.43	0.119	0.5303		0.648	22
010	E. Br. of Luxapallila Cr.	EBLC-1	990907	1115			6.68		84.1	18.3	3.5	>1200	2.2*	9	4.65	0.112	0.553		0.672	20
010	E. Br. of Luxapallila Cr.	EBLC-2	990520	1300	22	19.7	7.95	6.75	52.9	29		336	1.9*	12	2.45	<0.004	0.239		0.381	30
010	E. Br. of Luxapallila Cr.	EBLC-2	990609	1600	30	23	7.25	6.94	61.7	14.2		1140	0.3*	9	2.17	<0.004	0.345		0.285	28
010	E. Br. of Luxapallila Cr.	EBLC-2	990713	0830	21	22.8		6.11	90.7	53		270	<0.1*	27	3.23	0.031	0.213		0.438	40
010	E. Br. of Luxapallila Cr.	EBLC-2	990803	1010			5.21		54.9	20		390	0.2*	12	2.17	0.046	0.468		0.277	24
010	E. Br. of Luxapallila Cr.	EBLC-2	990907	0955			5.45		49.5	36		390	0.9*	28	4.03	0.017	0.411		0.431	16
010	E. Br. of Luxapallila Cr.	EBLC-3	990520	1350	25	19	7.55	6.84	80.2	14	0	230	1.6*	7	1.92	<0.004	0.088		0.383	56
010	E. Br. of Luxapallila Cr.	EBLC-3	990609	1500	30	24.3	8.27	7.34	162.4	11.1	1.8	256	0.6*	19	2.02	<0.004	<0.118		0.242	58
010	E. Br. of Luxapallila Cr.	EBLC-3	990713	1120	26.5	23.5	7.2	6.7	135.6	32		170	<0.1*	14	2.92	0.017	0.071		0.314	59
010	E. Br. of Luxapallila Cr.	EBLC-3	990803	1430			6.17		143.4	11.2	0	116	0.3*	5	2.66	<0.004	0.0872		0.203	66
010	E. Br. of Luxapallila Cr.	EBLC-3	990907	1415			4.65		108	17		430	1.8*	11	7	0.02	0.192		0.598	36
010	Luxapallila Cr.	LXC 001	990520	1200	22	20	9.14	6.8	48.6	19		>240	1.6*	11	2.1	<0.004	0.482		0.358	34
010	Luxapallila Cr.	LXC 001	990609	1200	30	23.2	8.39	6.95	48.6	7.3		460	0.2*	13	1.8	<0.004	0.517		0.312	32
010	Luxapallila Cr.	LXC 001	990706	1540	29	28.9	7.47	6.43	45	9.12	11.2									
010	Luxapallila Cr.	LXC 001	990713	1715	22	22.9		6.78	65.1	31		300	<0.1*	18	3.32	0.042	0.634		0.475	30
010	Luxapallila Cr.	LXC 001	990803	1305	34	28.9	8.1	7.0	54.1	8.1		220	0.2*	4	1.66	0.035	0.668		0.34	28
010	Luxapallila Cr.	LXC 001	990907	1245	28	25.4	8.15	7.0	55.9	10.6		1060	1.5*	32	3.12	0.073	0.486		0.449	14
010	Luxapallila Cr.	LXC 002	990527	1200	27.5	20.1	8.93	6.65	29.3	4.6	16.6	88	0.5*	9	1.32	<0.004	0.447		<0.15	24
010	Luxapallila Cr.	LXC 002	990609	1100	30	24.2	8.7	5.96	33.6	5.5	13	860	0.2*	8	1.48	<0.004	0.452		0.215	24
010	Luxapallila Cr.	LXC 002	990706	1337	29	25.9	7.37	5.71	29	7.34	11.2									
010	Luxapallila Cr.	LXC 002	990713	1030	26	21.7	7.57	6.25	33.1	10	32.5	260	<0.1*	7	1.92	0.015	0.443		0.265	10
010	Luxapallila Cr.	LXC 002	990803	1400	35	26.3	7.65	7.02	34.7	23	7.5	144	<0.1*	71	1.28	0.03	0.632		0.163	28
010	Luxapallila Cr.	LXC 002	990907	1315	30	24.4	7.93	6.48	38	5.6	13.1	840	0.6*	9	1.17	0.007	0.478		<0.15	10
010	Winfield WWTP outfall	WFWW-1	990519	1450	24	26	6.3	7.0				>1200	>5.2*	16	33	1.174	0.093		8.15	44
010	Winfield WWTP outfall	WFWW-1	990609	1350	30	27.7	6.7	7.4	319	5.5		>1200	>3.0*	14	33.1	1.439	0.289		6.429	48
010	Winfield WWTP outfall	WFWW-1	990713	1335	24	28.7	5.9	6.7	310	4		8600	4.0*	3	8.2	1.308	0.095		5.005	42
010	Winfield WWTP outfall	WFWW-1	990803	1040			5.5		36.1	4		1860	2.6*	6	9.32	1.541	0.0205		6.165	44
010	Winfield WWTP outfall	WFWW-1	990907	1035	28	27.7	6.0	6.64	399	7.9		>1200	4.4*	16	59.6	1.607	2.734		2.374	50
030	Luxapallila Cr.	LUXL-1	010508	1130	22	20.3	8.3	7.8	42	16.3		76	0.8	11		0.009	0.404	<0.015	0.187	10.3
030	Luxapallila Cr.	LUXL-1	010612	1245	28	22.3	8.1	6.5	40	49		300	1	34		<0.03	0.34	<0.015	<0.15	10.4
030	Luxapallila Cr.	LUXL-1	010712	1300	30	26.0	7.7	6.7	45	9.55	nm									
030	Luxapallila Cr.	LUXL-1	010724	1130	34	26.2	7.9	7.6	41	2	88.1	64	0.8	20		0.004	0.397		0.234	9.44
030	Luxapallila Cr.	LUXL-1	010912	1115	30	23.3	8.6	7.4	35	19.3	113.3	176	0.3	6		<0.004	0.258	0.06	<0.15	10
030	Luxapallila Cr.	LUXL-1	011030	1000	21	10.2	11.0	8.7	41	8.4	186.2	100	0.7	5		<0.004	0.17	<0.015	<0.15	30
030	Luxapallila Cr.	LUXL-1	011205	1030	21	12.5	10.7	7.6	38	18.9	295.9	76	1	6		<0.004	0.123	<0.015	<0.15	20
030	Luxapallila Cr.	LUXL-1	020228	1200	4	6.2	11.7	7.0	22	9.38		5	1	<1		<0.004	0.46	<0.015	<0.15	32

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Luxapallila R. (0316-0105)																				
030	Luxapallila Cr.	LUXL-1	020319	1040	24	14.0	8.8	6.5												
030	Luxapallila Cr.	LUXL-2	010508	1330	23	18.6	7.9	5.7	47	735		>1200	2.9	425		0.175	0.4	0.298	0.814	15.2
030	Luxapallila Cr.	LUXL-2	010612	1400	29	22.9	8.1	7.9	39	42		116	0.9	14		<0.04	0.532	<0.015	<0.15	10.7
030	Luxapallila Cr.	LUXL-2	010912	1230	27	21.8	7.3	6.8	42	14.2	93.9	236	1.1	11		<0.004	0.44	0.03	0.27	10.4
030	Luxapallila Cr.	LUXL-2	011030	1200	21	11.4	10.5	8.6	41	5.7	112.4	16	0.6	5		<0.004	0.393	<0.015	<0.15	38
030	Luxapallila Cr.	LUXL-2	011205	1200	21	13.0	10.3	7.4	40	8.8	140.2	82	0.8	4		<0.004	0.345	<0.015	<0.15	20
030	Luxapallila Cr.	LUXL-2	020319	1100	25	18.0	8.6	6.6												
030	Luxapallila Cr.	LUXL-2	020724	1325	35	24.9	8.2	8.6	40	2.6	51	54	1.2	14		<0.004	0.577		0.205	9.24
Middle Tombigbee-Lubbub R. (0316-0106)																				
110	L. Bear Cr.	LBRP-1	010424	0920	15	18.4	6.7	5.8	90.0	15.4		228	2.1	16		0.12	0.299	0.031	<0.015	13.9
110	L. Bear Cr.	LBRP-1	010508	0930	16	19.8	4.8	5.3	82.0	13.1		20	0.8	10		0.115	0.235	0.146	<0.150	16.9
110	L. Bear Cr.	LBRP-1	010619	0900	25	23.0	5.7	7.7	64.0	23.9		80	0.9	14		0.13	0.309	0.194	<0.150	18.5
110	L. Bear Cr.	LBRP-1	010710	0830	30	25.3	4.6	6.6	100.0	11.9		190	1.8	12		0.14	0.302	0.104	<0.150	15.5
110	L. Bear Cr.	LBRP-1	010821	1050	25	22.5	5.6	6.6	84.0	10.8		45	0.5	7		0.09	0.161	<0.015	0.360	19.1
110	L. Bear Cr.	LBRP-1	010919	1015	23	21.6	4.5	6.3	54.1	20.0		62	0.2	20		0.11	0.178	0.040	<0.150	17.6
110	L. Bear Cr.	LBRP-1	011024	1000	22	18.1	6.0	6.4	60.0	10.6		100	1.7	4		0.055	0.062	<0.015	0.398	50
110	L. Bear Cr.	LBRP-1	011024	1000	22	18.1	6.0	6.4	60.0	10.6		100	1.7	4		0.055	0.062	<0.015	0.398	50
110	L. Bear Cr.	LBRP-1	011114	1000	16	11.0	7.2	6.3	56.0	12.5		41	0.7	6		0.055	0.036	<0.015	0.355	32
110	L. Bear Cr.	LBRP-1	020108	0900	-5	2.3	10.1	7.6	60.0	9.8		160	0.8	7		0.033	0.604	0.019	0.522	16
110	L. Bear Cr.	LBRP-2	010424	1000	15	18.8	7.6	5.5	81.0	22.8		910	1.3	23		0.11	0.375	0.030	<0.150	12.2
110	L. Bear Cr.	LBRP-2	010508	0950	16	20.0	4.9	5.7	74.0	15.6		170	1.2	13		0.099	0.528	0.151	<0.150	17.4
110	L. Bear Cr.	LBRP-2	010619	1035	26	23.9	5.3	8.1	62.0	31.8		230	0.7	17		0.08	0.466	0.167	0.167	20.7
110	L. Bear Cr.	LBRP-2	010710	0915	30	25.7	3.9	6.4	99.0	15.6		>600	1.2	15		0.113	0.337	0.176	0.185	16.1
110	L. Bear Cr.	LBRP-2	010821	0945	24	23.1	4.4	6.1	82.0	15.0		>600	0.6	14		0.08	0.401	0.190	0.210	19.4
110	L. Bear Cr.	LBRP-2	010919	1045	22	21.9	5.3	6.2	65.0	25.0		330	0.2	20		0.09	0.327	0.070	<0.150	16.3
110	L. Bear Cr.	LBRP-2	011024	1115	22	18.3	6.8	6.4	55.0	15.6		460	1.5	8		0.057	0.210	<0.015	0.351	34
110	L. Bear Cr.	LBRP-2	011114	1050	17	11.7	7.8	6.5	50.0	12.4		128	0.6	6		0.04	0.197	<0.015	0.278	26
110	L. Bear Cr.	LBRP-2	020108	0945	0	3.4	9.9	7.3	59.0	7.7		220	1.5	26		0.04	0.795	0.050	0.490	16
110	L. Bear Cr.	LBRP-3	010424	1040	15	19.2	5.4	5.5	78.0	12.7		310	2.3	78		0.17	0.092	0.071	<0.150	10.9
110	L. Bear Cr.	LBRP-3	010508	1015	17	20.8	2.3	5.6	64.0	15.1		112	2.0	13		0.149	0.027	0.143	<0.150	14.5
110	L. Bear Cr.	LBRP-3	010619	1000	25	23.9	2.1	8.3	54.0	33.5		100	3.2	24		0.13	<0.003	<0.015	0.638	16.7
110	L. Bear Cr.	LBRP-3	010710	0900	30	26.3	1.1	6.3	90.0	18.9		180	0.8	18		0.158	0.017	0.079	0.375	13.4
110	L. Bear Cr.	LBRP-3	010821	1015	24	23.0	2.2	6.2	70.0	22.8		84	0.9	12		0.11	0.031	0.040	0.200	14.8
110	L. Bear Cr.	LBRP-3	010919	1110	23	23.1	1.7	6.1	43.3	46.0		210	2.8	26		0.2	0.053	0.070	0.240	11.6
110	L. Bear Cr.	LBRP-3	011024	1045	22	17.4	4.0	6.1	47.0	158.7		184	1.6	7		0.093	0.006	<0.015	0.498	50
110	L. Bear Cr.	LBRP-3	011114	1030	17	11.5	6.6	6.3	1.0	9.1		52	0.8	6		0.064	<0.003	<0.015	0.246	16
110	L. Bear Cr.	LBRP-3	020108	0915	0	2.2	9.6	7.6	50.0	7.3		72	0.9	3		0.138	0.614	0.057	0.462	16
160	Trussells Cr.	TRSG-1	010425	1120	18	16.2	8.1	7.1	113.0	4.6	20.7	96	0.5	5		0.08	0.064	<0.015	0.277	26.9
160	Trussells Cr.	TRSG-1	010508	1255	27	21.0	7.6	7.5	163.0	8.8	7.3									

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Middle Tombigbee-Lubbub R. (0316-0106)																				
160	Trussells Cr.	TRSG-1	010509	1100	21	20.5	8.4	6.8	125.0	4.5	5.9	210	0.3	4		0.051	0.095	0.070	0.611	39.2
160	Trussells Cr.	TRSG-1	010620	1100	29	25.4	8.2	7.6	113.0	14.3	9.5	670	1.1	11		0.06	0.120	<0.015	<0.150	47.7
160	Trussells Cr.	TRSG-1	010711	1010	30	27.1	6.2	7.6	238.0	4.3	3.2	124	1.0	9		0.104	0.140	0.087	<0.150	67.4
160	Trussells Cr.	TRSG-1	010822	1010	25	24.9	7.8	6.6	218.0	3.9		>600	0.2	5		<0.004	0.164	<0.015	<0.150	75.1
160	Trussells Cr.	TRSG-1	010920	1120	22	23.1	7.0	7.3	70.1	82.0	9.4	1110	1.0	20		0.09	0.066	<0.015	0.240	51
160	Trussells Cr.	TRSG-1	011025	1120	18	18.0	8.1	7.6	124.0	12.5	12.0	400	3.0	6		<0.004	0.056	<0.015	<0.150	60
160	Trussells Cr.	TRSG-1	011115	1045	19	12.6	9.6	7.6	156.0	6.0	5.5	132	1.9	3		0.044	0.028	<0.015	0.417	68
160	Trussells Cr.	TRSG-1	020109	1050	15	4.8	9.9	8.3	97.0	16.5	62.8	112	1.0	9		0.011	0.085	<0.015	0.628	34
160	Trussells Cr.	TRSG-2	010425	0945	15	15.0	7.4	6.4	82.0	5.7	11.4	57	0.9	5		0.05	0.063	<0.015	0.609	16
160	Trussells Cr.	TRSG-2	010508	1030	27	21.0	6.8	6.2	69.0	7.7	4.2									
160	Trussells Cr.	TRSG-2	010509	1125	22	20.0	4.0	5.9	79.1	5.2		100	1.2	5		0.041	0.044	<0.015	<0.150	21.6
160	Trussells Cr.	TRSG-2	010620	1145	29	23.9	7.1	8.5	55.0	13.6		89	1.4	11		0.04	0.016	<0.015	0.161	19.6
160	Trussells Cr.	TRSG-2	010710	1115	30	26.2	3.8	6.9	119.0	4.1		104	0.8	8		0.082	0.041	0.052	<0.150	24.9
160	Trussells Cr.	TRSG-2	010822	1050	25	24.1	3.1	6.8	111.0	6.3		156	4.0	6		<0.004	0.121	<0.015	<0.150	34
160	Trussells Cr.	TRSG-2	010920	1000	21	22.2	6.7	6.7	140.0	81.0	9.6	480	1.2	10		0.06	0.054	0.050	0.230	18.5
160	Trussells Cr.	TRSG-2	011025	1240	22	17.8	7.2	6.6	52.0	13.0	5.7	112	2.8	5		0.014	<0.003	<0.015	<0.150	64
160	Trussells Cr.	TRSG-2	011115	1150	20	11.8	7.8	6.7	61.0	6.4		64	1.2	3		<0.004	<0.003	<0.015	0.242	22
160	Trussells Cr.	TRSG-2	020109	1200	15	5.2	9.6	8.1	44.0	10.1		200	1.0	8		<0.004	1.107	<0.015	0.648	12
Sipsey R. (0316-0107)																				
070	Sipsey R.	SPYG-2	010425	0815	10	18.1	6.7	6.2	114.0	8.5		80	0.5	19		0.06	0.110	0.023	0.872	27.8
070	Sipsey R.	SPYG-2	010508	1200	18	21.4	6.1	6.5	130.0	6.3		24	0.5	8		0.022	0.192	0.054	<0.150	45.1
070	Sipsey R.	SPYG-2	010620	1305	29	26.1	6.4	8.4	93.0	14.3		24	1.0	14		0.04	0.118	0.111	0.360	40.4
070	Sipsey R.	SPYG-2	010710	1010	30	27.8	5.9	7.3	170.0	10.2		34	1.0	11		0.075	0.235	<0.015	<0.150	49.1
070	Sipsey R.	SPYG-2	010822	1205	27	26.6	5.7	7.6	134.0	7.3		35	0.2	11		<0.004	0.220	<0.015	<0.150	46.8
070	Sipsey R.	SPYG-2	010919	1215	24	22.8	6.1	6.6	59.5	15.0		60	0.2	37		0.07	0.087	0.020	<0.150	23.1
070	Sipsey R.	SPYG-2	011024	1200	25	18.3	7.0	6.1	56.0	13.1		156	1.4	8		0.024	<0.003	<0.015	0.285	36
070	Sipsey R.	SPYG-2	011114	1130	18	12.6	9.4	7.0	98.0	12.5		11	0.7	8		0.004	0.010	0.015	0.314	42
070	Sipsey R.	SPYG-2	020108	1020	0	4.2	9.5	7.4	75.0	15.7		65	0.8	8		<0.004	0.159	<0.015	0.407	24
070	Sipsey R.	SPYG-3	010425	1130	15	19.8	5.5	6.1	112.0	3.8		18	0.4	6		0.07	0.055	<0.015	0.349	25.2
070	Sipsey R.	SPYG-3	010508	1100	20	21.2	5.8	6.3	143.0	12.9		54	1.1	15		0.043	0.176	0.059	<0.150	52
070	Sipsey R.	SPYG-3	010619	1130	26	26.1	6.2	7.9	107.0	19.2		45	0.8	18		0.02	0.174	0.077	<0.150	50.3
070	Sipsey R.	SPYG-3	010710	0800	30	27.3	5.4	7.2	179.0	14.9		52	0.3	17		0.077	0.205	0.075	<0.150	52.9
070	Sipsey R.	SPYG-3	010821	1130	28	26.3	6.7	7.0	139.0	12.9		52	0.2	14		<0.004	0.213	0.120	<0.150	49
070	Sipsey R.	SPYG-3	010919	0915	24	22.8	6.0	6.4	48.7	19.0		37	0.4	28		0.08	0.129	0.060	<0.150	26.6
070	Sipsey R.	SPYG-3	011024	0930	20	17.9	6.3	6.4	78.0	16.9		136	1.5	8		<0.004	0.017	<0.015	<0.150	44
070	Sipsey R.	SPYG-3	011114	0930	16	12.5	9.3	6.7	110.0	11.7		90	0.5	13		<0.004	0.022	<0.015	0.437	54
070	Sipsey R.	SPYG-3	020108	0830	-5	4.0	10.0	8.0	88.0	15.8		42	0.9	32		0.005	0.184	<0.015	0.595	26
080	Sipsey R.	SPYG-1	010425	0900	19	18.4	7.1	6.4	109.0	8.4		100	0.3	14		0.08	0.095	<0.015	0.948	26.8

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Sipsey R. (0316-0107)																				
080	Sipsey R.	SPYG-1	010508	1230	20	21.3	6.4	6.6	12.0	34.9		31	0.4	8		0.01	0.194	<0.015	<0.150	42.3
080	Sipsey R.	SPYG-1	010620	1230	29	26.0	6.7	8.1	84.0	18.8		36	1.0	20		0.05	0.100	<0.015	0.294	35.5
080	Sipsey R.	SPYG-1	010710	1045	30	27.9	6.0	7.3	162.0	8.4		27	0.6	13		0.06	0.205	0.037	3.850	45
080	Sipsey R.	SPYG-1	010822	1130	26	27.3	6.4	7.5	125.0	5.7		128	0.2	11		<0.004	0.205	<0.015	<0.150	42.5
080	Sipsey R.	SPYG-1	010919	1245	24	22.9	6.7	7.1	54.1	12.0		70	0.2	2		0.06	0.087	<0.015	<0.150	22.5
080	Sipsey R.	SPYG-1	011024	1245	24	18.1	7.4	6.1	54.0	19.8		94	1.5	10		0.029	0.016	<0.015	0.491	46
080	Sipsey R.	SPYG-1	011114	1215	19	12.8	9.6	7.1	95.0	5.4		19	0.6	10		<0.004	0.003	<0.015	0.216	44
080	Sipsey R.	SPYG-1	020108	1100	5	4.4	10.0	7.2	74.0	16.0		37	0.7	9		0.005	0.161	<0.015	0.328	22
Middle Tombigbee-Chickasaw R. (0316-0201)																				
060	Chickasaw Bogue	CKBM-1	010502	0745	17	19.0	7.8	7.6	299.3	7.7	6.3									
060	Chickasaw Bogue	CKBM-1	010508	1030	23	23.8	9.0	7.1	210.0	6.2	2.6	36	1.9	9		0.062	0.012	0.061	0.414	117
060	Chickasaw Bogue	CKBM-1	010509	1430	24	28.0	8.7	7.9	294.0	5.9										
060	Chickasaw Bogue	CKBM-1	010626	1015	25	27.0	7.5	7.4	205.0	8.2	2.6	100	1.5	4		0.07	<0.003	0.031	<0.150	97.2
060	Chickasaw Bogue	CKBM-1	010716	1215	35	30.8	8.8	7.5	255.0	7.4	2.3	62								
060	Chickasaw Bogue	CKBM-1	010716	1215	35	30.8	8.8	7.5	255.0	7.4	2.3	62								
060	Chickasaw Bogue	CKBM-1	010718	1136	32	28.5	6.4	7.6	265.0	6.4		25	0.7	26		0.03	0.012	0.123	<0.150	69.1
060	Chickasaw Bogue	CKBM-1	010924	1050	24	23.9	6.4	7.1	175.0	7.5		59	2.9	15		0.08	0.065	0.060	0.570	103
060	Chickasaw Bogue	CKBM-1	010924	1050	24	23.9	6.4	7.1	175.0	7.5		59	2.9	15		0.08	0.065	0.060	0.570	103
060	Chickasaw Bogue	CKBM-1	011017	1120	20	15.6	7.9	5.8	150.0	9.8	7.5	100	4.1	7		0.11	1.430	0.090	0.240	85
060	Chickasaw Bogue	CKBM-1	020117	1235	20	9.0	10.0	6.2	150.0	25.4		83	1.3	2		0.06	0.013	0.140	0.310	80.1
060	Chickasaw Bogue	CKBM-1	020220	0955	20	14.0	10.7	7.9	168.0	98.1		1000	2.2	233		0.2	0.015	0.140	0.550	95.6
190	Wahalak Cr.	WHKC-1	010508	1310	35	24.7	8.5	7.3	100.0	13.5	10.0	78	1.8	11		0.068	0.049	<0.015	<0.150	32.2
190	Wahalak Cr.	WHKC-1	010524	1205	30	26.0	7.0	7.1	153.8	12.8	7.1									
190	Wahalak Cr.	WHKC-1	010627	1225	32	25.1	7.5	6.4	50.0	3.7	16.2	3300	1.0	45		0.15	0.130	0.064	<0.150	16.5
190	Wahalak Cr.	WHKC-1	010716	1430	35	28.0	7.8	7.4	130.0	14.5	2.3	56								
190	Wahalak Cr.	WHKC-1	010716	1430	35	28.0	7.8	7.4	130.0	14.5	2.3	56								
190	Wahalak Cr.	WHKC-1	010719	1130	38	28.4	7.6	7.2	170.0	13.3	4.0	50 est.	0.8	11		0.04	0.157	<0.015	<0.150	38.1
190	Wahalak Cr.	WHKC-1	010924	1225	30	24.6	6.8	7.9	130.0	12.1	11.5	97	2.7	5		0.1	0.239	0.060	0.220	34.5
190	Wahalak Cr.	WHKC-1	010924	1225	30	24.6	6.8	7.9	130.0	12.1	11.5	97	2.7	5		0.1	0.239	0.060	0.220	34.5
190	Wahalak Cr.	WHKC-1	011016	1600	24	18.6	8.0	6.5	90.0	40.8		570	2.9	47		<0.004	0.103	<0.015	0.450	18.3
190	Wahalak Cr.	WHKC-1	020117	1115	14	12.0	7.0	5.6	105.0	13.7	49.5	55	2.3	8		0.02	0.004	0.090	<0.150	22.6
190	Wahalak Cr.	WHKC-1	020306	1140	19	11.0	11.6	7.1	55.0	11.6	28.1	51	1.7	11		0.05	0.008	<0.015	0.340	27.7
190	Wahalak Cr.	WHKC-2	010508	1350	35	23.7	9.0	7.5	80.0	8.2	4.7	40	1.9	12		0.058	0.030	<0.015	<0.150	30
190	Wahalak Cr.	WHKC-2	010524	1340	28	25.0	7.1	6.9	119.1	12.3	3.1									
190	Wahalak Cr.	WHKC-2	010627	1325	26	24.7	7.7	6.8	80.0	96.0	41.9	1440	0.7	82		0.15	0.370	0.149	0.612	24.6
190	Wahalak Cr.	WHKC-2	010627	1325	26	24.7	7.7	6.8	80.0	96.0	41.9	1440	0.7	82		0.15	0.370	0.149	0.612	24.6
190	Wahalak Cr.	WHKC-2	010716	1350	37	30.2	8.3	7.5	170.0	7.4	4.8	2								
190	Wahalak Cr.	WHKC-2	010716	1350	37	30.2	8.3	7.5	170.0	7.4	4.8	2								

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Middle Tombigbee-Chickasaw R. (0316-0201)																				
190	Wahalak Cr.	WHKC-2	010719	1045	38	26.4	7.0	7.2	140.0	14.0	3.8	80	0.6	11		0.03	0.022	<0.015	<0.150	36.6
190	Wahalak Cr.	WHKC-2	010924	1400	31	25.2	7.3	7.2	90.0	12.1	7.2	160	3.0	28		0.06	0.065	0.050	<0.150	46.4
190	Wahalak Cr.	WHKC-2	011016	1535	25	17.8	8.8	6.8	50.0	22.3		500	3.1	31		<0.004	0.208	<0.015	0.170	17.5
190	Wahalak Cr.	WHKC-2	020117	1025	14	8.0	10.3	5.0	85.0	10.4	19.9	90	1.7	8		<0.004	0.041	0.150	0.230	21.9
190	Wahalak Cr.	WHKC-2	020306	1000	16	10.0	12.3	6.9	95.0	8.1	12.9	110	1.2	5		0.05	0.011	0.060	<0.150	25.3
210	Bashi Cr.	BSCC-1	010508	1550	34	25.1	10.0	7.3	245.0	12.4	8.8	56	1.3	10		0.071	0.019	<0.015	<0.150	51.7
210	Bashi Cr.	BSCC-1	010524	1600	30	28.0	6.7	7.1	213.7	13.4	4.2									
210	Bashi Cr.	BSCC-1	010627	1500	28	25.4	8.6	7.1	140.0	12.7	17.9	110	0.7	10		0.06	<0.003	<0.015	0.237	53.2
210	Bashi Cr.	BSCC-1	010716	1535	37	29.5	7.2	7.6	210.0	12.0	4.2	70								
210	Bashi Cr.	BSCC-1	010716	1535	37	29.5	7.2	7.6	210.0	12.0	4.2	70								
210	Bashi Cr.	BSCC-1	010718	1345	37	30.9	7.6	7.4	210.0	11.0	3.6	117	1.2	9		0.02	0.009	<0.015	<0.150	56.9
210	Bashi Cr.	BSCC-1	010924	1530	30	24.1	7.5	7.2	135.0	40.3	15.0	>2160	2.9	1		0.03	0.010	0.040	<0.150	35.4
210	Bashi Cr.	BSCC-1	011016	1715	19	16.8	8.5	6.5	70.0	38.2	37.1	400	3.4	33		0.01	0.098	0.120	<0.150	24.3
210	Bashi Cr.	BSCC-1	020115	1150	13	10.0	8.1	5.8	80.0	25.4		110								
210	Bashi Cr.	BSCC-1	020116	1115	9	14.0	10.4	6.4	79.0	22.3		110	0.9	10		<0.004	0.020	0.110	<0.150	31
210	Bashi Cr.	BSCC-1	020219	1350	21	10.2	12.0	7.1	87.0	13.1	37.9	180								
210	Bashi Cr.	BSCC-1	020220	1110	21	15.0	9.3	7.8	65.0	112.0		>1600								
210	Bashi Cr.	BSCC-1	020221	0910	14	15.0	15.0	6.9	60.0	15.0		580	2.4	86		<0.004	0.018	<0.015	<0.150	23.4
210	Bashi Cr.	BSCC-1	020305	1310	18	12.0	12.0	6.9	80.0	21.0	55.2									
Sucarnoochee R. (0316-0202)																				
080	Sucarnoochee R.	SUCS-1	010426	0955	15	18.1	8.6	6.3	110.0	17.0		46	1.7	25		0.07	0.134	<0.015	<0.150	24.9
080	Sucarnoochee R.	SUCS-1	010509	0835	15	22.5	7.3	5.8	95.0	14.3		88	1.1	17		0.086	0.066	0.094	<0.150	30.1
080	Sucarnoochee R.	SUCS-1	010621	0950	25	26.8	7.7	8.2	80.0	27.2		29	0.3	16		0.05	0.075	0.068	<0.150	26.9
080	Sucarnoochee R.	SUCS-1	010711	1100	30	29.6	5.9	7.5	128.0	18.7		84	0.3	23		0.097	0.103	0.117	<0.150	23.1
080	Sucarnoochee R.	SUCS-1	010823	0915	23	27.4	6.5	6.5	73.0	18.9		168	0.6	36		0.03	0.093	<0.015	0.530	17.8
080	Sucarnoochee R.	SUCS-1	010920	1230	25	24.0	7.4	7.4	54.1	80.0		1520	0.8	96		0.1	0.068	0.040	0.550	26.7
080	Sucarnoochee R.	SUCS-1	011025	0915	16	18.8	7.9	7.1	81.0	28.1		80	3.2	17		0.034	0.019	<0.015	<0.150	64
080	Sucarnoochee R.	SUCS-1	011115	0940	18	12.9	9.7	7.1	69.0	7.9		17	1.4	7		<0.004	<0.003	<0.015	0.298	30
080	Sucarnoochee R.	SUCS-1	020109	0900	10	5.3	10.6	8.2	96.0	49.5		240	0.2	28		0.048	0.117	<0.015	0.660	26
100	Yellow Cr.	YLWS-1	010426	1015	16	15.2	6.9	6.0	122.0	49.7		210	2.6	142		0.15	0.080	0.121	<0.150	16.3
100	Yellow Cr.	YLWS-1	010509	0905	16	19.3	3.7	6.1	331.0	21.6		>600	6.0	26		0.179	0.008	<0.015	<0.150	41.9
100	Yellow Cr.	YLWS-1	010621	1040	26	23.9	4.4	6.7	219.0	35.1	.2	136	4.4	20		0.11	0.006	0.248	0.980	32.1
100	Yellow Cr.	YLWS-1	010711	1115	30	26.2	1.3	6.7	295.0	10.8		>600	3.0	20		0.135	0.054	0.558	1.280	36.8
100	Yellow Cr.	YLWS-1	010823	1000	23	23.8	2.4	6.5	260.0	15.1		240	0.7	22		0.09	0.158	0.160	2.090	26.9
100	Yellow Cr.	YLWS-1	010920	1315	27	23.3	7.2	6.5	48.7	78.0	6.5	>1200	1.8	55		0.09	0.055	0.020	1.060	13.4
100	Yellow Cr.	YLWS-1	011025	0945	16	18.4	3.3	6.1	68.0	33.9		164	4.5	15		0.069	<0.003	<0.015	0.356	80
100	Yellow Cr.	YLWS-1	011115	0910	17	10.9	2.9	6.3	113.0	40.2		24	2.2	30		0.079	<0.003	<0.015	0.462	32
100	Yellow Cr.	YLWS-1	020109	0930	10	3.3	8.6	8.0	62.0	58.3		60	1.0	13		<0.004	0.011	<0.015	0.561	16

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
L. Tombigbee R. (0316-0203)																				
030	Santa Bogue	SABW-1	010509	1150	28	23.2	8.2	6.8	150.0	11.1	57.1	440	1.5	24		0.069	0.115	<0.015	0.316	61.2
030	Santa Bogue	SABW-1	010509	1150	28	23.2	8.2	6.8	150.0	11.1	57.1	440	1.5	24		0.069	0.115	<0.015	0.316	61.2
030	Santa Bogue	SABW-1	010523	1530	28	27.0	7.1	7.4	180.4	5.6	25.2									
030	Santa Bogue	SABW-1	010626	1240	32	26.4	7.9	7.3	150.0	7.6	58.2	130	0.8	17		0.06	0.070	0.078	0.336	48.4
030	Santa Bogue	SABW-1	010626	1240	32	26.4	7.9	7.3	150.0	7.6	58.2	130	0.8	17		0.06	0.070	0.078	0.336	48.4
030	Santa Bogue	SABW-1	010717	1015	34	28.0	7.7	7.1	150.0	5.0	30.5	62								
030	Santa Bogue	SABW-1	010717	1015	34	28.0	7.7	7.1	150.0	5.0	30.5	62								
030	Santa Bogue	SABW-1	010718	1530	36	29.7	7.8	7.4	150.0	5.8	24.8	73	1.3	10		<0.070	0.063	<0.015	<0.150	43.9
030	Santa Bogue	SABW-1	010925	1045	20	19.3	7.2	6.7	125.0	6.3	43.8	28	3.7	1		0.03	0.096	0.060	<0.150	59.4
030	Santa Bogue	SABW-1	011016	1430	20	18.9	6.0	5.8	45.0	14.4		670	3.7	21		<0.004	0.288	<0.015	0.260	22.6
030	Santa Bogue	SABW-1	020115	1251	14	11.0	7.7	6.5	55.0	11.7										
030	Santa Bogue	SABW-1	020115	1250	15	10.0	7.8	6.6	60.0	12.3		170								
030	Santa Bogue	SABW-1	020116	1220	15	9.0	8.9	4.9	65.0	9.5		120	0.5	8		<0.004	0.033	0.160	0.320	31.2
030	Santa Bogue	SABW-1	020219	1520	21	12.0	12.0	7.4	113.0	5.1	93	84								
030	Santa Bogue	SABW-1	020220	1200	24	15.0	11.2	7.4	140.0	35.4		1000								
030	Santa Bogue	SABW-1	020221	1015	17	15.0	8.7	7.4	90.0	69.0		1800	2.1	99		0.04	<0.003	<0.015	<0.150	51.8
090	Bassett Cr.	BSTC-1	010523	1210	28	21.2	6.7	6.5	160.0	16.4		>1690	2.4	5		0.1	0.107	<0.015	0.227	33.4
090	Bassett Cr.	BSTC-1	010627	1705	28	25.8	6.2	6.9	120.0	16.8		520	1.4	8		0.08	0.080	0.092	0.306	23.1
090	Bassett Cr.	BSTC-1	010731	1450	35	30.5	5.9	7.2	110.0	7.7	8.7	13 est.	1.1	5		0.01	0.060	0.130	<0.150	29.9
090	Bassett Cr.	BSTC-1	10808	1300	32	27.0	6.1	nm	nm	26.9										
090	Bassett Cr.	BSTC-1	010905	1335	33	29.8	8.5	7.4	190.0	22.9	6.0	>810	2.1	24		0.19	0.343	2.640	2.640	31.7
090	Bassett Cr.	BSTC-1	011003	1530	30	22.4	9.1	7.2	100.0	17.3	2.2	1130	3.1	70		0.04	0.086	0.110	<0.150	40.5
090	Bassett Cr.	BSTC-1	011126	1500	28	20.1	9.2	6.8	70.0	33.2	3.6	610	2.4	15		0.15	0.143	0.200	0.200	20.5
090	Bassett Cr.	BSTC-1	020109	1030	8	8.6	6.4	6.8	40.0	19.0	2.0	100 est.	1.3	10		0.12	0.140	0.110	<0.150	16
090	Bassett Cr.	BSTC-1	020225	1340	23	13.2	10.0	6.5	40.0	14.0	2.2	140	1.5	4		0.06	0.135	<0.015	0.210	17.9
090	Bassett Cr.	BSTC-2	010523	1045	30	25.0	10.0	5.9	120.0	19.0	7.1	>620	3.0	9		0.15	0.111	0.055	0.445	31
090	Bassett Cr.	BSTC-2	010621	1215	39	27.2	10.0	7.1		14.3	18.4	470	1.1	6		0.08	0.107	0.118	<0.150	16.8
090	Bassett Cr.	BSTC-2	010731	1415	35	32.7	9.0	7.5	120.0	8.6	4.0	>7700	2.7	1		0.05	0.030	<0.015	<0.150	28.6
090	Bassett Cr.	BSTC-2	010808	1130	31	27.0	7.1	nm	nm	30.4										
090	Bassett Cr.	BSTC-2	010905	1300	34	30.1	8.3	7.3	200.0	25.9	6.2	1300	2.2	24		0.16	0.272	1.570	2.300	35.1
090	Bassett Cr.	BSTC-2	011003	1330	30	22.0	8.8	7.2	100.0	12.8	1.2	800	2.5	7		0.02	0.107	0.100	0.260	39.4
090	Bassett Cr.	BSTC-2	011126	1430	28	19.1	9.0	6.7	50.0	40.2	4.0	830	2.4	14		0.14	0.143	0.580	0.700	20.7
090	Bassett Cr.	BSTC-2	020109	1115	9	10.2	9.0	6.5	40.0	17.2	2.3	120 est.	2.0	8		0.13	0.138	0.180	0.180	15.1
090	Bassett Cr.	BSTC-2	020225	1300	23	14.3	9.5	5.5	40.0	12.1	1.6	210	2.8	1		0.06	0.011	<0.015	<0.150	18.1
090	Bassett Cr.	BSTC-3	010523	1330	30	21.4	5.9	6.8	100.0	72.7		150	4.7	47		0.11	0.019	<0.015	0.299	37.5
090	Bassett Cr.	BSTC-3	010620	1610	42	24.2	5.0	6.6		17.6	0.4	>950	1.8	13		0.04	0.071	0.143	0.342	18.1
090	Bassett Cr.	BSTC-3	010731	1115	32	26.4	5.8	6.4	110.0	28.4	0.6	420	1.8	22		0.02	0.080	0.060	<0.150	33.9

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
L. Tombigbee R. (0316-0203)																				
090	Bassett Cr.	BSTC-3	010905	1110	30	25.2	6.5	7.7	100.0	37.1	0.3	220	1.4	34		<0.004	0.125	0.100	0.160	29.2
090	Bassett Cr.	BSTC-3	011003	1100	28	17.4	8.0	7.7	110.0	17.1		77 est.	2.3	6		<0.004	0.126	0.050	<0.150	45.3
090	Bassett Cr.	BSTC-3	011126	1245	28	19.0	6.0	7.8	100.0	19.8		440	1.7	20		0.1	0.121	<0.015	0.200	21.8
090	Bassett Cr.	BSTC-3	020108	1400	12	8.7	10.0	6.0	60.0	22.8		200	2.3	8		0.1	0.054	0.170	0.800	18.2
090	Bassett Cr.	BSTC-3	020225	1110	22	13.0	10.0	5.8	50.0	15.6		440	1.7	7		0.05	0.130	<0.015	0.220	20.9
090	Bassett Cr.	BSTC-4	010523	1300	30	22.3	6.0	6.8	75.0	34.1		>5800	2.1	19		0.1	0.096	0.044	0.518	24.3
090	Bassett Cr.	BSTC-4	010621	1512	42	29.2	5.0	5.7		22.7		290	2.9	35		0.08	0.047	0.228	0.704	18.6
090	Bassett Cr.	BSTC-4	010731	1150	35	29.3	3.3	6.6	130.0	96.1		140	5.2	22		0.05	0.030	0.140	<0.150	36.5
090	Bassett Cr.	BSTC-4	010905	1125	32	25.9	5.4	6.8	80.0	55.5		1330	2.1	50		0.04	0.162	0.070	0.920	17
090	Bassett Cr.	BSTC-4	011003	1200	28	19.4	4.4	6.6	70.0	27.7		100 est.	0.7	19		0.03	0.088	0.030	<0.150	37.1
090	Bassett Cr.	BSTC-4	011126	1150	28	19.0	6.5	6.5	40.0	55.6		1570	1.9	33		0.13	0.090	<0.015	0.070	14.5
090	Bassett Cr.	BSTC-4	020108	1500	12	7.0	10.0	5.2	40.0	24.3		230	2.3	12		0.12	0.102	0.150	<0.150	12.9
090	Bassett Cr.	BSTC-4	020225	1215	23	12.3	10.0	5.7	35.0	19.7		160	1.5	8		0.03	0.256	<0.015	<0.150	16.2
090	James Cr.	JMCC-1	010524	1015	28	21.8	9.2	7.8	80.0	5.3	4.7	93	1.1	7		0.05	0.124	0.114	<0.150	49
090	James Cr.	JMCC-1	010525	0725	20	21.0	8.1	7.3	117.4	4.6	5.5									
090	James Cr.	JMCC-1	010621	1020	40	24.1	10.0	7.0		256.0	15.8	127	0.2	28		0.19	0.095	0.383	<0.150	49.1
090	James Cr.	JMCC-1	010801	1050	32	26.0	8.8	7.4	120.0	64.3	7.8	320	0.4	34		0.03	0.120	<0.015	0.160	49.8
090	James Cr.	JMCC-1	010906	0930	26	27.2	8.0	7.5	130.0	22.0	6.5	240	1.3	24		0.03	0.172	0.040	<0.150	51.6
090	James Cr.	JMCC-1	011004	1030	26	16.6	10.0	7.4	90.0	3.9	4.2	30 est.	0.7	3		<0.004	0.133	0.060	<0.150	52.5
090	James Cr.	JMCC-1	011127	1045	26	19.0	9.2	7.6	90.0	5.8	2.2	93	1.7	9		0.11	0.083	0.320	0.830	45.1
090	James Cr.	JMCC-1	020109	0945	8	5.7	10.0	5.9	80.0	4.7	1.7	110	2.3	6		0.11	0.265	0.110	<0.150	49.8
090	James Cr.	JMCC-1	020226	1000	17	10.9	9.3	7.2	4.8	4.8	1	>220	1.6	2		0.04	0.254	0.070	<0.150	63.3
130	Bilbo Cr.	BLBW-1	010509	1230	35	22.6	4.6	5.6	30.0	3.5	3.2	12	0.8	4		<0.004	0.023	<0.015	0.222	3.86
130	Bilbo Cr.	BLBW-1	010523	1100	30	25.0	2.4	5.4	30.7	4.0	1.7									
130	Bilbo Cr.	BLBW-1	010627	0930	29	24.0	5.3	5.2	35.0	3.7	8.3	4 est.	1.2	14		0.05	<0.003	0.046	0.340	3.85
130	Bilbo Cr.	BLBW-1	010717	1140	35	26.4	3.6	5.4	20.0	3.9	4.8	8								
130	Bilbo Cr.	BLBW-1	010718	1650	35	27.1	4.0	5.2	30.0	4.1	4.5	4 est.	1.8	6		0.004	0.015	<0.015	<0.150	3.15
130	Bilbo Cr.	BLBW-1	010925	1230	23	23.2	4.6	4.7	30.0	6.3	5.6	101	0.3	3		0.07	0.062	0.030	0.670	4.48
130	Bilbo Cr.	BLBW-1	010925	1230	23	23.2	4.6	4.7	30.0	6.3	5.6	101	0.3	3		0.07	0.062	0.030	0.670	4.48
130	Bilbo Cr.	BLBW-1	020115	1345	18	11.0	8.6	5.9	30.0	6.7		56								
130	Bilbo Cr.	BLBW-1	020116	1305	22	10.0	9.0	2.9	38.0	4.8		10	1.9	5		<0.004	<0.003	0.050	<0.150	4.37
130	Bilbo Cr.	BLBW-1	020219	1645	20	15.0	10.4	6.3	16.0	2.2		<1								
130	Bilbo Cr.	BLBW-1	020220	1345	25	15.0	5.4	4.9	900.0	5.4		38								
130	Bilbo Cr.	BLBW-1	020221	1115	21	15.0	8.5	4.5	15.0	12.9		230	1.0	10		0.004	0.165	0.160	<0.150	3.91

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Mobile-Tensaw R. (0316-0204)																				
030	Bayou Sara	BYSM-1	010509	0925	27	24.1	8.6	7.4	3170.0	8.5		<2	<1.0	15		0.052	0.022	0.050	0.580	307
030	Bayou Sara	BYSM-1	010625	1155	30	28.3	6.4	7.3	2650.0	15.7		12	<2.0	14		0.066	0.113	0.010	0.540	137
030	Bayou Sara	BYSM-1	010730	1100	32	30.6	5.5	7.3	2050.0			14	1.7	15		0.112	0.040	0.020	0.590	208
030	Bayou Sara	BYSM-1	010926	1005	20	26.0	5.1	7.1	8430.0	8.1		28	<1.0	12		0.064	0.216	0.060	0.550	672
030	Bayou Sara	BYSM-1	011106	1000	19	19.2	7.1	7.0	11620.0	11.0		100	1.4	13		0.058	0.122	0.030	0.510	1070
030	Bayou Sara	BYSM-2	010509	0950	25	23.7	4.2	6.7	540.0	7.0		12	<1.0	7		0.064	0.101	0.070	0.680	61
030	Bayou Sara	BYSM-2	010625	1215	30	27.7	3.7	6.6	332.0	9.1		8	2.0	9		0.095	<0.005	0.210	0.900	46
030	Bayou Sara	BYSM-2	010730	1115	32	27.5	4.7	6.7	1268.0			58	3.0	9		0.083	<0.005	<0.015	0.810	120
030	Bayou Sara	BYSM-2	010926	1030	20	24.2	4.6	6.6	2430.0	3.7		16	<1.0	7		0.039	0.060	0.040	0.640	216
030	Bayou Sara	BYSM-2	011106	1020	19	20.0	6.6	6.8	9100.0	2.0		12	1.9	<5		0.025	<0.006	<0.015	0.420	615
030	Bayou Sara	BYSM-3	010509	1000	25	23.5	4.0	6.6	512.0	7.6		20	<1.0	11		0.064	0.101	0.080	0.640	61
030	Bayou Sara	BYSM-3	010625	1230	30	27.4	3.3	6.5	309.0	7.7		10	<2.0	7		0.06	0.009	0.010	0.580	44
030	Bayou Sara	BYSM-3	010730	1125	32	27.9	5.0	6.6	1243.0			96	2.4	11		0.085	0.015	0.010	0.770	115
030	Bayou Sara	BYSM-3	010926	1040	20	24.3	4.2	6.6	2090.0	3.8		24	<1.0	7		0.039	0.057	0.050	0.760	200
030	Bayou Sara	BYSM-3	011106	1030	19	20.0	7.3	6.8	7710.0	2.0		8	1.7	5		0.025	0.005	0.010	0.410	573
030	Bayou Sara	BYSM-4	010509	1020	27	23.6	4.4	6.6	485.0	6.2		20	<1.0	7		0.067	0.096	0.070	0.670	55
030	Bayou Sara	BYSM-4	010625	1240	30	27.4	3.4	6.4	280.0	6.9		6	2.5	7		0.061	0.019	0.010	0.570	38
030	Bayou Sara	BYSM-4	010730	1135	32	27.3	4.8	6.6	1155.0			36	1.7	<5		0.08	0.020	0.020	0.790	93
030	Bayou Sara	BYSM-4	010926	1050	20	23.8	4.4	6.5	1236.0	2.7		4	<1.0	<5		0.038	0.039	0.040	0.610	131
030	Bayou Sara	BYSM-4	011106	1040	19	20.2	6.1	6.7	9260.0	1.8		14	1.9	<5		0.024	<0.005	0.010	0.370	549
030	Bayou Sara	BYSM-5	010509	1045	27	23.3	4.3	6.6	403.0	4.8		20	<1.0	<5		0.081	0.057	0.090	0.700	46
030	Bayou Sara	BYSM-5	010625	1250	31	27.1	4.5	6.4	201.0	4.9		10	2.2	<5		0.059	0.008	0.010	0.570	34
030	Bayou Sara	BYSM-5	010730	1145	32	26.0	4.3	6.5	148.0			400	1.3	5		0.053	0.046	0.010	0.590	51
030	Bayou Sara	BYSM-5	010926	1100	20	23.5	4.4	6.4	337.0	3.2		88	<1.0	<5		0.047	0.033	0.050	0.550	48
030	Bayou Sara	BYSM-5	011106	1050	20	20.1	0.6	6.3	6880.0	2.8		56	1.4	<5		0.035	0.042	<0.015	0.420	238
030	Bayou Sara	BYSM-6	010509	1120	28	20.1	5.1	6.3	60.0	3.4		250	<1.0	7		0.045	0.113	0.050	0.650	24
030	Bayou Sara	BYSM-6	010625	1320	31	22.7	4.8	6.3	62.0	3.7		64	2.3	<5		0.043	0.072	0.020	0.480	23
030	Bayou Sara	BYSM-6	010730	1210	33	24.7	5.4	5.6	55.0			100	<1.0	<5		0.023	0.026	0.010	0.560	25
030	Bayou Sara	BYSM-6	010926	1125	20	19.3	5.9	6.2	54.0	6.5		700	<1.0	15		0.023	0.157	0.010	0.350	26
030	Bayou Sara	BYSM-6	011106	1120	21	16.0	6.0	6.2	56.0	2.1		140	1.8	<5		0.015	0.127	0.010	0.290	25
030	Bayou Sara	BYSM-7	010509	1215	25	22.0	4.3	6.6	112.0	5.1		480	<1.0	5		0.143	0.309	1.400	1.900	23
030	Bayou Sara	BYSM-7	010625	1400	31	24.9	9.8	6.3	78.0	4.8		180	<2.0	<5		0.028	0.322	0.020	0.260	19
030	Bayou Sara	BYSM-7	010730	1250	33	27.0	6.9	6.4	81.0			670	<1.0	6		0.046	0.142	0.030	0.900	39
030	Bayou Sara	BYSM-7	010926	1205	20	17.9	8.8	6.4	79.0	3.1		370	<1.0	<5		0.015	0.508	0.010	0.280	25
030	Bayou Sara	BYSM-7	011106	1205	21	16.4	7.2	6.4	94.0	7.1		64	<0.1	<5		0.026	0.422	0.010	0.240	23

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Mobile Bay (0316-0205)																				
020	Dog R.	DGRM-1	010514	1300	28	26.0	7.7	8.3	9700.0	6.9		4	1.3	14		0.062	0.036	0.040	0.570	980
020	Dog R.	DGRM-1	010612	0945	29	25.3	6.5	7.4	3800.0	23.0		410	<1.0	22		0.086	0.114	0.110	0.540	380
020	Dog R.	DGRM-1	010711	1030	25	29.5	4.9	7.2	12600.0	10.0		12	2.6	12		0.063	0.028	0.010	0.690	1360
020	Dog R.	DGRM-1	010912	1035	30	28.0	6.5	7.8	6940.0	12.6		180	<0.1	14		0.072	0.173	0.050	0.690	744
020	Dog R.	DGRM-1	011101	1340		18.8	11.3	9.0	12500.0	7.2		6	2.5	14		0.053	<0.005	<0.015	0.590	1280
020	Dog R.	DGRM-1	011205	1040	23	18.3	8.6	7.8	13200.0	9.3			1.7	17		0.052	0.143	0.010	0.520	1520
020	Dog R.	DGRM-2	010514	1345	29	27.2	8.5	7.8	3690.0	7.9		12	1.7	7		0.091	<0.005	<0.015	0.740	350
020	Dog R.	DGRM-2	010612	1030	29	24.7	5.3	7.1	780.0	15.2		2200	1.9	14		0.14	0.073	0.150	0.750	102
020	Dog R.	DGRM-2	010711	1045	25	29.6	5.9	7.1	2920.0	7.3		64	2.2	9		0.179	0.012	<0.015	0.760	230
020	Dog R.	DGRM-2	010912	1130	29	29.1	6.4	7.4	3550.0	7.3		22	<0.1	9		0.066	<0.005	0.040	0.710	400
020	Dog R.	DGRM-2	011101	1350		20.3	9.9	8.5	9550.0	8.3		18	2.6	14		0.062	<0.005	<0.015	0.680	1020
020	Dog R.	DGRM-2	011101	1351		20.5	10.0	8.5	9450.0	8.5		14	2.6	11		0.06	0.006	0.010	0.660	990
020	Dog R.	DGRM-2	011205	1110	24	19.2	7.7	7.5	13500.0	9.2			3.1	16		0.065	0.007	<0.015	0.830	1550
020	Dog R.	DR -1	010514	1355	29	26.7	8.7	7.6	1323.0	7.6		46	2.5	<5		0.118	0.008	<0.010	0.760	130
020	Dog R.	DR -1	010612	1045	29	23.2	5.2	7.0	80.0	40.0		4300	<1.0	25		0.151	0.106	0.150	0.560	30
020	Dog R.	DR -1	010711	1100	26	29.5	4.2	6.9	589.0	7.8		20	2.9	6		0.155	0.005	<0.010		80
020	Dog R.	DR -1	010912	1155	29	28.9	4.4	7.1	764.0	7.7		56	<0.1	10		0.069	0.008	0.050	0.700	88
020	Dog R.	DR -1	011101	1405		19.1	9.7	7.9	6100.0	5.6		28	2.6	5		0.053	<0.005	0.010	0.570	616
020	Dog R.	DR -1	011205	1125	24	19.6	6.8	7.2	11500.0	4.4			2.5	6		0.066	0.014	0.090	0.750	1220
020	Rabbit Cr.	RBTM-1	010514	1315	28	23.9	9.5	7.4	1192.0	4.7		30	1.3	<5		0.046	<0.005	<0.015	0.450	130
020	Rabbit Cr.	RBTM-1	010612	1015	29	22.8	5.0	6.6	105.0	75.0		1300	<1.0	25		0.082	0.057	0.050	0.560	39
020	Rabbit Cr.	RBTM-1	010912	1100	29	26.8	4.7	7.0	520.0	6.6		440	<0.1	6		0.044	0.081	0.050	0.660	88
020	Rabbit Cr.	RBTM-1	011114	1255		19.6	8.1	6.7	6180.0	2.2		100	<0.1	<5		0.025	0.073	0.010	0.370	630
020	Rabbit Cr.	RBTM-2	010515	1000	30	19.4	6.6	6.6	86.0	4.8	5.3	24	<1.0	<5		0.017	0.200	0.020	0.260	16
020	Rabbit Cr.	RBTM-2	010612	1230	30	22.8	6.2	7.1	72.0	23.0	20.1	480	<1.0	9		0.036	0.083	0.050	0.320	39
020	Rabbit Cr.	RBTM-2	010913	1010	25	23.4	5.5	6.5	100.0	8.6	16.5	170	<0.1	<5		0.02	0.174	0.050	0.440	35
020	Rabbit Cr.	RBTM-2	011114	1330	23	15.9	7.5	6.7	90.0	3.5	7.1	76	<0.1	<5		0.018	0.236	0.010	0.210	23
020	Rabbit Cr.	RBTM-3	010515	1055	30	20.0	6.8	6.3	90.0	4.1		290	<1.0	<5		0.017	0.405	0.030	0.250	17
020	Rabbit Cr.	RBTM-3	010612	1330	30	22.7	6.5	6.8	80.0	15.2		290	<1.0	9		0.03	0.217	0.060	0.240	38
020	Rabbit Cr.	RBTM-3	010913	1109	27	23.0	5.9	6.7	95.0	6.2		260	<0.1	<5		0.016	0.369	0.070	0.400	26
020	Rabbit Cr.	RBTM-3	010913	1109	27	23.0	6.0	6.7	96.0	6.1			<0.1	<5		0.016	0.364	0.070	0.390	28
020	Rabbit Cr.	RBTM-3	011114	1415	23	16.4	7.8	6.3	96.0	3.5		140	<1.0	<5		0.019	0.402	0.020	0.270	24
020	Rabbit Cr.	RBTM-4	010515	1115	30	19.0	4.8	5.9	80.0	4.1		170	<1.0	<5		0.017	0.503	0.030	0.260	12
020	Rabbit Cr.	RBTM-4	010612	1350	30	23.2	5.2	6.3	80.0	11.5		92	<1.0	7		0.027	0.298	0.070	0.380	35
020	Rabbit Cr.	RBTM-4	010913	1120	28	22.6	4.7	6.3	82.0	6.5		400	<0.1	27		0.019	0.384	0.060	0.300	17
020	Rabbit Cr.	RBTM-4	011114	1430	23	16.3	5.1	5.9	87.0	4.1		210	<0.1	<5		<0.005	0.456	0.020	0.240	23
020	Rabbit Cr.	RBTM-4	011114	1431	23	16.2	5.1	6.1	86.0	4.1		260	<0.1	<5		0.03	0.449	0.020	0.240	24

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Mobile Bay (0316-0205)																				
050	Caney Br.	CNYB-1	010501	1355	27	19.0	7.9	6.5	60.0		2.8	100								
050	Caney Br.	CNYB-1	010522	1120	22	21.4	6.8	6.0	59.0		3.2									
050	Caney Br.	CNYB-1	010702	1430	30	22.4	7.0	6.3	57.0		3.7									
050	Caney Br.	CNYB-1	010809	1115	32	23.2	6.9	6.4	78.0		7.8									
050	Caney Br.	CNYB-1	011009	1415	24	19.2	7.7	6.1	70.0		5.8	70								
050	Caney Br.	CNYB-1	011105	1400	24	18.4	7.6	6.1	71.0		4.6	110								
050	Caney Br.	CNYB-1	020115	1430	58	13.4	8.3	6.2	80.0		6.3									
050	Fish R.	FI -1	010501	1330	25	19.0	8.6	6.5	54.0	2.7		62	<1.0	<5		0.033	1.950	0.010	0.330	18
050	Fish R.	FI -1	010522	1045	24	21.1	7.5	6.1	60.0	3.8		340	<1.0	<5		0.079	1.480	<0.020	0.240	26
050	Fish R.	FI -1	010522	1046	24	21.1	7.5	6.1	60.0	3.5		330	<1.0	<5		0.077	1.450	<0.020	0.270	35
050	Fish R.	FI -1	010702	1345	30	21.7		6.4	57.0	4.6		290	<1.0	<5		0.049	1.790	0.010	0.190	25
050	Fish R.	FI -1	010809	1100	29	22.2	7.4	6.4	59.0	6.2		200	<1.0	<5			0.012	<0.010	0.570	23
050	Fish R.	FI -1	011009	1345	24	18.6	8.2	6.2	59.0	3.5		150	<1.0	<5		0.023	1.780	<0.010	0.160	18
050	Fish R.	FI -1	011105	1340	25	18.1	8.1	6.3	64.0	2.0		120	<0.1	<5		0.029	2.010	0.010	0.100	26
050	Fish R.	FSHB-1	010501	1215	28	22.0	9.6	8.5	3040.0			6								
050	Fish R.	FSHB-1	010522	0950	26	25.7	6.7	7.6	12640.0											
050	Fish R.	FSHB-1	010702	1235	29	29.0	5.9	7.3	8200.0											
050	Fish R.	FSHB-1	010809	1010	30	27.7	5.5	6.6	8000.0											
050	Fish R.	FSHB-1	011009	1230	23	22.4	9.5	7.7	14810.0			110								
050	Fish R.	FSHB-1	011105	1200	25	21.9	6.6	7.4	29400.0			60								
050	Fish R.	FSHB-2	010501	1315	25	19.0	8.9	7.1	56.0			48								
050	Fish R.	FSHB-2	010522	1020	23	21.2	7.8	6.3	60.0											
050	Fish R.	FSHB-2	010702	1330	30	21.8	7.8	6.8	56.0											
050	Fish R.	FSHB-2	010809	1050	30	22.3	7.5	6.6	57.0											
050	Fish R.	FSHB-2	011009	1330	24	18.7	8.4	6.8	60.0			140								
050	Fish R.	FSHB-2	011105	1320	25	18.0	8.3	7.1	62.0			66								
050	Fish R.	FSHB-3	010501	1440	23	18.0	7.7	6.6	35.0			76								
050	Fish R.	FSHB-3	010522	1215	20	21.4	5.6	5.8	44.0											
050	Fish R.	FSHB-3	010702	1500	28	22.1	6.9	6.1	40.0											
050	Fish R.	FSHB-3	010809	1345	30	23.0	6.7	6.2	39.0											
050	Fish R.	FSHB-3	011009	1520	23	17.8	7.9	5.9	40.0			160								
050	Fish R.	FSHB-3	011105	1450	24	17.0	8.0	6.0	40.0			130								
060	Magnolia R.	MGRB-1	010501	0845	21	20.0	7.4	5.8	105.0	2.3		92	<1.0	<5		0.014	2.430	<0.010	0.300	25
060	Magnolia R.	MGRB-1	010517	1100	28	22.1	7.0	6.1	1540.0	2.3		100	<1.0	<5		0.019	1.740	<0.020	0.150	29
060	Magnolia R.	MGRB-1	010702	0940	28	21.9	7.5	5.9	138.0	2.7		200	<1.0	<5		0.026	2.210	0.010	0.110	28
060	Magnolia R.	MGRB-1	010807	1000	26	22.7	6.8	5.7	520.0	8.4		1100	<1.0	5		0.033	0.007	0.020	0.320	71
060	Magnolia R.	MGRB-1	011009	0930	20	21.1	4.5	6.2	8720.0	1.0		190	1.3	5		0.016	2.000	0.010	0.320	360

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*^oC*	*^oC*	*mg/L*	*s.u.*	*umhos @ 25^{o}C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Mobile Bay (0316-0205)																				
060	Magnolia R.	MGRB-1	011105	1010	23	19.0	6.5	5.9	4040.0	1.8		120	1.0	<5		0.017	2.160	0.020	0.140	408
060	Magnolia R.	MGRB-2	010501	0925	20	19.0	6.9	5.9	87.0	1.6	2.7	18	<1.0	<5		0.012	2.710	0.020	0.200	32
060	Magnolia R.	MGRB-2	010517	1130	28	21.0	6.6	6.1	86.0	2.0	2.4	70	<1.0	<5		0.017	1.900	0.180	0.100	23
060	Magnolia R.	MGRB-2	010702	1145	28	22.2	6.4	6.1	85.0	1.9	2.1	75	<1.0	<5		0.017	2.340	0.010	0.280	41
060	Magnolia R.	MGRB-2	010807	1210	29	24.1	5.8	5.8	66.0	21.0	10.3	1400	<1.0	10		0.156	1.460	0.410	0.810	39
060	Magnolia R.	MGRB-2	011009	1105	21	18.8	5.7	5.7	89.0	1.0	2.5	89	<1.0	<5		0.009	2.500	<0.010	0.240	26
060	Magnolia R.	MGRB-2	011105	1040	21	18.0	7.0	5.9	90.0	1.8	2.3	24	<0.1	<5		0.013	2.600	<0.010	0.200	34
060	Tributary to Bon Secour E	UTBB-1	010517	1000	28	20.8	6.4	5.7	85.0		3.4	74								
060	Tributary to Bon Secour E	UTBB-1	010614	0815	29	23.1	5.2	6.2	82.0		4.5	66								
060	Tributary to Bon Secour E	UTBB-1	010702	1045	30	21.9	5.8	6.0	89.0		3.4									
060	Tributary to Bon Secour E	UTBB-1	010807	1030	27	22.6	5.8	5.7	92.0		4.7									
060	Tributary to Bon Secour E	UTBB-1	011009	1005	21	19.1	6.4	5.8	90.0		3.7	120								
060	Tributary to Bon Secour E	UTBB-1	011105	0930	19	18.3	5.9	5.6	90.0		3.4	60								
060	Tributary to Magnolia R.	UTMB-1	010501	1050	26	18.0	4.2	6.4	84.0		0.3	52								
060	Tributary to Magnolia R.	UTMB-1	010511	1115	23	16.7	4.8	6.2	100.0		1.0	100								
060	Tributary to Magnolia R.	UTMB-1	010517	1220	28	22.8	4.7	6.4	85.0		0.3									
060	Tributary to Magnolia R.	UTMB-1	010702	1210	29	23.8	3.7	6.3	73.0		1.1									
060	Tributary to Magnolia R.	UTMB-1	010807	1300	27	24.8	4.1	5.9	91.0		2.7									
060	Tributary to Magnolia R.	UTMB-1	011009	1145	22	17.7	5.3	6.2	101.0		1.0	100								
Escatawpa R. (0317-0008)																				
030	Puppy Cr.	PPYM-1	010416	1215	26	21.0	8.3	5.9	40.0	9.0	55.6	170	0.9	22		0.07	0.141	<0.015	0.457	8.1
030	Puppy Cr.	PPYM-1	010516	1540	32	26.0	7.8	6.4	39.0	4.4	12.5	130	0.2	2		0.037	0.356	0.079	<0.150	5.4
030	Puppy Cr.	PPYM-1	010517	0800	21	22.0	7.8	6.5	41.3	3.6	11.7									
030	Puppy Cr.	PPYM-1	010621	0905	34	23.5	7.8	5.8	42.0	10.4	28.6	200	0.3	18		0.05	0.158	0.116	<0.150	6.8
030	Puppy Cr.	PPYM-1	010718	0953	36	24.0	8.9	6.1	43.0	5.8	26.1	200	1.0	<5		0.018	0.149	<0.010	0.420	27
030	Puppy Cr.	PPYM-1	010719	1034	32	25.0	9.2	6.2	42.0	4.0	29.8	160	1.0	<5		0.014	0.096	<0.010	0.400	30
030	Puppy Cr.	PPYM-1	010808	1500	nm	nm	7.5	nm	nm	8.1										
030	Puppy Cr.	PPYM-1	010809	1006	27	23.0	8.1	6.4	45.0	6.6	45.1	220	0.2	14		<0.004	0.236	0.070	0.100	7.46
030	Puppy Cr.	PPYM-1	010815	0905	26	23.5	8.2	5.9	48.9	7.6	51.6	130		11		<0.004	0.501	0.060	<0.150	35
030	Puppy Cr.	PPYM-1	010816	1125	32	26.0	8.4	7.2	65.0	1.0	38.9	80	0.5	4		<0.004	0.131	<0.010	0.300	7.31
030	Puppy Cr.	PPYM-1	011025	0855	24	19.0	14.0	6.3	45.0		14	180 est.	1.9	6		0.08	0.388	<0.015	0.310	7.1
030	Puppy Cr.	PPYM-1	011128	1620	27	21.0	8.4	6.3	48.0	3.6	18.1	230	0.5	6		0.09	0.180	<0.015	<0.150	7.36
030	Puppy Cr.	PPYM-1	011212	1605	25	17.0	9.3	6.2	49.0	3.8	18.2	550	3.4	3		0.03	0.203	0.060	<0.150	7.63
030	Puppy Cr.	PPYM-1	020226	1340	19	14.0	10.2	7.0	35.0	4.0	22.8	30								
030	Puppy Cr.	PPYM-1	020227	1355	12	10.0	9.9	7.5	34.0	3.7	20.6	10								
030	Puppy Cr.	PPYM-1	020307	0845	23	13.0	9.0	6.9	121.0	6.9	41.8	45								
030	Puppy Cr.	PPYM-1	020326	1330	26	21.0	8.0	6.4	70.0	97.5		3000								
030	Puppy Cr.	PPYM-1	020327	1345	21	17.0	10.1	6.6	51.0	18.2		193								
030	Puppy Cr.	PPYM-2	010416	1100	21	20.0	7.8	6.3	70.0	5.9	32.4	140	0.8	9		0.07	0.052	<0.015	0.540	9.16

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Escatawpa R. (0317-0008)																				
030	Puppy Cr.	PPYM-2	010517	0900	26	21.4	9.2	6.4	63.0	3.8	3.9	40 est.	0.2	2		0.052	0.082	0.105	<0.150	8.12
030	Puppy Cr.	PPYM-2	010620	1525	35	26.0	7.6	5.7	43.0	13.6	34.2	48	0.2	21		0.05	0.053	0.151	0.151	6.5
030	Puppy Cr.	PPYM-2	010718	1040	31	26.0	9.6	6.4	1.0	5.0	8.4	250	1.0	<5		0.023	0.006	<0.010	0.500	27
030	Puppy Cr.	PPYM-2	010719	0948	31	26.0	9.1	6.5	60.0	4.6	8.4	160	<1.0	<5		0.025	0.008	<0.010	0.470	21
030	Puppy Cr.	PPYM-2	010808	1630	nm	nm	7.8	nm	nm	10.3										
030	Puppy Cr.	PPYM-2	010809	1101	27	24.0	9.4	6.8	50.8	8.1	30.1	90	0.2	8		<0.004	0.141	0.020	0.250	7.98
030	Puppy Cr.	PPYM-2	010815	0935	26	24.0	7.5	5.5	50.0	6.8	45.2	63	<1.0	14		<0.004	0.019	0.070	0.300	31
030	Puppy Cr.	PPYM-2	010816	1156	32	27.0	8.5	6.8	52.0	12.0	40.2	28	0.2	24		0	0.019	0.120	0.310	7.95
030	Puppy Cr.	PPYM-2	011025	0940	26	19.0	8.7	6.6	65.0		7.7	197	1.3	6		0.02	0.144	<0.015	0.180	9.82
030	Puppy Cr.	PPYM-2	011128	1510	27	20.0	8.9	6.8	60.0	3.6	9	150	1.0	5		0.09	<0.003	<0.015	0.240	9.55
030	Puppy Cr.	PPYM-2	011212	1430	25	16.0	9.6	6.7	66.0	4.3	12.7	80	1.4	3		0.08	0.080	0.100	<0.150	9.53
030	Puppy Cr.	PPYM-2	020226	1300	14	13.0	10.7	6.4	43.0	4.3	13.7	4								
030	Puppy Cr.	PPYM-2	020227	1305	12	9.0	10.3	7.5	40.0	4.3	15.3	3								
030	Puppy Cr.	PPYM-2	020307	0940	20	14.0	9.0	6.4	78.0	4.9	27.9	36								
030	Puppy Cr.	PPYM-2	020326	1300	28	22.0	7.5	5.5	118.0	46.4	108.6	800								
030	Puppy Cr.	PPYM-2	020327	1305	20	18.0		5.4	58.0	21.0	101.4	210								
030	Puppy Cr.	PPYM-3	010417	0850	15	18.0	5.3	5.6	110.0	13.2	6.3	170	0.9	9		0.22	0.185	0.021	0.287	24.4
030	Puppy Cr.	PPYM-3	010516	1145	33	20.6	5.0	7.0	203.0	8.8	1.5	110	2.6	3		0.273	0.553	0.050	1.450	21.9
030	Puppy Cr.	PPYM-3	010620	1420	34	23.3	4.9	6.5	140.0	13.3	5.6	184	0.5	8		0.17	0.266	0.258	0.816	23.4
030	Puppy Cr.	PPYM-3	010717	1324	37	24.0	6.2	6.9	200.0	7.1	2	70	<1.0	<5		0.19	0.417	<0.010	1.000	32
030	Puppy Cr.	PPYM-3	010718	1213	33	25.0	5.9	6.9	154.0	7.6	2.1	80	1.0	<5		0.185	0.058	<0.01	1.100	38
030	Puppy Cr.	PPYM-3	010808	1107	32	25.0	5.1	6.4	143.0	12.3	5.6	350	<1.0	29		0.14	0.213	0.020	0.870	33
030	Puppy Cr.	PPYM-3	010814	1135	29	24.0	5.8	6.8	169.0	6.4	8.4	88	<1.0	<5		0.09	0.286	0.010	2.330	47
030	Puppy Cr.	PPYM-3	010815	1142	29	24.0	5.8	6.8	176.0	7.1	3.2	44	<0.1	6		0.09	0.332	0.060	0.340	42
030	Puppy Cr.	PPYM-3	011024	1435	30	20.0	5.4	6.5	199.0		2.2	150	2.5	7		0.12	0.340	<0.015	0.460	26.9
030	Puppy Cr.	PPYM-3	011128	1400	26	20.0	5.2	6.9	222.0	5.6	2	140	1.6	5		0.17	0.269	0.790	0.830	28.1
030	Puppy Cr.	PPYM-3	011212	1045	20	15.0	6.3	6.3	20.0	4.1	2.6	180	2.3	3		0.15	0.784	0.030	0.540	26.4
030	Puppy Cr.	PPYM-3	020226	1135	12	12.0	9.1	7.0	136.0	4.6	2.4	36								
030	Puppy Cr.	PPYM-3	020227	1155	7	8.0	9.0	6.7	121.0	6.0	2.3	37								
030	Puppy Cr.	PPYM-3	020306	1340	22	15.0	8.0	7.2	177.0	7.9	4.3	139								
030	Puppy Cr.	PPYM-3	020326	1030	25	20.0	5.9	7.4	225.0	30.4	14.2	2000								
030	Puppy Cr.	PPYM-3	020327	1030	22	18.0	8.8	6.7	112.0	12.4	4.2	160								
030	Puppy Cr.	PPYM-4	010416	1445	27	23.0	5.1	6.7	160.0	41.1	2.1	310	3.2	25		0.29	0.058	0.098	2.120	29.6
030	Puppy Cr.	PPYM-4	010516	1230	28	22.4	1.2	6.9	261.0	35.0	1.3	70	5.8	40		0.653	0.089	0.324	2.680	22
030	Puppy Cr.	PPYM-4	010620	1100	25	23.7	5.3	6.7	177.0	30.2	2.8	510	2.9	21		0.26	0.074	0.306	1.470	23
030	Puppy Cr.	PPYM-4	010717	1115	28	25.0	4.2	6.9	242.0	21.0	1.7	160	2.7	10		0.313	0.217	0.410	2.600	43
030	Puppy Cr.	PPYM-4	010717	1115	28	25.0	4.2	6.9	242.0	21.0	1.7	160	2.7	10		0.313	0.217	0.410	2.600	43
030	Puppy Cr.	PPYM-4	010718	1143	32	25.0	5.3	6.9	241.0	35.0	1.8	120	5.0	18		0.458	0.037	0.240	2.800	45

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Escatawpa R. (0317-0008)																				
030	Puppy Cr.	PPYM-4	010718	1143	32	25.0	5.3	6.9	241.0	35.0	1.8	120	5.0	18		0.458	0.037	0.240	2.800	45
030	Puppy Cr.	PPYM-4	010808	1150	27	25.0	5.1	5.1	186.0	7.4	3.0	300	<1.0	6		0.1	0.300	0.260	0.930	37
030	Puppy Cr.	PPYM-4	010814	1219	26	25.0	5.6	6.8	230.0	14.2	3.2	68	1.3	10		0.26	0.272	0.390	1.830	48
030	Puppy Cr.	PPYM-4	010815	1235	27	25.0	5.2	6.9	249.0	15.9	2.8	180	1.4	6		0.28	0.296	0.370	1.620	35
030	Puppy Cr.	PPYM-4	011024	1120	28	20.0	4.5	7.1	253.0			63 est.	2.2	8		0.36	0.270	0.260	3.370	33.7
030	Puppy Cr.	PPYM-4	011128	1200	25	20.0	4.7	6.9	281.0	17.9	0	110	5.3	37		0.37	0.176	0.090	2.220	30.7
030	Puppy Cr.	PPYM-4	011212	1205	21	16.0	6.0	6.7	285.0	8.7	1.6	570	1.9	3		0.33	0.375	1.990	2.540	30.6
030	Puppy Cr.	PPYM-4	020226	1100	13	12.0	8.0	7.3	183.0	9.9	1.4	14								
030	Puppy Cr.	PPYM-4	020227	1110	9	8.0	7.9	7.3	166.0	18.9	1.3	23								
030	Puppy Cr.	PPYM-4	020306	1156	20	16.1	7.8	7.3	254.0	14.8	2.7	115								
030	Puppy Cr.	PPYM-4	020326	1140	27	21.0	7.1	6.3	118.0	58.3		2000								
030	Puppy Cr.	PPYM-4	020327	1145	25	18.0	7.9	6.7	143.0	28.9	4.6	110								
030	Puppy Cr.	PPYM-5	010416	1545	29	21.0	6.1	6.3	100.0	8.0	2.9	>610	0.6	3		0.13	<0.003	<0.015	<0.150	29.3
030	Puppy Cr.	PPYM-5	010516	1435	32	21.0	5.7	6.5	87.0	13.3	.5	200	1.3	1		0.085	0.101	0.146	<0.150	23.9
030	Puppy Cr.	PPYM-5	010620	1305	24	20.0	5.7	6.3	64.0	14.5	2.2	600	0.8	5		0.1	0.056	0.174	<0.150	25.3
030	Puppy Cr.	PPYM-5	010717	1155	36	23.0	6.6	6.5	161.0	13.6	0.9	430	<1.0	<5		0.092	0.148	0.350	1.000	33
030	Puppy Cr.	PPYM-5	010718	1155	32	24.0	7.3	6.6	144.0	13.0	1.9	680	1.0	<5		0.139	0.024	0.130	0.840	48
030	Puppy Cr.	PPYM-5	010808	1215	28	24.0	5.8	6.4	112.0	7.7	1.2	240	<1.0	<5		0.05	0.130	<0.015	0.240	35
030	Puppy Cr.	PPYM-5	010814	1248	26	24.0	7.4	6.3	118.0	14.6	1.4	240	<1.0	<5		0.05	0.013	0.030	0.200	47
030	Puppy Cr.	PPYM-5	010815	1317	30	24.0	7.8	6.7	126.0	16.6	1.4	2300	<1.0	<5		0.07	0.004	0.040	0.370	41
030	Puppy Cr.	PPYM-5	011024	1200	30	19.0	6.4	6.4	140.0		1	220	2.0	6		<0.004	0.184	0.120	0.920	33.7
030	Puppy Cr.	PPYM-5	011128	1120	24	19.0	5.8	6.8	135.0	10.0	.9	170	1.6	5		0.08	0.004	<0.015	0.170	27.8
030	Puppy Cr.	PPYM-5	011212	1130	20	15.0	7.3	7.1	137.0	8.5	.5	107	2.3	6		0.11	0.038	0.150	0.340	25.6
030	Puppy Cr.	PPYM-5	020226	1030	12	12.0	8.1	7.0	85.5	9.5	0.7	14								
030	Puppy Cr.	PPYM-5	020227	1030	10	7.0	8.4	7.2	75.0	8.1	.7	30								
030	Puppy Cr.	PPYM-5	020306	1130	19	14.9	7.9	8.2	185.0	7.1	1.1	117								
030	Puppy Cr.	PPYM-5	020326	1115	28	21.0	7.6	6.4	170.0	72.6	30.6	2000								
030	Puppy Cr.	PPYM-5	020327	1120	25	19.0	7.1	7.4	217.0	18.4	1.5	153								
090	Boggy Br.	BGYM-1	010515	1305	33	18.9	6.0	7.3	41.0	4.2		52	<1.0	<5		0.029	0.134	0.010	0.340	10
090	Boggy Br.	BGYM-1	010613	1300	31	23.6	5.5	6.1	36.0	3.7		100	<1.0	<5		0.04	0.068	0.040	0.370	28
090	Boggy Br.	BGYM-1	010710	1205	32	24.6	4.7	6.1	38.0	3.3		150	<1.0	<5		0.02	0.085	0.010	0.490	25
090	Boggy Br.	BGYM-1	010910	1400	28	24.3	5.6	5.7	36.0	4.8		380	<1.0	10		0.023	0.121	0.040	0.440	21
090	Boggy Br.	BGYM-1	011010	1440	25	19.1	4.9	5.7	42.0	2.3		30	<1.0	<5		0.014	0.072	0.010	0.330	19
090	Boggy Br.	BGYM-1	011203	1350	24	13.0	7.4	5.8	44.0	2.4		40	<0.1	<5		0.018	0.046	0.010	0.350	23
090	Collins Cr.	CLNM-1	010516	0940	27	19.7	8.3	6.6	30.0	3.8	6.6	110	<1.0	<5		0.012	0.129	<0.010	0.200	6
090	Collins Cr.	CLNM-1	010613	1130	33	23.7	6.8	6.1	36.0	6.2	9.4	420	<1.0	6		0.018	0.097	0.030	0.200	40
090	Collins Cr.	CLNM-1	010613	1131	33	23.8	6.7	6.1	32.0	6.0		310	<1.0	<5		0.019	0.098	0.030	0.250	25
090	Collins Cr.	CLNM-1	010710	0935	31	23.9	6.9	6.3	34.0	4.2	6.2	170	<1.0	<5		0.02	0.114	<0.010	0.450	20

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Escatawpa R. (0317-0008)																				
090	Collins Cr.	CLNM-1	010910	1115	28	23.6	6.9	6.8	35.0	6.3	9.2	410	<1.0	3		0.015	0.111	0.050	0.370	18
090	Collins Cr.	CLNM-1	011010	1200	24	19.7	8.4	7.4	30.0	1.8	9.3	150	<1.0	<5		0.008	0.131	<0.010	0.220	15
090	Collins Cr.	CLNM-1	011010	1201	24	19.7	8.4	7.3	32.0	1.9		200	<1.0	<5		0.009	0.132	0.030	0.220	7
090	Collins Cr.	CLNM-1	011203	1210	24	14.2	9.3	6.6	36.0	2.2	6.6	150	<0.1	<5		0.011	0.125	0.010	0.250	21
090	Juniper Cr.	JNCM-1	010516	1020	27	18.7	8.6	6.2	30.0		7.5	220								
090	Juniper Cr.	JNCM-1	010613	1040	28	21.3	7.7	5.9	35.0		11.4	400								
090	Juniper Cr.	JNCM-1	010710	1020	31	22.1	7.7	7.0	34.0		7.5									
090	Juniper Cr.	JNCM-1	010910	1210	28	21.9	7.6	6.9	37.0		11.9									
090	Juniper Cr.	JNCM-1	011010	1255	24	18.9	8.5	6.5	37.0		6.7									
090	Juniper Cr.	JNCM-1	011203	1230	24	13.8	9.2	6.6	42.0		6.6									
090	Juniper Cr.	JNCM-2	010516	1130	28	18.8	8.3	6.1	32.0		4.7	250								
090	Juniper Cr.	JNCM-2	010613	0945	26	20.8	7.4	5.6	39.0		7.1	460								
090	Juniper Cr.	JNCM-2	010710	1105	32	21.5	7.5	6.1	38.0		4.3									
090	Juniper Cr.	JNCM-2	010910	1320	28	22.0	7.0	6.0	39.0		7.0									
090	Juniper Cr.	JNCM-2	011010	1350	25	19.4	7.8	6.0	37.0		4.1									
090	Juniper Cr.	JNCM-2	011203	1305	24	15.4	8.9	6.1	39.0		4.3									
Mississippi Coastal (0317-0009)																				
050	Bayou LaBatre	BLB -1	010508	1045	26	26.0	4.5	7.6	26110.0	4.1		450	<1.0	16		0.044	0.064	<0.010	0.470	1360
050	Bayou LaBatre	BLB -1	010514	1038								130								
050	Bayou LaBatre	BLB -1	010517	0910								8000								
050	Bayou LaBatre	BLB -1	010529	0935								1000								
050	Bayou LaBatre	BLB -1	010531	1020	27	28.4	4.1	7.3	26070.0	3.1		170	1.3	12		0.032	0.149	0.020	0.370	1070
050	Bayou LaBatre	BLB -1	010709	1100	31	29.5	1.3	7.3	28800.0	4.1		130	<1.0	<5		0.07	0.218	0.030	0.450	523
050	Bayou LaBatre	BLB -1	010925	1055	21	27.5	0.2	7.4	34890.0	4.6		110	<1.0	6		0.041	0.231	0.040	0.380	1520
050	Bayou LaBatre	BLB -1	011101	1050		19.0	5.7	7.9	39500.0	2.2		46	1.0	14		0.026	0.165	<0.010	0.290	2650
050	Bayou LaBatre	BLB -1	011115	1120								42								
050	Bayou LaBatre	BLB -1	011119	1100								76								
050	Bayou LaBatre	BLB -1	011127	1050								56								
050	Bayou LaBatre	BLB -1	011129	1110	24	22.2	6.8	7.9	34500.0	2.9		260	<0.1	16		0.047	0.150	0.110	0.630	2410
050	Bayou LaBatre	BLB -1	020225	1050																
050	Bayou LaBatre	BLB -1	020408	1120																
050	Bayou LaBatre	BLBM-1	010508	0940	28	25.4	3.5	7.5	27510.0	7.8		84	<1.0	25		0.071	0.007	<0.010	0.710	2970
050	Bayou LaBatre	BLBM-1	010514	1030								34								
050	Bayou LaBatre	BLBM-1	010517	0850								2								
050	Bayou LaBatre	BLBM-1	010529	0915								10								
050	Bayou LaBatre	BLBM-1	010531	0950	27	27.9	5.9	7.5	28170.0	6.6		12	2.9	43		0.07	0.042	<0.020	0.560	3330
050	Bayou LaBatre	BLBM-1	010709	1025	30	30.6	4.1	7.8	29950.0	9.4		38	3.1	21		0.073	0.033	0.013	0.840	2920
050	Bayou LaBatre	BLBM-1	010925	1020	21	27.2	1.2	7.3	37300.0	8.1		24	2.8	35		0.118	0.024	0.130	1.040	4030

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25°C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Mississippi Coastal (0317-0009)																				
050	Bayou LaBatre	BLBM-1	011101	1000		18.1	7.5	8.1	39920.0	4.5		44	1.8	27		0.046	0.213	<0.010	0.500	4690
050	Bayou LaBatre	BLBM-1	011115	1100								30								
050	Bayou LaBatre	BLBM-1	011119	1030								10								
050	Bayou LaBatre	BLBM-1	011127	1025								3400								
050	Bayou LaBatre	BLBM-1	011129	1046	24	22.0	7.0	7.8	33200.0	12.6		34	<0.1	41		0.048	0.012	0.010	0.540	4160
050	Bayou LaBatre	BLBM-1	020225	1010								8								
050	Bayou LaBatre	BLBM-1	020408	1045								<2								
050	Bayou LaBatre	BLBM-2	010508	1030	26	26.0	4.1	7.7	27170.0	6.8		>800	<1.0	19		0.07	0.006	<0.010	0.660	2700
050	Bayou LaBatre	BLBM-2	010514	1015								46								
050	Bayou LaBatre	BLBM-2	010517	0900								160								
050	Bayou LaBatre	BLBM-2	010529	0925								42								
050	Bayou LaBatre	BLBM-2	010531	1005	27	28.2	5.7	7.6	27100.0	4.6		46	3.5	30		0.083	0.044	0.050	0.760	3070
050	Bayou LaBatre	BLBM-2	010709	1045	30	30.5	2.9	7.7	28600.0	5.5		24	3.9	15		0.306	<0.005	<0.010	0.650	2580
050	Bayou LaBatre	BLBM-2	010925	1045	22	27.4	0.3	7.3	35250.0	11.1		54	1.4	19		0.124	0.032	0.200	0.760	3470
050	Bayou LaBatre	BLBM-2	011101	1020		18.3	7.0	8.2	39900.0	2.4		24	1.7	32		0.042	0.063	0.020	0.490	4410
050	Bayou LaBatre	BLBM-2	011115	1110								6								
050	Bayou LaBatre	BLBM-2	011119	1045								48								
050	Bayou LaBatre	BLBM-2	011127	1035								50								
050	Bayou LaBatre	BLBM-2	011129	1100	24	22.3	6.8	7.9	34900.0	2.0		400	<0.1	29		0.051	0.016	<0.010	0.650	4250
050	Bayou LaBatre	BLBM-2	020225	1035								20								
050	Bayou LaBatre	BLBM-2	020408	1102								8								
050	Bayou LaBatre	BLBM-4	010508	1210	25	23.3	3.3	7.1	21800.0	5.4		76	<1.0	19		0.032	0.007	0.010	0.390	2500
050	Bayou LaBatre	BLBM-4	010514	1128								6								
050	Bayou LaBatre	BLBM-4	010517	1010								4								
050	Bayou LaBatre	BLBM-4	010529	1025								<2								
050	Bayou LaBatre	BLBM-4	010531	1135	28	27.4	2.3	6.7	19830.0	4.0		<2	<1.0	24		0.037	0.041	0.200	0.530	2300
050	Bayou LaBatre	BLBM-4	010709	1210	32	28.0	1.7	6.9	16600.0	4.4		40	<1.0	8		0.028	0.030	0.140	0.610	1670
050	Bayou LaBatre	BLBM-4	010925	1210	21	23.9	2.1	6.1	14150.0	5.7		110	<1.0	7		0.047	0.015	0.190	0.840	1240
050	Bayou LaBatre	BLBM-4	011101	1140		19.8	2.0	7.3	37050.0	3.6		24	1.0	25		0.057	0.018	0.190	0.660	4260
050	Bayou LaBatre	BLBM-4	011115	1200								4								
050	Bayou LaBatre	BLBM-4	010519	1145								20								
050	Bayou LaBatre	BLBM-4	011127	1140								6								
050	Bayou LaBatre	BLBM-4	011129	1200	24	20.5	2.3	6.9	35990.0	2.9		30	<0.1	28		0.044	0.030	0.190	0.640	4570
050	Bayou LaBatre	BLBM-4	020225	1230								120								
050	Bayou LaBatre	BLBM-4	020408	1230								180								
050	Carls Cr.	BLBM-3	010508	1055	26	25.8	6.2	7.5	21690.0	2.5		360	<1.0	<5		0.018	0.291	0.010	0.240	360
050	Carls Cr.	BLBM-3	010514	1040								110								
050	Carls Cr.	BLBM-3	010517	0915								7800								

Appendix F-2c. Physical/chemical data collected from stations located in the EMT Basin Group as part of the CWA § 303(d) Monitoring Program, 1999-2002 (ADEM 2002c).

Sub-Watershed	Stream	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Flow	Fecal Coliform	BOD_5/ $CBOD_5$*	TSS	TOC	Total-P	NO_3+ NO_2-N	NH_3-N	TKN	Hardness
			yymmdd	*24hr*	*°C*	*°C*	*mg/L*	*s.u.*	*umhos @ 25° C*	*NTU*	*cfs*	*col/100mL*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*
Mississippi Coastal (0317-0009)																				
050	Carls Cr.	BLBM-3	010529	0940								370								
050	Carls Cr.	BLBM-3	010531	1030	27	27.4	7.1	7.1	19640.0	3.1		160	<1.0	8		0.026	0.171	<0.020	0.210	543
050	Carls Cr.	BLBM-3	010709	1110	31	29.5	0.7	7.3	28390.0	3.2		130	<1.0	<5		0.023	0.232	0.020	0.430	357
050	Carls Cr.	BLBM-3	010925	1110	22	23.1	6.0	6.8	15480.0	4.0		130	<1.0	5		0.036	0.252	0.030	0.390	605
050	Carls Cr.	BLBM-3	011101	1040		19.0	5.0	7.9	41310.0	2.1		93	<1.0	<5		0.019	0.308	<0.010	0.220	730
050	Carls Cr.	BLBM-3	011115	1125								32								
050	Carls Cr.	BLBM-3	011119	1105								86								
050	Carls Cr.	BLBM-3	011127	1055								75								
050	Carls Cr.	BLBM-3	011129	1115	24	22.0	6.7	7.9	33570.0	6.6		280	<0.1	<5		0.02	0.195	0.010	0.330	800
050	Carls Cr.	BLBM-3	020225	1055								46								
050	Carls Cr.	BLBM-3	020408	1130								160								
050	Hammar Creek	HMC-1	990504	1155	27	20.0	7.2	6.1	37.0	111.0	17.1									
050	Hammar Creek	HMC-1	990517	1000	27	22.0	7.3	5.9	40.0	3.2	16.1	151		<5		<0.005	0.302	<0.015	0.400	
050	Hammar Creek	HMC-1	990602	0850	31	23.0	6.5	5.6	50.0	5.6	23.5	>400		6		<0.005	0.260	0.015	0.540	
050	Hammar Creek	HMC-1	990621	1150	31	24.0	6.9	6.0	40.0	3.3	15.9	94		<5		0.01	0.274	<0.015	0.320	
050	Hammar Creek	HMC-1	990913	1025	30	23.0	6.7	6.0	46.0	3.3	16.4	94		<5		0.01	0.460	<0.015	0.670	
050	Hammar Creek	HMC-2	990517	1120	29	22.0	7.1	5.7	40.0	2.1		36		<5		0.005	0.439	0.015	0.400	
050	Hammar Creek	HMC-2	990602	1000	31	23.0	6.6	5.6	40.0	2.7		75		<5		0.005	0.386	<0.015	0.140	
050	Hammar Creek	HMC-2	990621	1240	34	24.0	6.7	6.0	40.0	3.0		24		<5		0.01	0.387	<0.015	0.390	
050	Hammar Creek	HMC-2	990913	1130	31	23.0	6.8	6.0	47.0	2.3		160		<5		0.006	0.600	<0.015	0.120	

a. BOD_5 was analyzed during the 1999 CWA §303(d) sampling. BOD5 values are designated with an asterik. $CBOD_5$ has been analyzed in subsequent years.

Appendix F-3. ADEM Reservoir Tributary Monitoring Program

Lead Agency: ADEM

Purpose: The purpose of ADEM's Reservoir Tributary Monitoring Program is to assess and report water quality conditions and tributary loadings of publicly-owned lakes and reservoirs. These data will be essential as the Department begins to address lake eutrophication concerns across the state. Objectives are to develop an adequate water quality database for all publicly owned lakes in the state, establish trends in trophic status that can only be established through long-term monitoring efforts, and determine water quality conditions of reservoirs located throughout the state.

Stations located in the Dam Forebay of each reservoir were sampled in 1985 and 1989 during the USEPA/ADEM Alabama Lakes Trophic Classification Study and a water quality assessment of Alabama public lakes conducted by ADEM and Auburn University, respectively. The stations have been sampled since 1992 in conjunction with ADEM's Reservoir Monitoring Program. In 2001, ADEM began intensive water quality monitoring at all major tributaries of the Escatawpa, Mobile, and Tombigbee Rivers during April-October of 2001. Chlorophyll a samples were collected as indicators of biological conditions at each site. All samples and in-situ measures were collected in accordance with ADEM Standard Operating Procedures and Quality Assurance/Quality Control Manual, Volume I (ADEM 2000c).

Appendix F-3a. Physical/chemical data

References:

ADEM. 2003b. Water quality monitoring data from tributaries of the Escatawpa, Mobile, and Tombigbee River basin reservoirs collected by ADEM. Field Operations Division, Alabama Department of Environmental Management. Montgomery, Alabama.

Appendix F-3a

Basins. Less than detectable values were assigned 0.5 of detection limit to calculate averages.

Sub-watershed	Station	Waterbody	Date	Time	Max depth	Sample depth[a]	Secchi depth	Photic Zone[b]	Temp	pH	DO	SpCond	Turb	Alkalinity	Hardness	TSS	NH_3-N	NO_3+ NO_2	TKN	Total N	Total P	TN:TP	TRP	TOC	Chl.*a*	TSI	Fecal coliform
			yymmdd	24 hr	m	m	m	m	°C	su	mg/l	mS/cm	ntu	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	ug/L		colonies/ 100ml
Middle Tombigbee R. - Lubbub Cr. CU (0316-0106)																											
060	Aliceville2	Tombigbee R.	010419	1044	9.0	1.5	0.36	1.14	17.6	6.8	9.5	0.119	38.6	38	43.6	33	0.044	0.143	0.744	0.887	0.14	6.34	0.030	nm	5.34	47	110
060	Aliceville2	Tombigbee R.	010523	0945	8.7	1.5	0.55	1.72	25.6	7.1	7.1	0.191	21.9	36	60.4	19	0.072	0.067	0.308	0.375	0.09	4.17	0.005	nm	20.29	60	26
060	Aliceville2	Tombigbee R.	010620	0854	9.0	1.5	0.63	1.71	28.6	6.9	7.9	0.129	15.0	27	33.2	19	<0.015	0.020	0.336	0.356	0.05	7.12	0.020	6.479	7.48	50	6 est.
060	Aliceville2	Tombigbee R.	010725	1045	9.5	1.5	0.74	2.33	31.2	7.0	5.7	0.173	10.0	37	49.6	13	<0.015	0.006	0.226	0.232	0.03	7.73	<0.004	4.703	3.56	43	2 est.
060	Aliceville2	Tombigbee R.	010814	0836	8.0	1.5	0.57	1.56	29.3	7.0	6.6	0.264	15.8	45	58.8	21	0.100	0.113	0.230	0.343	0.08	4.29	0.029	nm	20.29	60	20
060	Aliceville2	Tombigbee R.	010919	0903	10.6	1.5	0.84	2.05	26.6	6.9	5.9	0.214	15.1	43	51.0	13	0.090	0.276	<0.15	0.351	0.12	2.93	0.035	6.472	10.15	53	2
060	Aliceville2	Tombigbee R.	011024	0943	9.0	1.5	0.49	1.09	19.0	6.6	8.3	0.109	23.0	38	36.6	10	<0.015	0.128	0.790	0.918	0.12	7.65	0.020	6.818	10.70	54	nm
060	Aliceville3	Coal Fire Cr.	010419	1201	3.0	1.5	0.50	1.45	17.9	6.6	8.1	0.051	38.6	18	18.8	18	<0.015	0.118	0.787	0.905	0.09	10.06	0.010	nm	4.27	45	25
060	Aliceville3	Coal Fire Cr.	010523	1042	4.0	1.5	0.50	1.62	25.6	7.1	7.0	0.165	24.5	35	44.3	24	0.077	0.030	0.499	0.529	0.10	5.29	0.005	nm	27.23	63	1 est.
060	Aliceville3	Coal Fire Cr.	010620	0932	3.8	1.5	0.67	1.93	29.3	7.1	7.7	0.098	11.9	20	29.3	13	<0.015	<0.003	<0.15	0.075	0.05	1.50	0.020	6.489	6.41	49	<1
060	Aliceville3	Coal Fire Cr.	010725	1116	3.7	1.5	0.74	2.29	31.5	7.5	6.7	0.186	10.9	42	50.9	28	<0.015	0.003	0.110	0.113	0.04	2.83	<0.004	5.191	4.27	45	3 est.
060	Aliceville3	Coal Fire Cr.	010814	0936	4.5	1.5	0.79	2.15	28.9	6.7	6.3	0.213	9.6	37	50.7	11	0.040	0.053	<0.15	0.128	0.01	12.80	0.025	nm	27.77	63	2 est.
060	Aliceville3	Coal Fire Cr.	010919	0935	3.8	1.5	0.76	1.97	26.4	6.9	6.3	0.185	13.9	42	43.0	14	0.030	0.074	<0.15	0.149	0.13	1.15	0.026	6.194	26.70	63	5
060	Aliceville3	Coal Fire Cr.	011024	1018	4.9	1.5	0.54	1.48	20.6	6.6	9.3	0.088	16.8	40	34.1	10	<0.015	0.062	0.340	0.402	0.13	3.09	0.007	6.727	31.50	64	8
070	Aliceville1	Tombigbee R.	010419	0941	8.7	1.5	0.29	1.12	17.6	6.8	9.5	0.119	36.0	39	45.1	36	<0.015	0.188	0.828	1.016	0.13	7.82	0.050	nm	4.81	46	20 est.
070	Aliceville1	Tombigbee R.	010523	0845	9.4	1.5	0.47	1.25	25.8	7.1	7.1	0.172	25.6	35	47.3	48	0.026	0.043	0.416	0.459	0.10	4.59	0.008	nm	27.23	63	2 est.
070	Aliceville1	Tombigbee R.	010620	0812	8.9	1.5	0.59	1.77	28.5	6.6	6.9	0.111	15.1	17	30.9	18	<0.015	0.027	0.164	0.191	0.12	1.55	0.030	6.334	6.41	49	3 est.
070	Aliceville1	Tombigbee R.	010725	1011	7.7	1.5	0.76	2.62	31.3	7.0	5.3	0.189	10.2	30	52.6	15	<0.015	0.004	<0.15	0.079	0.04	1.98	<0.004	5.283	3.20	42	1 est.
070	Aliceville1	Tombigbee R.	010814	0739	7.8	1.5	1.65	0.65	29.2	6.8	6.3	0.300	15.9	40	67.7	20	0.050	0.090	<0.15	0.165	0.05	3.30	0.016	nm	28.48	63	9 est.
070	Aliceville1	Tombigbee R.	010919	0830	7.7	1.5	0.80	1.73	26.5	6.7	4.9	0.196	15.6	41	47.5	17	0.090	0.223	0.200	0.423	0.09	4.70	0.007	6.960	5.87	48	1
070	Aliceville1	Tombigbee R.	011024	0900	7.4	1.5	0.46	1.44	18.7	6.5	8.3	0.100	22.2	27	33.4	12	<0.015	0.130	1.010	1.14	0.12	9.50	0.020	6.912	8.54	52	8
090	Gainsville4	Bogue Chitto Cr.	010418	1737	3.4	1.5	0.33	0.98	19.2	7.4	8.8	0.229	31.1	75	104.0	40	<0.015	0.467	1.260	1.727	0.11	15.70	0.010	nm	46.46	68	36
090	Gainsville4	Bogue Chitto Cr.	010522	1909	3.0	1.5	0.32	1.08	26.5	7.4	5.6	0.280	45.9	68	87.5	38	0.033	0.046	1.200	1.246	0.12	10.38	0.007	nm	13.88	56	30
090	Gainsville4	Bogue Chitto Cr.	010619	1911	2.7	1.5	0.56	1.42	29.7	7.5	7.5	0.249	19.6	43	49.5	26	<0.015	0.861	<0.15	0.936	0.06	15.60	0.010	6.315	47.53	68	13 est.
090	Gainsville4	Bogue Chitto Cr.	010724	1653	2.8	1.5	0.70	1.95	31.3	7.6	5.4	0.252		63	70.8	32	<0.015	0.013	0.533	0.546	0.05	10.92	<0.004	5.201	44.86	68	1 est.
090	Gainsville4	Bogue Chitto Cr.	010813	1632	2.6	1.5	0.68	2.07	29.3	7.4	5.8	0.250	24.2	45	68.9	30	0.050	0.061	<0.15	0.136	0.04	3.40	0.008	nm	14.42	57	>78
090	Gainsville4	Bogue Chitto Cr.	010918	1730	2.5	1.0	0.52	1.34	27.4	7.6	7.3	0.197		61	65.6	26	0.130	0.109	<0.15	0.184	0.04	4.60	0.026	6.214	23.50	62	32
090	Gainsville4	Bogue Chitto Cr.	011023	1805	3.0	1.5	0.35	1.3	18.8	6.7	8.4	0.225		51	64.0	21	0.060	0.198	0.480	0.678	0.14	4.84	0.020	7.900	18.70	59	39
090	Gainesville3	Tombigbee R.	010418	1649	6.7	1.5	0.26	0.78	18.7	6.8	10.8	0.129	50.3	40	46.7	49	<0.015	0.218	0.962	1.18	0.16	7.38	0.020	nm	5.87	48	180
090	Gainesville3	Tombigbee R.	010522	1838	5.5		0.46	1.5	26.7	7.1	9.4	0.175	31.0	40	47.1	27	<0.015	0.032	0.877	0.909	0.10	9.09	0.010	nm	14.60	57	8 est.
090	Gainesville3	Tombigbee R.	010619	1843	6.2	1.5	0.63	1.86	29.9	7.7	9.5	0.096	15.1	25	29.2	17	<0.015	0.006	<0.15	0.081	0.07	1.16	0.020	6.343	6.94	50	2 est.
090	Gainesville3	Tombigbee R.	010724	1624	5.5	1.5	0.64	2.5	31.7	7.3	6.4	0.214	13.9	58	59.4	18	<0.015	0.006	0.457	0.463	0.03	15.43	<0.004	5.270	5.87	48	5 est.
090	Gainesville3	Tombigbee R.	010813	1611	6.5	1.5	0.68	2.2	29.6	7.0	8.5	0.307	13.1	43	69.6	21	0.070	0.113	<0.15	0.188	0.02	9.40	0.012	nm	17.44	59	24
090	Gainesville3	Tombigbee R.	010918	1706	7.0	1.5	0.87	2.05	27.2	7.2	7.5	0.171	11.8	42	49.3	17	0.140	0.120	0.240	0.36	0.03	12.00	0.032	6.041	17.62	59	5
090	Gainesville3	Tombigbee R.	011023	1737	5.5	1.5	0.37	1.29	19.4	6.5	9.1	0.099	25.5	40	39.6	10	<0.015	0.127	0.210	0.337	0.13	2.59	0.030	7.473	8.01	51	19
120	Gainsville5	Lubbub Cr.	010418	1544	3.3	1.5	0.56	1.12	17.9	6.1	8.0	0.037	14.5	10	11.8	14	0.086	0.067	1.490	1.557	0.09	17.30	<.004	nm	1.60	35	39
120	Gainsville5	Lubbub Cr.	010522	1724	1.6	1.0	0.41	1.23	24.3	6.1	5.4	0.045	22.7	22	15.5	21	0.020	0.148	0.622	0.77	0.09	8.56	0.010	nm	16.02	58	70
120	Gainsville5	Lubbub Cr.	010619	1744	1.5	1.0	0.55	1.5	26.6	6.0	5.8	0.045	14.7	13	13.3	13	0.151	0.119	<0.15	0.194	0.06	3.23	0.020	9.028	2.14	38	22
120	Gainsville5	Lubbub Cr.	010724	1527	2.4	1.0	0.56	1.59	29.4	6.1	3.6	0.049	15.0	15	14.6	12	<0.015	0.030	0.541	0.571	0.04	14.28	<0.004	7.128	1.60	35	15 est.
120	Gainsville5	Lubbub Cr.	010813	1526	2.0	1.0	0.61	1.56	27.5	6.4	5.4	0.044	21.0	13	10.5	19	<0.015	0.106	<0.15	0.181	0.05	3.62	0.005	nm	16.02	58	107
120	Gainsville5	Lubbub Cr.	010918	1609	3.0	1.5	0.62	1.21	23.8	6.2	6.4	0.041	17.0	11	15.2	15	0.070	0.109	0.210	0.319	0.06	5.32	0.007	11.170	7.48	50	19
120	Gainsville5	Lubbub Cr.	011023	1647	2.0	1.0	0.32	1.27	18.1	6.1	7.5	0.032	17.6	21	9.3	9	<0.015	0.074	0.190	0.264	0.11	2.40	0.004	7.003	0.10	8	77

a. Sampling depth: profile depth for water temp., D.O., pH, conductivity, and turbidity values reflected in this table.

b. Samples for all other parameters are composites collected from the surface to the photic zone depth.

Appendix F-3a

Basins. Less than detectable values were assigned 0.5 of detection limit to calculate averages.

			Date	Time	Max depth	Sample depth[a]	Secchi depth	Photic Zone[b]	Temp	pH	DO	SpCond	Turb	Alkalinity	Hardness	TSS	NH_3-N	NO_3+ NO_2	TKN	Total N	Total P	TN:TP	TRP	TOC	Chl.*a*	TSI	Fecal coliform
Sub-watershed	Station	Waterbody	yymmdd	24 hr	m	m	m	m	°C	su	mg/l	mS/cm	ntu	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	ug/L		colonies/ 100ml
Middle Tombigbee R. - Lubbub Cr. CU (0316-0106)																											
130	Gainsville2	Tombigbee R.	010418	1323	8.7	1.5	0.20	0.61	18.9	6.8	9.6	0.126	47.4	40	44.6	45	0.047	0.214	1.230	1.444	0.14	10.31	0.040	nm	6.41	49	100
130	Gainsville2	Tombigbee R.	010522	1513	11.0	1.5	0.37	1.53	26.4	7.0	7.2	0.171	28.4	38	47.8	24	<0.015	0.082	1.030	1.112	0.09	12.36	<0.004	nm	17.80	59	12 est.
130	Gainsville2	Tombigbee R.	010619	1442	9.3	1.5	0.59	1.73	28.4	6.6	7.8	0.086	15.4	20	27.8	17	0.061	0.033	0.281	0.314	0.09	3.49	0.020	7.197	8.01	51	4 est.
130	Gainsville2	Tombigbee R.	010724	1350	11.6	1.5	0.86	3.11	31.5	7.2	6.1	0.224	8.4	51	55.5	10	<0.015	0.019	0.293	0.312	0.03	10.40	<0.004	5.409	4.27	45	1 est.
130	Gainsville2	Tombigbee R.	010813	1355	11.8	1.5	0.83	2.44	30.0	7.1	8.2	0.220	10.4	31	57.7	15	0.030	0.072	<0.15	0.147	0.05	2.94	0.015	nm	18.16	59	8 est.
130	Gainsville2	Tombigbee R.	010918	1436	12.2	1.5	0.91	2.19	27.0	7.0	6.8	0.125	11.5	33	45.6	15	0.160	0.197	0.290	0.487	0.03	16.23	0.021	7.483	13.53	56	2
130	Gainsville2	Tombigbee R.	011023	1507	12.2	1.5	0.33	1.24	18.6	6.4	8.3	0.083	25.0	33	34.0	10	<0.015	0.273	0.760	1.033	0.15	6.89	0.030	7.822	6.76	49	53
140	Gainsville1	Tombigbee R.	010418	1121	14.6	1.5	0.28	0.97	19.4	6.8	9.1	0.124	52.8	39	48.6	47	<0.015	0.025	1.330	1.355	0.16	8.47	0.030	nm	5.34	47	110
140	Gainsville1	Tombigbee R.	010522	1412	10.0		0.56	2	26.6	6.9	6.6	0.151	22.8	35	47.0	20	<0.015	0.077	0.943	1.02	0.08	12.75	0.007	nm	9.97	53	20 est.
140	Gainsville1	Tombigbee R.	010619	1456	11.8	1.5	0.65	1.73	28.6	6.5	7.5	0.075	13.8	16	25.1	14	0.049	0.035	0.280	0.315	0.08	3.94	0.020	8.193	7.48	50	5 est.
140	Gainsville1	Tombigbee R.	010724	1253	10.9	1.5	1.06	2.95	31.6	7.5	7.0	0.212	8.8	52	57.3	13	<0.015	0.009	0.647	0.656	0.03	21.87	0.004	5.034	3.56	43	1 est.
140	Gainsville1	Tombigbee R.	010813	1305	10.7	1.5	1.01	2.65	30.0	7.0	6.0	0.186	8.6	42	48.2	12	0.090	0.076	<0.15	0.151	0.01	15.10	0.014	nm	11.75	55	3 est.
140	Gainsville1	Tombigbee R.	010918	1338	13.7	1.5	1.01	2.04	27.0	6.7	4.9	0.110	12.9	34	36.5	10	0.130	0.266	<0.15	0.341	0.03	11.37	0.027	8.248	4.63	46	<1
140	Gainsville1	Tombigbee R.	011023	1416	9.7	1.5	0.40	1.44	18.4	6.4	7.5	0.088	21.1	30	34.0	10	<0.015	0.106	0.300	0.406	0.12	3.38	0.020	7.750	5.34	47	6
160	Demopolis3	Tombigbee R.	010419	1443	8.4	1.5	0.40	1.0	19.1	6.8	9.8	0.132	43.6	45	46.4	75	<0.015	0.215	1.340	1.555	0.10	15.55	0.020	nm	7.63	51	70
160	Demopolis3	Tombigbee R.	010523	1130	7.2	1.5	0.41	1.52	25.8	6.9	8.0	0.143	22.3	41	40.7	16	<0.015	0.049	0.075	0.124	0.06	2.07	0.010	nm	16.55	58	13 est.
160	Demopolis3	Tombigbee R.	010620	1116	6.7	1.5	0.82	1.52	28.4	6.8	7.5	0.089	14.8	23	31.1	12	<0.015	0.075	0.268	0.343	0.10	3.43	0.020	7.848	8.01	51	10 est.
160	Demopolis3	Tombigbee R.	010725	1123	6.8	1.5	1.16	2.97	31.6	8.6	8.1	0.188	9.0	54	54.5	13	<0.015	0.037	0.346	0.383	0.02	19.15	<0.004	5.461	9.08	52	4 est.
160	Demopolis3	Tombigbee R.	010814	0955	7.6	1.5	0.99	2.51	29.8	7.4	7.7	0.185	11.5	42	48.6	19	0.040	0.080	0.080	0.16	0.02	8.00	0.005	4.091	14.42	57	12 est.
160	Demopolis3	Tombigbee R.	010919	1100	6.7	1.5	1.08	2.56	26.8	7.1	7.1	0.120	14.8	27	40.1	23	0.020	0.149	0.180	0.329	0.08	4.11	0.033	7.102	3.74	44	5
160	Demopolis3	Tombigbee R.	011024	1027	7.6	1.5	0.52	1.4	18.4	6.9	10.5	0.104	29.3	40	36.5	15	0.020	0.127	0.700	0.827	0.14	5.91	0.020	7.227	4.27	45	29
160	Demopolis5	Trussels Cr.	010419	1401	2.5	1.0	0.89	1.95	15.1	6.8	8.4	0.145	13.3	52	51.3	17	<0.015	0.094	0.983	1.077	0.10	10.77	0.010	nm	0.53	24	66
160	Demopolis5	Trussels Cr.	010523	1059	1.5	0.8	0.46	1.0+	20.0	6.8	5.7	0.186	23.9	67	60.6	21	0.085	0.268	<0.15	0.343	0.06	5.72	0.020	nm	3.20	42	140
160	Demopolis5	Trussels Cr.	010620	1050	0.8	0.4	0.41	0.88	25.5	6.9	5.5	0.154	30.8	53	57.9	46	0.178	0.080	<0.15	0.155	0.12	1.29	0.020	4.579	1.07	31	220
160	Demopolis5	Trussels Cr.	010725	1028	0.7	0.4	0.40	0.62	28.0	7.5	5.4	0.208	29.5	77	77.6	43	<0.015	0.070	0.450	0.52	0.05	10.40	0.010	4.501	0.89	29	38
160	Demopolis5	Trussels Cr.	010814	0927	2.0	1.0	1.68	1.51	28.3	7.4	6.3	0.192	21.0	59	57.2	22	0.050	0.085	0.210	0.295	0.03	9.83	0.013	5.291	5.34	47	73
160	Demopolis5	Trussels Cr.	010919	1026	0.6	0.4	0.40	0.60+	22.9	7.0	5.7	0.183	51.0	76	73.9	127	0.140	0.127	0.760	0.887	0.18	4.93	0.010	4.797	2.67	40	730
160	Demopolis5	Trussels Cr.	011024	0956	1.4	0.8	0.53	1.06	18.5	7.0	7.7	0.159	27.9	52	54.6	32	<0.015	0.236	0.200	0.436	0.02	21.80	0.010	4.200	0.53	24	180
160	Demopolis6	Brush Cr.	010419	1311	2.8	1.5	0.47	1.31	16.0	6.6	7.8	0.135	25.4	34	41.3	25	0.056	0.189	1.360	1.549	0.11	14.08	0.020	nm	7.63	51	49
160	Demopolis6	Brush Cr.	010523	1022	1.3	0.6	0.36	0.89	20.3	6.7	6.2	0.153	25.6	48	41.1	23	0.028	0.279	0.474	0.753	0.04	18.83	0.006	nm	1.60	35	75
160	Demopolis6	Brush Cr.	010620	1014	0.9	0.5	0.27	0.83	25.8	6.8	4.6	0.174	48.9	50	53.3	63	0.256	0.193	0.646	0.839	0.13	6.45	0.030	5.354	8.54	52	90
160	Demopolis6	Brush Cr.	010725	1018	0.7	0.4	0.31	0.83	29.2	7.3	4.8	0.184	38.9	63	56.2	52	<0.015	0.047	0.340	0.387	0.07	5.53	0.006	4.624	4.81	46	11est.
160	Demopolis6	Brush Cr.	010814	0855	1.3	0.7	0.28	0.64	26.4	6.8	5.3	0.155	60.4	38	26.1	67	0.110	0.145	<0.15	0.22	0.12	1.83	0.009	15.600	27.77	63	440
160	Demopolis6	Brush Cr.	010919	0942	0.8	0.5	0.54	0.9	23.1	6.9	5.7	0.156	36.0	46	51.1	37	0.130	0.200	0.670	0.87	0.12	7.25	0.022	4.506	9.92	53	470
160	Demopolis6	Brush Cr.	011024	0927	1.1	0.6	0.40	1.10+	18.6	6.8	7.3	0.150	32.4	43	45.1	34	0.050	0.127	0.730	0.857	0.11	7.79	0.007	4.244	2.67	40	420
170	Demopolis7	Factory Cr.	010419	1123	3.7	1.5	0.34	0.93	19.0	7.0	6.8	0.233	45.5	50	57.2	40	0.019	0.193	1.190	1.383	0.13	10.64	0.020	nm	15.26	57	53
170	Demopolis7	Factory Cr.	010523	0909	3.2	1.5	0.28	0.74	25.0	7.1	5.9	0.192	48.3	64	62.0	45	0.027	0.080	0.196	0.276	0.10	2.76	0.007	nm	45.92	68	16 est.
170	Demopolis7	Factory Cr.	010620	0858	3.4	1.5	0.35	1.06	28.0	6.9	3.4	0.299	28.9	77	87.2	34	0.100	0.049	0.332	0.381	0.10	3.81	0.020	7.790	16.02	58	18 est.
170	Demopolis7	Factory Cr.	010725	0852	2.8	1.5	0.41	1.39	30.7	7.4	3.8	0.267	22.3	78	109.0	24	<0.015	0.038	0.514	0.552	0.06	9.20	<0.004	5.639	12.46	55	1 est.
170	Demopolis7	Factory Cr.	010814	0753	3.0	1.5	0.63	1.6	29.4	7.3	6.3	0.207	19.0	62	63.1	29	0.050	0.061	<0.15	0.136	0.03	4.53	0.009	4.420	46.99	68	29
170	Demopolis7	Factory Cr.	010919	0826	3.0	1.5	0.60	1.08	26.2	7.1	3.4	0.265	24.5	90	80.9	33	0.160	0.126	0.800	0.926	0.09	10.29	0.021	6.767	16.78	58	42
170	Demopolis7	Factory Cr.	011024	0820	3.4	1.5	0.54	1.09	19.2	7.1	4.5	0.323	21.6	130	119.0	15	<0.015	0.153	0.560	0.713	0.11	6.48	0.050	8.106	25.63	62	117

a. Sampling depth: profile depth for water temp., D.O., pH, conductivity, and turbidity values reflected in this table.

b. Samples for all other parameters are composites collected from the surface to the photic zone depth.

Appendix F-3a

Basins. Less than detectable values were assigned 0.5 of detection limit to calculate averages.

			Date	Time	Max depth	Sample depth[a]	Secchi depth	Photic Zone[b]	Temp	pH	DO	SpCond	Turb	Alkalinity	Hardness	TSS	NH_3-N	NO_3+ NO_2	TKN	Total N	Total P	TN:TP	TRP	TOC	Chl.*a*	TSI	Fecal coliform
Sub-watershed	Station	Waterbody	yymmdd	24 hr	m	m	m	m	°C	su	mg/l	mS/cm	ntu	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	ug/L		colonies/ 100ml
Middle Tombigbee R. - Lubbub Cr. CU (0316-0106)																											
190	Demopolis2	Tombigbee R.	010417	1852	10.9	1.5	0.43	0.98	21.6	7.0	9.5	0.118	38.2	26	42.4	35	<0.015	0.143	<0.15	0.218	0.13	1.68	0.020	nm	4.75	46	14 est.
190	Demopolis2	Tombigbee R.	010522	1125	11.0	1.5	0.53	1.66	26.8	7.4	7.8	0.169	23.8	36	56.3	21	0.057	0.072	0.411	0.483	0.10	4.83	0.010	nm	17.09	58	4 est.
190	Demopolis2	Tombigbee R.	010619	1041	11.3	1.5	0.60	1.88	28.1	6.7	7.9	0.098	16.1	27	34.3	15	<0.015	0.104	<0.15	0.179	0.09	1.99	0.020	7.364	5.70	48	4 est.
190	Demopolis2	Tombigbee R.	010724	1026	10.7	1.5	0.66	2.52	31.8	7.9	7.3	0.200	12.4	40	57.1	13	<0.015	0.008	0.426	0.434	0.02	21.70	0.010	5.161	2.85	41	1 est.
190	Demopolis2	Tombigbee R.	010813	1039	11.3	1.5	0.70	2.69	30.1	7.2	7.2	0.211	11.8	56	55.9	13	<0.015	0.087	<0.15	0.162	0.02	8.10	0.016	nm	18.87	59	8 est.
190	Demopolis2	Tombigbee R.	010918	1135	10.9	1.5	0.95	2.5	27.6	7.1	6.6	0.153	12.4	46	49.7	13	0.120	0.197	<0.15	0.272	0.03	9.07	0.017	6.279	9.26	52	1
190	Demopolis2	Tombigbee R.	011023	1144	11.3	1.5	0.33	1.47	18.5	6.5	8.5	0.102	24.0	31	41.4	11	<0.015	0.259	0.410	0.669	0.11	6.08	0.030	8.336	2.85	41	24
Sipsey R. CU (0316-0107)																											
080	Gainsville6	Sipsey R.	010418	1422	9.0	1.5	0.84	1.94	19.8	6.4	7.2	0.078	8.7	45	28.8	12	<0.015	0.076	0.862	0.938	0.08	11.73	0.010	nm	3.47	43	10 est.
080	Gainsville6	Sipsey R.	010522	1552	9.3	1.5	0.43	1.75	27.3	7.3	8.2	0.155	22.3	32	42.4	16	0.079	0.081	0.283	0.364	0.09	4.04	<0.004	nm	28.84	64	7 est.
080	Gainsville6	Sipsey R.	010619	1623	9.4	1.5	0.56	1.74	27.2	6.2	7.0	0.066	14.3	13	22.3	9	<0.015	0.044	<0.15	0.119	0.06	1.98	0.020	8.510	4.81	46	22
080	Gainsville6	Sipsey R.	010724	1421	9.4	1.5	1.03	3.1	31.7	7.3	6.6	0.219	8.0	35	58.2	12	0.090	0.007	0.354	0.361	0.01	36.10	<0.004	15.033	4.63	46	2 est.
080	Gainsville6	Sipsey R.	010813	1424	9.5	1.5	1.01	2.67	29.7	6.8	6.1	0.128	8.0	30	39.7	8	0.130	0.064	<0.15	0.139	0.05	2.78	0.009	nm	30.26	64	2 est.
080	Gainsville6	Sipsey R.	010918	1500	8.9	1.5	0.64	1.48	23.9	6.4	6.1	0.057	11.9	12	24.9	14	0.050	0.133	0.240	0.373	0.07	5.33	<0.004	9.524	4.63	46	22
080	Gainsville6	Sipsey R.	011023	1544	9.4	1.5	0.35	1.27	17.3	5.8	7.4	0.042	26.6	21	16.0	13	0.050	0.048	0.220	0.268	0.13	2.06	0.005	8.242	3.20	42	>203
Noxubee R. CU (0316-0108)																											
090	Demopolis4	Noxubee R.	010419	1531	4.8	1.5	0.75	1.96	18.8	7.4	8.2	0.191	15.0	60	66.5	16	<0.015	0.261	1.200	1.461	0.11	13.28	0.040	nm	7.48	50	20 est.
090	Demopolis4	Noxubee R.	010523	1223	3.2	1.5	0.43	1.40	24.9	7.4	6.4	0.184	26.2	57	54.4	27	0.039	0.197	<0.15	0.272	0.05	5.44	0.010	nm	13.35	56	45
090	Demopolis4	Noxubee R.	010620	1155	2.8	1.5	0.33	1.39	28.6	7.5	6.2	0.184	30.4	60	69.3	32	<0.015	0.128	0.287	0.415	0.13	3.19	0.040	6.837	8.54	52	34
090	Demopolis4	Noxubee R.	010725	1217	3.1	1.5	0.67	1.55	30.0	8.5	7.1	0.158	26.9	73	53.8	26	<0.015	0.068	0.575	0.643	0.06	10.72	0.010	5.471	9.61	53	26
090	Demopolis4	Noxubee R.	010814	1040	3.9	1.5	0.99	2	29.4	7.8	7.2	0.187	13.9	33	50.8	18	0.040	0.068	<0.15	0.143	0.04	3.58	0.023	4.388	14.24	57	6 est.
090	Demopolis4	Noxubee R.	010919	1139	3.4	1.5	0.70	1.93	24.9	7.7	7.3	0.153	21.2	55	59.3	19	0.090	0.223	0.210	0.433	0.10	4.33	0.081	5.524	14.42	57	40
090	Demopolis4	Noxubee R.	011024	1114	3.7	1.5	0.48	1.33	18.2	7.5	8.6	0.165	24.8	46	61.1	17	<0.015	0.202	0.930	1.132	0.13	8.71	0.020	7.295	5.87	48	87
Middle Tombigbee R. - Chickasaw Cr. CU (0316-0201)																											
030	Demopolis1	Tombigbee R.	010417	1650	17.8	1.5	0.50	nm	20.7	6.7	9.0	0.130	24.4	23	38.0	21	<0.015	0.307	<0.15	0.382	0.12	3.18	0.020	nm	5.87	48	7 est.
030	Demopolis1	Tombigbee R.	010522	0912	13.5	1.5	0.70	2.2	26.9	7.0	6.7	0.209	16.9	38	61.1	14	<0.015	0.178	<0.15	0.253	0.08	3.16	<0.004	nm	6.41	49	40 est.
030	Demopolis1	Tombigbee R.	010619	0854	12.6	1.5	0.81	2.25	28.3	7.0	7.5	0.268	11.7	48	78.0	15	0.074	0.271	<0.15	0.346	0.04	8.65	0.020	5.131	6.76	49	1 est.
030	Demopolis1	Tombigbee R.	010724	0908	14.7	1.5	0.92	3.25	31.6	7.0	5.2	0.239	9.3	49	67.1	15	0.054	0.173	0.516	0.689	0.02	34.45	<0.004	4.082	3.92	44	2 est.
030	Demopolis1	Tombigbee R.	010813	0855	14.1	1.5	1.02	2.54	30.6	7.1	5.6	0.244	8.6	55	58.2	12	0.060	0.127	0.120	0.247	0.01	24.70	0.014	nm	8.54	52	10 est.
030	Demopolis1	Tombigbee R.	010918	1003	13.8	1.5	0.94	2.23	27.5	6.9	6.0	0.189	11.1	45	58.4	10	0.070	0.266	<0.15	0.341	0.03	11.37	0.035	5.406	5.34	47	13
030	Demopolis1	Tombigbee R.	011023	1008	14.6	1.5	0.48	1.66	20.2	6.5	7.3	0.178	18.4	45	59.7	10	<0.015	0.269	<0.15	0.344	0.08	4.30	0.010	5.896	5.70	48	22
070	Coffeeville5	Chickasaw Bogue Cr.	010417	1421	5.6	1.5	0.66	1.29	21.9	7.3	9.9	0.289	11.6	100	115.0	13	0.032	0.010	<0.15	0.085	0.10	0.85	0.020	nm	31.51	64	18 est.
070	Coffeeville5	Chickasaw Bogue Cr.	010522	1819	3.6	1.5	0.61	1.92	27.3	7.2	5.8	0.289	17.8	106	104.0	21	0.062	0.034	0.426	0.46	0.04	11.50	<0.004	nm	8.54	52	21
070	Coffeeville5	Chickasaw Bogue Cr.	010619	1621	3.8	1.5	0.52	1.55	29.3	7.5	7.5	0.341	13.8	120	152.0	22	<0.015	0.073	0.939	1.012	0.10	10.12	0.020	6.806	33.11	65	5 est.
070	Coffeeville5	Chickasaw Bogue Cr.	010724	1402	3.2	1.5	0.40	1.38	30.9	7.6	6.4	0.300	26.2	125	105.0	47	<0.015	0.032	0.289	0.321	0.07	4.59	0.003	5.891	24.56	62	2 est.
070	Coffeeville5	Chickasaw Bogue Cr.	010813	1506	3.2	1.5	0.52	1.18	28.3	7.7	6.7	0.228	33.4	60	62.4	37	0.040	0.214	0.300	0.514	0.05	10.28	<0.004	4.556	9.61	53	8 est.
070	Coffeeville5	Chickasaw Bogue Cr.	010918	1627	3.2	1.5	0.42	1.23	26.1	7.3	7.5	0.231	23.4	105	106.0	26	0.180	0.050	0.390	0.44	0.13	3.38	0.044	6.910	33.64	65	78
070	Coffeeville5	Chickasaw Bogue Cr.	011023	1635	4.7	1.5	0.40	1.29	20.7	7.2	7.0	0.304	26.2	106	116.0	30	0.050	0.116	1.400	1.516	0.12	12.63	0.010	6.730	61.94	71	280

a. Sampling depth: profile depth for water temp., D.O., pH, conductivity, and turbidity values reflected in this table.

b. Samples for all other parameters are composites collected from the surface to the photic zone depth.

Appendix F-3a

Basins. Less than detectable values were assigned 0.5 of detection limit to calculate averages.

Sub-watershed	Station	Waterbody	Date	Time	Max depth	Sample depth[a]	Secchi depth	Photic Zone[b]	Temp	pH	DO	SpCond	Turb	Alkalinity	Hardness	TSS	NH_3-N	NO_3+NO_2	TKN	Total N	Total P	TN:TP	TRP	TOC	Chl.*a*	TSI	Fecal coliform
			yymmdd	24 hr	m	m	m	m	°C	su	mg/l	mS/cm	ntu	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	ug/L		colonies/ 100ml
Middle Tombigbee R. - Chickasaw Cr. CU (0316-0201)																											
100	Coffeeville3	Tombigbee R.	010417	1323	11.0	1.5	0.35	1.0	21.0	6.7	10.1	0.132	45.0	30	37.9	61	<0.015	0.277	0.579	0.856	0.11	7.78	0.020	nm	4.58	45	56
100	Coffeeville3	Tombigbee R.	010522	1730	7.8	1.5	0.36	1.16	26.6	7.4	7.8	0.207	31.0	42	49.1	33	0.074	0.182	0.410	0.592	0.09	6.58	0.003	nm	10.15	53	100
100	Coffeeville3	Tombigbee R.	010619	1547	10.4	1.5	0.61	1.53	28.8	7.2	7.3	0.245	20.1	48	76.5	23	<0.015	0.297	<0.15	0.372	0.06	6.20	0.020	5.516	6.94	50	5 est.
100	Coffeeville3	Tombigbee R.	010724	1540	7.9	1.5	0.66	1.95	32.4	8.2	8.6	0.267	11.6	52	62.0	31	<0.015	0.196	0.243	0.439	0.01	43.90	<0.004	4.433	6.94	50	2 est.
100	Coffeeville3	Tombigbee R.	010813	1430	9.2	1.5	0.81	2.49	31.2	7.8	8.0	0.250	12.7	46	55.7	23	<0.015	0.154	0.340	0.494	0.02	24.70	0.005	3.573	10.68	54	16 est.
100	Coffeeville3	Tombigbee R.	010918	1555	9.0	1.5	0.78	2.32	27.6	7.4	7.9	0.201	19.0	48	66.5	25	0.020	0.306	<0.15	0.381	0.09	4.23	0.031	5.223	10.15	53	15
100	Coffeeville3	Tombigbee R.	011023	1552	10.1	1.5	0.36	0.96	20.4	7.3	8.7	0.160	38.9	47	50.8	37	<0.015	0.212	1.320	1.532	0.14	10.94	0.020	6.138	5.34	47	187
160	Coffeeville6	Tuckabum Cr.	010417	1205	4.8	1.5	0.53	1.43	19.0	6.3	7.9	0.077	20.4	20	19.4	22	<0.015	0.046	<0.15	0.121	0.13	0.93	0.010	nm	4.81	46	>78
160	Coffeeville6	Tuckabum Cr.	010522	1614	2.7	1.5	0.60	1.34	25.2	6.6	5.5	0.124	19.1	37	22.4	18	<0.015	0.096	0.387	0.483	0.06	8.05	0.020	nm	5.34	47	40
160	Coffeeville6	Tuckabum Cr.	010619	1445	2.8	1.5	0.47	1.32	26.1	6.6	4.9	0.108	22.5	30	28.5	23	0.091	0.067	0.778	0.845	0.08	10.56	0.020	5.521	7.48	50	15 est.
160	Coffeeville6	Tuckabum Cr.	010724	1344	2.5	1.0	0.63	1.32	28.1	7.3	6.0	0.154	18.3	51	36.2	28	<0.015	0.119	0.414	0.533	0.04	13.33	0.010	4.960	16.02	58	>660
160	Coffeeville6	Tuckabum Cr.	010813	1330	2.9	1.5	0.58	1.42	26.2	7.0	6.1	0.097	20.3	20	18.9	20	0.100	0.091	<0.15	0.166	0.03	5.53	0.021	5.323	5.87	48	45
160	Coffeeville6	Tuckabum Cr.	010918	1451	2.3	1.0	0.54	1.44	23.5	6.7	6.6	0.097	20.6	30	27.3	25	0.150	0.084	0.160	0.244	0.07	3.49	0.016	6.292	1.07	31	97
160	Coffeeville6	Tuckabum Cr.	011023	1440	3.0	1.5	0.66	1.58	17.7	6.6	7.3	0.085	16.2	15	17.6	15	<0.015	0.101	0.680	0.781	0.06	13.02	0.010	4.129	2.14	38	57
180	Coffeeville7	Horse Cr.	010416	1345	3.5	1.5	0.72	1.96	20.5	6.2	5.1	0.093	14.9	21	28.6	14	0.071	0.048	<0.15	0.123	0.07	1.76	0.020	nm	1.60	35	19 est.
180	Coffeeville7	Horse Cr.	010522	1528	2.0	1.0	0.71	1.7	25.3	6.3	3.7	0.107	19.3	31	22.6	13	0.056	0.152	0.652	0.804	0.08	10.05	0.020	nm	5.87	48	67
180	Coffeeville7	Horse Cr.	010619	1211	2.5	1.0	0.41	1.28	25.0	6.0	5.1	0.080	26.4	15	26.2	23	0.149	0.067	<0.15	0.142	0.06	2.37	0.020	9.233	5.87	48	45
180	Coffeeville7	Horse Cr.	010724	1014	2.2	1.0	0.64	1	27.0	6.3	2.7	0.118	14.2	48	38.5	16	<0.015	0.086	0.684	0.77	0.05	15.40	0.020	5.812	12.28	55	8 est.
180	Coffeeville7	Horse Cr.	010814	1103	1.5	1.0	0.47	0.54	26.0	6.1	4.1	0.064	26.3	25	28.3	17	0.120	0.169	<0.15	0.244	0.03	8.13	0.016	7.220	6.94	50	130
180	Coffeeville7	Horse Cr.	010918	1333	2.5	1.0	0.44	1.08	23.8	6.4	3.7	0.061	25.1	21	18.8	26	0.120	0.132	<0.15	0.207	0.10	2.07	0.020	8.333	4.27	45	>210
180	Coffeeville7	Horse Cr.	011023	nm	1.3	0.5	0.31	1.3	22.6	6.8	8.0	0.157	26.5	32	27.5	18	0.050	0.119	<0.15	0.194	0.09	2.16	0.010	8.031	0.10	8	43
190	Coffeeville2	Tombigbee R.	010416	1233	11.0	1.5	0.26	1.2	21.2	6.6	8.9	0.121	40.9	30	38.7	46	<0.015	0.244	0.306	0.55	0.17	3.24	<0.004	nm	3.20	42	20
190	Coffeeville2	Tombigbee R.	010522	1403	12.5	1.5	0.45	1.36	26.9	7.0	7.1	0.236	22.1	42	48.4	24	0.027	0.247	<0.15	0.322	0.07	4.60	0.030	nm	6.05	48	3 est.
190	Coffeeville2	Tombigbee R.	010619	1014	10.1	1.5	0.53	2.15	28.0	6.8	7.1	0.230	15.9	45	71.1	13	0.052	0.327	<0.15	0.402	0.08	5.03	0.030	6.006	5.07	46	3 est.
190	Coffeeville2	Tombigbee R.	010724	0937	12.9	1.5	0.52	1.82	31.6	7.0	6.0	0.287	18.6	53	69.6	24	0.054	0.202	0.348	0.55	0.04	13.75	0.030	4.967	7.83	51	2 est.
190	Coffeeville2	Tombigbee R.	010814	0828	12.0	1.5	0.72	0.82	30.3	7.0	6.8	0.231	13.0	50	57.5	16	0.130	0.148	<0.15	0.223	0.03	7.43	0.019	4.600	7.48	50	8 est.
190	Coffeeville2	Tombigbee R.	010918	1144	11.7	1.5	0.63	1.97	27.6	7.3	7.0	0.214	10.3	48	60.3	84	0.100	0.341	0.230	0.571	0.08	7.14	0.039	4.588	7.12	50	17
190	Coffeeville2	Tombigbee R.	011023	1617	11.3	1.5	0.49	1.52	20.1	6.8	8.8	0.167	nm	2	54.2	28	<0.015	0.222	0.430	0.652	0.15	4.35	0.030	6.452	0.10	8	30
190	Coffeeville8	Wahalak Cr.	010416	1430	3.0	1.5	0.39	1.23	19.9	6.1	4.9	0.107	27.7	32	32.2	25	0.118	0.048	<0.15	0.123	0.12	1.03	0.020	nm	3.20	42	31
190	Coffeeville8	Wahalak Cr.	010522	1441	2.1	1.0	0.38	1.08	25.3	6.5	4.8	0.161	36.1	50	35.1	32	<0.015	0.093	1.200	1.293	0.10	12.93	0.004	nm	39.98	67	10 est.
190	Coffeeville8	Wahalak Cr.	010619	1115	2.3	0.9	0.39	1.2	25.3	6.1	4.7	0.116	29.9	32	35.8	23	0.141	0.052	<0.15	0.127	0.09	1.41	0.020	6.184	5.34	47	33
190	Coffeeville8	Wahalak Cr.	010724	0907	1.5	1.0	0.46	1.1	28.1	6.6	4.6	0.208	22.9	75	50.9	26	<0.015	0.069	0.774	0.843	0.05	16.86	0.010	5.960	13.88	56	5 est.
190	Coffeeville8	Wahalak Cr.	010814	0949	2.1	1.0	0.39	0.26	26.9	6.3	3.7	0.138	26.6	41	28.2	19	0.130	0.221	0.690	0.911	0.07	13.01	0.014	5.470	38.98	67	32
190	Coffeeville8	Wahalak Cr.	010918	1242	1.5	1.0	0.32	1.14	23.7	6.6	4.5	0.104	31.8	35	29.8	34	0.160	0.127	<0.15	0.202	0.10	2.02	0.023	5.868	16.02	58	180
190	Coffeeville8	Wahalak Cr.	011023	nm	2.2	1.0	0.44	1.37	17.3	6.2	6.2	0.103	32.4	21	32.5	22	0.060	0.081	<0.15	0.156	<0.004	78.00	0.006	4.861	8.01	51	100
210	Coffeeville9	Bashi Cr.	010416	1514	4.1	1.5	0.72	1.93	21.8	6.1	4.9	0.127	12.7	28	38.1	13	<0.015	0.020	<0.15	0.095	0.12	0.79	0.010	nm	10.15	53	16 est.
210	Coffeeville9	Bashi Cr.	010522	1322	4.2	1.5	0.55	1.55	25.9	6.5	4.2	0.197	17.0	59	44.0	13	0.061	0.018	0.478	0.496	0.05	9.92	0.006	nm	13.88	56	8 est.
210	Coffeeville9	Bashi Cr.	010619	1328	4.2	1.5	0.48	1.7	25.5	6.2	5.3	0.103	19.8	33	32.8	16	<0.015	0.014	<0.15	0.089	0.05	1.78	0.020	6.591	11.75	55	17 est.
210	Coffeeville9	Bashi Cr.	010724	1130	6.2	1.5	0.64	1.8	30.0	6.8	5.7	0.235	15.3	51	59.1	23	<0.015	0.078	0.674	0.752	0.03	25.07	0.004	5.087	13.35	56	7 est.
210	Coffeeville9	Bashi Cr.	010814	1605	3.5	1.5	0.78	1.83	28.1	6.9	5.0	0.178	14.0	51	53.6	10	0.060	0.104	0.920	1.024	0.03	34.13	0.008	4.730	13.35	56	8 est.
210	Coffeeville9	Bashi Cr.	010918	1442	4.0	1.5	0.57	1.24	25.2	6.6	3.1	0.112	22.9	30	39.2	25	0.100	0.088	<0.15	0.163	0.08	2.04	0.011	7.390	26.20	63	290
210	Coffeeville9	Bashi Cr.	011023	nm	5.0	1.5	0.42	1.25	18.0	6.3	6.1	0.120	30.4	30	50.0	20	<0.015	0.183	<0.15	0.258	0.16	1.61	0.020	6.284	7.48	50	38

a. Sampling depth: profile depth for water temp., D.O., pH, conductivity, and turbidity values reflected in this table.
b. Samples for all other parameters are composites collected from the surface to the photic zone depth.

Appendix F-3a

Basins. Less than detectable values were assigned 0.5 of detection limit to calculate averages.

Sub-watershed	Station	Waterbody	Date yymmdd	Time 24 hr	Max depth m	Sample depth[a] m	Secchi depth m	Photic Zone[b] m	Temp °C	pH su	DO mg/l	SpCond mS/cm	Turb ntu	Alkalinity mg/L	Hardness mg/L	TSS mg/L	NH_3-N mg/L	NO_3+ NO_2 mg/L	TKN mg/L	Total N mg/L	Total P mg/L	TN:TP	TRP mg/L	TOC mg/L	Chl.*a* ug/L	TSI	Fecal coliform colonies/ 100ml
Middle Tombigbee R. - Chickasaw Cr. CU (0316-0201)																											
220	Coffeeville 10	Tallawampa Cr.	010416	1628	4.4	1.5	0.82	1.58	22.2	6.1	5.8	0.077	10.8	13	22.3	8	<0.015	0.037	1.270	1.307	0.09	14.52	0.010	nm	10.15	53	20
220	Coffeeville 10	Tallawampa Cr.	010522	1204	4.1	1.5	0.61	1.79	26.8	6.4	4.8	0.129	15.9	60	28.9	18	<0.015	0.043	0.555	0.598	0.05	11.96	0.006	nm	16.02	58	6 est.
220	Coffeeville 10	Tallawampa Cr.	010619	1156	4.2	1.5	0.66	1.72	27.5	6.9	5.4	0.189	18.7	36	59.4	19	<0.015	0.252	0.667	0.919	0.08	11.49	0.020	6.288	11.21	54	12 est.
220	Coffeeville 10	Tallawampa Cr.	010724	1133	5.0	1.5	0.62	2	31.1	7.3	4.9	0.252	18.3	51	55.9	27	<0.015	0.295	0.379	0.674	0.03	22.47	0.010	4.934	9.60	53	4 est.
220	Coffeeville 10	Tallawampa Cr.	010813	1112	4.0	1.5	0.60	1.62	29.0	7.1	5.3	0.175	17.5	30	40.3	18	<0.015	0.150	<0.15	0.225	0.04	5.63	0.010	5.447	16.55	58	10 est.
220	Coffeeville 10	Tallawampa Cr.	010918	1225	5.0	1.5	0.64	1.46	27.1	6.6	5.1	0.122	13.5	24	43.8	16	0.160	0.136	0.350	0.486	0.07	6.94	0.010	6.736	17.62	59	8
220	Coffeeville 10	Tallawampa Cr.	011023	1219	5.0	1.5	0.37	1.2	19.3	6.9	7.2	0.129	34.5	39	42.2	23	<0.015	0.201	0.480	0.681	0.12	5.68	0.020	6.243	1.07		24
290	Coffeeville1	Tombigbee R.	010416	1933	10.0	1.5	0.37	0.93	20.8	6.6	8.4	0.129	48.4	35	41.6	43	<0.015	0.266	<0.15	0.341	0.15	2.27	0.010	nm	3.20	42	31
290	Coffeeville1	Tombigbee R.	010522	0940	10.3	1.5	0.70	2.24	26.6	7.0	6.8	0.200	15.5	40	43.8	13	0.031	0.228	<0.15	0.303	<0.004	151.50	0.010	nm	3.47	43	2 est.
290	Coffeeville1	Tombigbee R.	010619	0941	10.3	1.5	0.75	2	28.0	6.9	6.3	0.222	15.9	45	73.4	13	<0.015	0.366	0.299	0.665	0.06	11.08	0.040	6.055	4.54	45	5 est.
290	Coffeeville1	Tombigbee R.	010724	0918	10.4	1.5	0.82	2.05	31.6	7.3	5.4	0.258	17.6	54	59.3	18	<0.015	0.201	0.674	0.875	0.04	21.88	0.010	6.713	5.34	47	<1
290	Coffeeville1	Tombigbee R.	010813	0910	10.1	1.5	0.92	2.27	30.4	7.4	6.0	0.256	12.7	43	54.1	14	<0.015	0.189	0.110	0.299	0.03	9.97	0.034	4.763	5.34	47	6 est.
290	Coffeeville1	Tombigbee R.	010918	1035	10.5	1.5	0.84	2.36	27.9	7.1	7.0	0.209	11.6	43	67.3	13	0.030	0.343	<0.15	0.418	0.07	5.97	0.028	4.904	5.87	48	1
290	Coffeeville1	Tombigbee R.	011023	1026	10.2	1.5	0.32	1.35	19.7	6.9	7.7	0.158	35.5	46	48.2	25	<0.015	0.225	0.830	1.055	0.16	6.59	0.020	6.180	4.27	45	16
290	Coffeeville11	Okatuppa Cr.	010416	1703	6.5	1.5	0.77	1.66	21.4	6.7	7.0	0.135	11.6	33	49.4	11	<0.015	0.042	1.320	1.362	0.09	15.13	0.010	nm	4.27	45	87
290	Coffeeville11	Okatuppa Cr.	010522	1124	3.9	1.5	0.66	1.77	26.2	6.7	4.9	0.171	14.0	43	48.3	17	<0.015	0.030	0.369	0.399	0.03	13.30	0.010	nm	6.94	50	7 est.
290	Coffeeville11	Okatuppa Cr.	010619	1120	4.7	1.5	0.88	1.88	27.6	6.9	5.4	0.140	12.0	37	52.1	12	<0.015	0.038	0.550	0.588	0.07	8.40	0.020	7.569	6.41	49	22
290	Coffeeville11	Okatuppa Cr.	010724	1050	3.5	1.5	0.76	1.8	31.1	7.4	6.0	0.248	18.0	55	57.6	20	<0.015	0.170	0.306	0.476	0.03	15.87	0.010	5.151	16.55	58	2 est.
290	Coffeeville11	Okatuppa Cr.	010813	1038	3.7	1.5	0.49	1.29	26.2	6.9	5.8	0.098	26.5	20	26.6	26	0.040	0.093	0.230	0.323	0.02	16.15	0.007	8.363	6.94	50	8 est.
290	Coffeeville11	Okatuppa Cr.	010918	1150	4.5	1.5	0.74	1.5	24.8	6.8	5.9	0.118	13.1	31	45.4	17	0.120	0.058	<0.15	0.133	0.07	1.90	0.016	7.366	16.55	58	41
290	Coffeeville11	Okatuppa Cr.	011023	1145	3.7	1.5	0.75	2.06	18.2	6.9	7.3	0.124	12.4	40	44.3	12	<0.015	0.102	0.330	0.432	0.14	3.09	<0.004	5.398	2.14		47
290	Coffeeville12	Turkey Cr.	010416	1738	3.9	1.5	0.41	1.17	22.3	6.6	5.7	0.135	27.0	32	44.5	20	<0.015	0.093	<0.15	0.168	0.10	1.68	0.020	nm	19.07	59	12 est.
290	Coffeeville12	Turkey Cr.	010522	1026	3.5	1.5	0.46	1.37	26.4	6.7	4.2	0.201	23.6	49	55.7	24	0.064	0.071	0.385	0.456	0.07	6.51	0.010	nm	19.22	60	13 est.
290	Coffeeville12	Turkey Cr.	010619	1133	3.0	1.5	0.69	1.88	28.0	7.0	6.3	0.229	20.3	38	64.1	21	<0.015	0.352	0.257	0.609	0.09	6.77	0.030	5.900	21.36	61	11est.
290	Coffeeville12	Turkey Cr.	010724	1011	2.5	1.0	0.89	1.8	31.7	7.4	5.9	0.256	19.1	51	56.7	22	<0.015	0.193	<0.15	0.268	0.06	4.47	0.010	4.501	11.75	55	4 est.
290	Coffeeville12	Turkey Cr.	010813	1003	3.1	1.5	0.59	1.64	28.5	7.0	2.6	0.222	13.5	51	46.7	19	<0.015	0.063	0.250	0.313	0.03	10.43	0.008	5.476	18.16	59	12 est.
290	Coffeeville12	Turkey Cr.	010918	1110	3.1	1.5	0.58	1.25	26.0	6.6	2.9	0.135	19.6	34	44.1	27	0.080	0.057	<0.15	0.132	0.13	1.02	0.013	8.303	16.55	58	35
290	Coffeeville12	Turkey Cr.	011023	1117	3.0	1.5	0.22	0.96	19.8	7.0	7.8	0.158	40.3	50	52.2	27	<0.015	0.236	0.830	1.066	0.10	10.66	0.020	6.265	3.20		15
Sucarnoochee R. CU (0316-0202)																											
110	Coffeeville4	Sucarnoochee R.	010417	1520	5.6	1.5	0.44	1.29	20.0	7.0	8.6	0.134	29.1	38	46.4	31	0.073	0.102	<0.15	0.252	0.07	3.60	0.010	nm	5.34	47	57
110	Coffeeville4	Sucarnoochee R.	010522	1914	1.3	0.8	0.37	0.93	27.1	7.3	7.7	0.144	35.2	35	36.2	40	0.073	0.090	0.460	0.55	0.03	18.33	0.010	nm	10.15	53	53
110	Coffeeville4	Sucarnoochee R.	010619	1652	1.2	0.5	0.36	1.3+	29.9	7.0	7.2	0.127	32.6	33	45.8	45	<0.015	0.125	0.150	0.275	0.07	3.93	0.030	5.375	6.41	49	45
110	Coffeeville4	Sucarnoochee R.	010724	1456	0.5	0.2	0.40	0.6M+	33.0	7.3	7.6	0.130	20.3	46	39.9	31	<0.015	0.021	0.211	0.232	0.05	4.64	0.010	3.702	8.54	52	36
110	Coffeeville4	Sucarnoochee R.	010814	1900	1.5	0.7	nm	0.99	30.1	6.8	6.9	0.091	53.9	24	26.3	59	0.050	0.130	<0.15	0.205	0.08	2.56	0.014	5.000	11.21	54	360
110	Coffeeville4	Sucarnoochee R.	010918	1757	1.2	0.6	0.34	0.8+	25.7	7.3	7.5	0.100	30.6	8	39.7	37	0.110	0.132	<0.15	0.207	0.11	1.88	0.030	5.165	11.21	54	73
110	Coffeeville4	Sucarnoochee R.	011023	nm	1.6	0.7	0.30	1.4+	17.6	6.8	8.9	0.112	44.6	10	41.2	54	<0.015	0.131	0.240	0.371	0.16	2.32	0.010	4.668	0.10	8	300
Escatawpa R. CU (0317-0008)																											
090	BigCreek1	Big Cr.	010424	1328	4.3	1.5	2.9	4.18	23.59	8.52	6.26	0.033	2.26	3	7.42	8	0.0075	0.156	0.506	0.662	0.03	22.07	0.01		0.27	18	<1
090	BigCreek1	Big Cr.	010529	1202	4.0	1.5	2.53	4+	26.31	6.32	7.73	0.0342	1.92	5	7.88	3	0.0075	0.068	0.075	0.143	0.05	2.86	0.011		4.81	46	<1
090	BigCreek1	Big Cr.	010618	1159	4.4	1.5	2.4	4.8+	29.24	6.72	7.93	0.0312	2.61	7	8.35	9	0.115	0.013	0.075	0.088	0.02	4.40	0.01	4.579	6.68	49	1 est.
090	BigCreek1	Big Cr.	010723	1134	4.2	1.5	2.45	4.0+	30.5	6.52	7.42	0.0331	2.83	7	8.47	18	0.0075	0.02	0.075	0.095	0.00	47.50	0.002	4.973	0.8	28	<1
090	BigCreek1	Big Cr.	010813	1105	4.3	1.5	1.75	3.88	28.23	6.18	5.95	0.0299	2.48	8	7.56	22	0.06	0.042	0.075	0.117	0.00	58.50	0.005	3.94	5.34	47	16 est.
090	BigCreek1	Big Cr.	010919	0946	4.5	1.5	2.84	3.5	27.21	6.53	6.83	0.0282	1.8	20	8.27	16	0.08	0.05	0.25	0.3	0.03	10.00	0.005	4.113	4.98	46	5
090	BigCreek1	Big Cr.	011024	nm	4.0	1.5	3.5	4.3+	22.53	6.65	8.3	0.03	2.11	23	9.02	1	0.0075	0.062	0.29	0.352	0.04	8.80	0.006	4.47	2.14	38	33
090	BigCreek2	Big Cr.	010424	1451	10.3	1.5	2.65	4.6	23.5	8.79	6.23	0.032	2.65	2	7.08	6	0.0075	0.134	0.475	0.609	0.05	12.18	0.01		2.94	41	<1
090	BigCreek2	Big Cr.	010529	1320	11.6	1.5	2.76	5.33	26.87	6.34	8	0.034	2.04	3	7.96	4	0.0075	0.05	0.449	0.499	0.39	1.28	0.009		7.48	50	<1
090	BigCreek2	Big Cr.	010618	1339	10.7	1.5	2.17	4.41	29.27	6.86	8.26	0.0307	2.79	7	8.06	8	0.0075	0.019	0.152	0.171	0.05	3.42	0.02	4.39	8.9	52	<1
090	BigCreek2	Big Cr.	010723	1321	10.3	1.5	2.49	5.24	31.02	6.73	7.74	0.0327	1.95	8	8.29	10	0.0075	0.015	0.075	0.09	0.01	9.00	0.01	4.726	2.4	39	3 est.

a. Sampling depth: profile depth for water temp., D.O., pH, conductivity, and turbidity values reflected in this table.
b. Samples for all other parameters are composites collected from the surface to the photic zone depth.

Appendix F-3a

Basins. Less than detectable values were assigned 0.5 of detection limit to calculate averages.

			Date	Time	Max depth	Sample depth[a]	Secchi depth	Photic Zone[b]	Temp	pH	DO	SpCond	Turb	Alkalinity	Hardness	TSS	NH_3-N	NO_3+ NO_2	TKN	Total N	Total P	TN:TP	TRP	TOC	Chl.*a*	TSI	Fecal coliform
Sub-watershed	Station	Waterbody	yymmdd	24 hr	m	m	m	m	°C	su	mg/l	mS/cm	ntu	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	ug/L		colonies/ 100ml
Escatawpa R. CU (0317-0008)																											
090	BigCreek2	Big Cr.	010813	1322	8.3	1.5	1.96	9	28.42	6.4	6.59	0.0298	3.26	5	8.05	5	0.05	0.051	0.21	0.261	0.00	130.50	0.002	4.19	8.28	51	27
090	BigCreek2	Big Cr.	010919	1100	12.8	1.5	2.95	4.42	27.45	6.47	6.28	0.0281	1.89	5	8.66	9	0.09	0.049	0.075	0.124	0.04	3.10	0.007	4.273	5.87	48	<1
090	BigCreek2	Big Cr.	011024	nm	8.7	1.5	3.12	5.23	23.22	6.69	8.09	0.0296		19	8.14	2	0.0075	0.07	0.075	0.145	0.06	2.42	0.002	4.554	1.87	37	1
090	BigCreek3	Big Cr.	010424	1539	3.5	1.5	2.08	3.31	24.32	9.19	6.55	0.031	3.92	10	7.07	7	0.0075	0.14	0.336	0.476	0.06	7.93	0.004		4.81	46	<1
090	BigCreek3	Big Cr.	010529	1356	5.9	1.5	1.6	2.89	27.1	6.47	7.77	0.0314	5.05	5	7.25	5	0.063	0.125	0.075	0.2	0.31	0.65	0.012		12.1	55	<1
090	BigCreek3	Big Cr.	010618	1426	5.1	1.5	1.3	3	28.25	5.89	7.31	0.0308	4.91	6	8.28	6	0.0075	0.013	0.075	0.088	0.03	2.93	0.02	5.569	14.6	57	3 est.
090	BigCreek3	Big Cr.	010723	1426	5.3									9	8.49	13	0.0075	0.201	0.207	0.408	0.01	40.80	0.01	4.344	7.48	50	2 est.
090	BigCreek3	Big Cr.	010813	1407	6.6	1.5	1.56	5.5M+	28.25	6.49	7.33	0.028	13.4	6	9.23	12	0.03	0.159	0.075	0.234	0.00	117.00	0.005	6.27	13.88	56	50
090	BigCreek3	Big Cr.	010919	1137	4.4	1.6	2.56	3.07	27.42	6.53	6.9	0.0272	1.89	5	8.35	8	0.02	0.057	0.075	0.132	0.04	3.30	0.007	4.818	10.68	54	1
090	BigCreek3	Big Cr.	011024	nm	3.8	1.5	3.42	3.8+	24.11	6.64	8.09	0.0292	1.99	10	8.21	2	0.0075	0.11	0.075	0.185	0.00	92.50	0.006	4.377	2.49	40	1
090	BigCreek4	Crooked Cr.	010424	1616	3.9	1.5	2.85	4.07	23.45	8.79	6.45	0.032	2.42	3	7.95	17	0.0075	0.152	0.284	0.436	0.06	7.27	0.01		2.67	40	1 est.
090	BigCreek4	Crooked Cr.	010529	1434	3.3	1.5	2.94	3.29+	27.03	6.49	7.85	0.034	2.19	2	7.68	5	0.066	0.02	0.015	0.035	0.03	1.17	0.014		7.21	50	1 est.
090	BigCreek4	Crooked Cr.	010618	1517	4.3	1.5	2.22	4.5+	28.81	6.82	8.43	0.0315	6.25	6	8.2	16	0.049	0.016	0.075	0.091	0.02	4.55	0.02	4.295	9.26	52	3 est.
090	BigCreek4	Crooked Cr.	010723	1508	4.0	1.5	2.24	4.5+	30.3	6.16	7.27	0.0332	2.88	7	8.52	12	0.0075	0.034	0.385	0.419	0.00	209.50	0.002	4.094	3.47	43	1 est.
090	BigCreek4	Crooked Cr.	010813	1447	3.8	1.5	2.03	4M+	28.86	6.6	7.4	0.0292	3.56	6	8.26	11	0.06	0.072	0.07	0.142	0.00	71.00	0.008	4.1	8.9	52	41
090	BigCreek4	Crooked Cr.	010919	1221	4.1	1.5	3.07	4+	27.52	6.53	6.56	0.0287	1.89	6	8.33	2	0.0075	0.045	0.075	0.12	0.04	3.00	0.008	4.249	6.76	49	3
090	BigCreek4	Crooked Cr.	011024	nm	4.7	1.5	3.32	4.7+	24.31	6.61	7.81	0.0305	2.15	2	8.97	2	0.0075	0.071	0.075	0.146	0.00	73.00	0.002	4.391	0.8	28	1
100	BigCreek5	Hamilton Cr.	010424	1411	5.5	1.5	2.69	4.8	23.65	8.60	6.17	0.032	2.49	15	7.67	10	0.0075	0.146	0.075	0.221	0.06	3.68	0.01		3.2	42	<1
100	BigCreek5	Hamilton Cr.	010529	1238	7.9	1.5	2.29	6	27.44	6.68	8.29	0.0341	2.63	4	7.52	1	0.06	0.054	0.075	0.129	0.04	3.23	0.012		7.21	50	<1
100	BigCreek5	Hamilton Cr.	010618	1252	7.7	1.5	2.5	4.37	29.44	6.88	8.18	0.0315	2.24	7	7.71	5	0.0075	0.012	0.075	0.087	0.02	4.35	0.02	3.935	9.88	53	<1
100	BigCreek5	Hamilton Cr.	010723	1253	7.7	1.5			30.66	6.5	7.3	0.0332		8	8.31	13	0.0075	0.013	0.275	0.288	0.05	5.76	0.004	4.402	8.54	52	<1
100	BigCreek5	Hamilton Cr.	010813	1239	7.7	1.5	2.28	7.5M+	28.39	6.17	6.91	0.0297	3.41	6	7.44	3	0.06	0.068	0.08	0.148	0.00	74.00	0.008	4.1	8.28	51	50 est.
100	BigCreek5	Hamilton Cr.	010919	1017	10.4	1.5	3.2	4.21	27.48	6.5	6.44	0.0283	1.89	5	8.09	12	0.0075	0.045	0.075	0.12	0.05	2.40	0.011	4.135	5.61	47	<1
100	BigCreek5	Hamilton Cr.	011024	nm	7.7	1.5	3.63	5.52	22.89	6.58	7.99	0.0301	1.76	5	8.27	3	0.0075	0.062	0.075	0.137	0.07	1.96	0.006	4.503	1.6	35	1

a. Sampling depth: profile depth for water temp., D.O., pH, conductivity, and turbidity values reflected in this table.
b. Samples for all other parameters are composites collected from the surface to the photic zone depth.

Appendix F-4. University Reservoir Tributary Nutrient Loading Study

***Lead Agencies**:* Cooperative effort by the University of Alabama, Auburn University, Tennessee Valley Authority and Auburn University at Montgomery funded by ADEM

Purpose: Intensive chemical sampling was conducted October 1998-March 2000 to study nutrient loading from tributaries to 26 reservoirs in Alabama. These data were used to quantify tributary nutrient loads to reservoirs and to provide estimates of nonpoint source nutrient contributions. These loading estimates will be essential to the Department's effort to address lake eutrophication concerns across the state. Samples were collected monthly, June-November and biweekly, December-May. All samples and in-situ measures were collected in accordance with ADEM Standard Operating Procedures manual. Duplicate samples were collected at 10% of the stations.

Appendix F-4a. Physical/chemical data

References:

ADEM. 2000d. Water quality monitoring data from tributaries of the Alabama River basin reservoirs collected by Auburn University Montgomery (unpublished). Field Operations Division, Alabama Department of Environmental Management. Montgomery, Alabama.

Appendix F-4a. Physical/chemical data collected by University of Alabama from tributaries to reservoirs located within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and Escatawpa River-Mississippi Coastal (0317-00) Basins.

Sub-watershed	Station	Stream	Date (yymmdd)	Time	Air Temp. °C	Water Temp. °C	Flow cfs	DO mg/L	pH s.u.	Conductivity μS/cm	Turbidity NTU	TSS mg/L	TDS mg/L	TKN mg/L	NH_3-N[a], mg/L	NO_3/NO_2-N, mg/L	Total P[a] mg/L
Luxapallila River CU (0316-0105)																	
030	LXCUA01	Luxapallila Cr.	981119	1205	25.5	16.2	97	9.2	6.4	30.8	7.7	20.5	74	0.26	BDL	0.200	BDL
030	LXCUA01	Luxapallila Cr.	981208	1235	13.0	17.6	130	8.4	6.8	29.9	8.5	8.8	80	0.13	0.020	0.236	BDL
030	LXCUA01	Luxapallila Cr.	981219	1020	15.0	9.3	147	11.8	6.7	25.0	5.5	16.3	88	0.44	BDL	0.342	BDL
030	LXCUA01	Luxapallila Cr.	990121	1455	20.1	14.6	304	10.0	6.8	31.8	6.9	19.3	108	0.23	BDL	0.293	BDL
030	LXCUA01	Luxapallila Cr.	990128	1045	17.0	12.0	275	10.9	6.7	19.3	7.0	16.2	70	0.64	0.040	0.038	BDL
030	LXCUA01	Luxapallila Cr.	990212	1530	18.3	14.7	328	9.9	5.8	38.6	7.5	22.9	37	0.31	0.040	0.292	BDL
030	LXCUA01	Luxapallila Cr.	990220	1130	18.5	10.8	438	12.4	7.2	30.6	6.7	17.4	87	0.23	0.011	0.285	BDL
030	LXCUA01	Luxapallila Cr.	990329	1000	18.5	14.0	260	9.6	5.9	23.0	8.0	6.4	154	0.32	0.018	0.259	BDL
030	LXCUA01	Luxapallila Cr.	990330	1100	18.8	13.8	346	10.1	6.0	127.0	11.6	11.3	1169	0.46	0.025	0.256	BDL
030	LXCUA01	Luxapallila Cr.	990413	1640	25.3	18.3	211	8.6	6.1	29.7	10.2	9.9	75	0.24	0.058	0.266	BDL
030	LXCUA01	Luxapallila Cr.	990424	1030	22.2	20.5	187	8.0	7.0	33.5	8.3	13.4	108	0.09	0.166	0.343	BDL
030	LXCUA01	Luxapallila Cr.	990527	1245	20.9	22.0	150	8.3	6.9	32.1	8.1	12.2	118	0.23	BDL	0.280	BDL
030	LXCUA01	Luxapallila Cr.	990616	1250	30.2	23.0	125	8.5	6.7	37.1	16.1	15.7	35	0.43	BDL	0.240	BDL
030	LXCUA01	Luxapallila Cr.	990830	1530	31.3	27.1	23	8.3	6.5	34.9	6.5	6.3	61	0.46	0.016	0.191	0.050
030	LXCUA01	Luxapallila Cr.	990927	1900	23.6	22.4	78	10.4	6.5	35.4	7.0	6.8	35	0.25	0.009	0.220	0.050
030	LXCUA01	Luxapallila Cr.	991027	1210	22.8	12.5	70	7.1	6.4	25.8	5.7	3.8	41	0.29	0.009	0.255	0.050
Middle Tombigbee -- Lubbub River CU (0316-0106)																	
060	CFCUA01	Coal Fire Cr.	981119	1615	16.7	15.6	40	8.9	6.7	25.0	12.8	27.5	63	0.43	BDL	0.033	BDL
060	CFCUA01	Coal Fire Cr.	981203	1237	18.4	13.8	28	9.7	7.2	17.8	14.2	10.4	43	0.42	0.020	0.052	BDL
060	CFCUA01	Coal Fire Cr.	981230	0750	1.0	7.4	flood	10.2	6.0	15.7	9.5	96.9	107	0.42	BDL	0.094	BDL
060	CFCUA01	Coal Fire Cr.	990109	1520	0.8	8.5	130	11.2	7.1	27.1	11.0	639.3	101	0.33	BDL	0.038	BDL
060	CFCUA01	Coal Fire Cr.	990128	1500	17.1	12.5	144	8.7	5.9	22.1	7.4	10.2	64	0.64	0.130	0.038	BDL
060	CFCUA01	Coal Fire Cr.	990209	1430	20.7	12.3	69	8.6	6.1	25.0	7.5	11.6	35	0.20	BDL	0.063	BDL
060	CFCUA01	Coal Fire Cr.	990220	1445	20.7	10.7	66	10.2	7.2	39.3	7.0	28.2	58	0.44	0.010	0.087	BDL
060	CFCUA01	Coal Fire Cr.	990323	1615	24.7	16.3	390	10.2	6.6	56.5	12.8	478.0	108	0.45	BDL	0.048	BDL
060	CFCUA01	Coal Fire Cr.	990329	1215	18.5	14.0	132	9.2	5.8	20.0	12.2	9.2	109	0.37	BDL	0.058	0.050
060	CFCUA01	Coal Fire Cr.	990416	1200	24.9	16.4	137	7.1	6.4	454.0	73.0	259.3	113	0.72	0.184	0.192	0.710
060	CFCUA01	Coal Fire Cr.	990424	1200	22.4	20.4	52	7.4	7.0	29.5	14.1	16.4	72	1.06	0.158	0.131	BDL
060	CFCUA01	Coal Fire Cr.	990520	1400	24.5	21.4	32	7.6	6.6	39.0	17.6	1.2	129	0.22	0.052	0.154	0.080
060	CFCUA01	Coal Fire Cr.	990527	1400	22.4	21.9	24	7.3	6.4	29.2	19.3	16.7	75	0.39	0.028	0.153	BDL
060	CFCUA01	Coal Fire Cr.	990616	1415	24.9	23.3	106	7.3	6.7	29.2	45.8	46.3	42	0.44	BDL	0.150	0.170
060	CFCUA01	Coal Fire Cr.	990715	1210	28.7	24.7	13	7.5	6.1	34.3	14..4	11.4	19	0.35	0.025	0.171	0.100
060	CFCUA01	Coal Fire Cr.	990803	1720	30.2	26.0	24	6.8	6.4	31.7	20.1	34.0	76	0.67	0.035	0.103	0.050
060	CFCUA01	Coal Fire Cr.	990929	---	19.3	21.4	20	7.4	6.4	27.9	11.8	10.9	29	0.26	0.016	0.069	0.050
060	CFCUA01	Coal Fire Cr.	991027	1410	20.6	12.1	9	10.1	6.3	22.4	8.1	5.4	50	0.35	0.009	0.067	0.050

Appendix F-4a. Physical/chemical data collected by University of Alabama from tributaries to reservoirs located within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and Escatawpa River-Mississippi Coastal (0317-00) Basins.

Sub-watershed	Station	Stream	Date (yymmdd)	Time	Air Temp. °C	Water Temp. °C	Flow cfs	DO mg/L	pH s.u.	Conductivity µS/cm	Turbidity NTU	TSS mg/L	TDS mg/L	TKN mg/L	NH_3-N[a], mg/L	NO_3/NO_2-N, mg/L	Total P[a] mg/L
Middle Tombigbee -- Lubbub River CU (0316-0106)																	
070	TORUA03	Bevill Dam	981119	1700	18.4	16.7	4,160	9.5	6.9	245.0	12.2	20.8	169	0.39	BDL	0.002	0.060
070	TORUA03	Bevill Dam	981203	1305	19.2	16.5	1,540	9.4	7.1	150.0	14.8	13.8	170	0.43	0.030	0.195	BDL
070	TORUA03	Bevill Dam	981221	1045	22.6	10.8	6,210	11.8	7.2	86.5	13.0	65.3	135	0.36	0.040	0.285	0.080
070	TORUA03	Bevill Dam	990112	1515	20.0	5.6	21,600	15.4	7.1	81.8	20.0	82.0	124	0.71	0.060	0.201	0.190
070	TORUA03	Bevill Dam	990120	1215	19.5	10.1	11,500	13.9	5.4	76.6	14.0	37.3	108	0.57	0.020	0.215	0.100
070	TORUA03	Bevill Dam	990210	1330	21.2	11.0	11,100	11.8	6.9	56.0	7.0	17.2	83	0.28	BDL	0.158	BDL
070	TORUA03	Bevill Dam	990220	1530	17.6	13.9	9,800	9.6	7.1	113.0	7.0	14.7	127	0.64	0.008	0.158	BDL
070	TORUA03	Bevill Dam	990309	1630	22.9	12.9	30,500	11.2	6.9	266.0	20.0	55.0	124	0.56	0.044	0.171	0.110
070	TORUA03	Bevill Dam	990329	1315	18.6	15.3	7,900	10.9	6.5	92.6	14.0	12.1	384	0.96	BDL	0.115	0.090
070	TORUA03	Bevill Dam	990406	1615	26.5	20.8	19,900	8.5	6.8	1130.0	14.2	18.5	41	0.46	0.021	0.112	0.080
070	TORUA03	Bevill Dam	990424	1245	24.1	22.2	2,830	8.2	6.8	103.0	18.9	33.1	150	1.05	0.117	0.084	0.100
070	TORUA03	Bevill Dam	990520	1445	29.2	23.8	800	7.9	7.4	126.0	16.4	39.6	166	0.27	BDL	0.023	0.050
070	TORUA03	Bevill Dam	990527	1445	23.2	28.9	1,000	8.5	8.2	152.0	23.0	21.5	141	0.09	BDL	0.061	0.130
070	TORUA03	Bevill Dam	990621	1430	29.7	29.6	1,620	6.2	7.2	199.0	9.2	5.0	109	0.54	BDL	0.028	0.060
070	TORUA03	Bevill Dam	990715	1300	30.5	29.9	984	7.6	7.2	161.5	23.3	21.8	80	0.51	0.024	0.122	BDL
070	TORUA03	Bevill Dam	990812	1515	30.2	32.2	1,660	4.5	7.0	186.2	10.0	9.7	110	0.68	0.022	0.014	0.120
070	TORUA03	Bevill Dam	990922	1445	23.1	24.2	585	7.6	7.0	256.5	9.6	20.7	145	0.30	0.009	0.014	0.050
070	TORUA03	Bevill Dam	991024	1720	13.7	20.0	600	7.9	7.7	404.7	6.0	13.0	222	0.37	0.009	0.011	0.050
120	LBCUA01	Lubbub Cr.	981128	1155	18.8	13.6	86	9.3	6.6	36.2	8.7	4.2	2020	0.41	BDL	0.062	BDL
120	LBCUA01	Lubbub Cr.	981208	1507	14.0	17.4	78	7.9	6.7	33.7	8.5	3.9	63	0.22	0.070	0.057	BDL
120	LBCUA01	Lubbub Cr.	981230	0900	1.8	7.8	flood	10.8	6.1	21.5	8.0	62.2	107	0.44	BDL	0.126	BDL
120	LBCUA01	Lubbub Cr.	990109	1315	11.1	8.1	384	12.2	7.1	29.5	6.6	14.2	98	0.37	0.030	0.149	BDL
120	LBCUA01	Lubbub Cr.	990128	1545	17.1	12.4	158	9.7	5.8	19.3	7.0	16.0	72	0.37	BDL	0.063	BDL
120	LBCUA01	Lubbub Cr.	990209	1230	20.9	13.8	109	8.9	6.1	18.0	7.8	10.6	42	0.25	BDL	0.079	BDL
120	LBCUA01	Lubbub Cr.	990224	1118	15.0	7.4	205	11.7	5.9	22.7	4.7	30.4	144	0.34	0.014	0.116	BDL
120	LBCUA01	Lubbub Cr.	990323	1500	22.3	14.6	505	10.2	6.7	27.3	13.3	11.0	66	0.45	BDL	0.061	0.060
120	LBCUA01	Lubbub Cr.	990329	1445	18.0	14.4	383	8.9	6.1	23.7	14.0	12.5	387	0.64	0.011	0.042	0.080
120	LBCUA01	Lubbub Cr.	990416	1330	27.8	17.6	152	7.8	6.9	1400.0	13.4	18.6	84	0.55	0.105	0.146	0.050
120	LBCUA01	Lubbub Cr.	990424	1330	23.4	20.7	108	7.4	6.4	38.7	11.8	6.0	110	0.75	0.139	0.173	BDL
120	LBCUA01	Lubbub Cr.	990520	1515	23.3	22.5	57	8.4	7.0	43.4	14.0	72.0	121	0.36	0.034	0.189	0.070
120	LBCUA01	Lubbub Cr.	990527	1525	22.3	23.0	55	7.3	6.4	41.4	13.1	5.5	84	0.43	0.016	0.225	0.060
120	LBCUA01	Lubbub Cr.	990616	1530	25.9	24.2	195	7.3	6.4	35.4	24.0	18.6	42	0.85	BDL	0.158	0.080
120	LBCUA01	Lubbub Cr.	990715	1330	27.4	25.1	115	7.5	6.1	17.4	17.8	11.3	34	0.51	0.017	0.115	BDL
120	LBCUA01	Lubbub Cr.	990830	1810	31.5	27.4	11	6.2	6.6	55.2	5.3	4.0	62	0.38	0.015	0.062	0.060
120	LBCUA01	Lubbub Cr.	990927	1800	26.3	21.4	11	9.3	6.6	53.3	4.8	2.6	44	0.27	0.023	0.034	0.050
120	LBCUA01	Lubbub Cr.	991024	1800	12.5	13.6	22	9.9	6.6	59.7	5.1	1.8	51	0.55	0.009	0.040	0.050

Appendix F-4a. Physical/chemical data collected by University of Alabama from tributaries to reservoirs located within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and Escatawpa River-Mississippi Coastal (0317-00) Basins.

Sub-watershed	Station	Stream	Date (yymmdd)	Time	Air Temp. °C	Water Temp. °C	Flow cfs	DO mg/L	pH s.u.	Conductivity µS/cm	Turbidity NTU	TSS mg/L	TDS mg/L	TKN mg/L	NH_3-N[a], mg/L	NO_3/NO_2-N, mg/L	Total P[a] mg/L
Middle Tombigbee -- Lubbub River CU (0316-0106)																	
140	TORUA04	Gainesville (Heflin) Dam	981124	1530	17.9	17.4	2,200	9.4	6.8	218.0	11.0	10.8	209	0.60	BDL	0.050	0.050
140	TORUA04	Gainesville (Heflin) Dam	981203	1430	18.6	16.8	2,900	9.5	7.1	166.0	10.0	10.6	168	0.36	0.010	0.025	BDL
140	TORUA04	Gainesville (Heflin) Dam	981221	1245	23.2	11.3	5,880	12.5	7.3	74.0	11.0	24.5	128	0.45	0.050	0.283	0.080
140	TORUA04	Gainesville (Heflin) Dam	990112	1430	11.4	6.3	26,000	13.3	7.1	90.8	20.0	102.7	155	0.39	BDL	0.240	0.200
140	TORUA04	Gainesville (Heflin) Dam	990120	1341	19.5	12.7	10,900	9.9	7.1	78.8	16.0	64.3	163	0.79	BDL	0.189	0.200
140	TORUA04	Gainesville (Heflin) Dam	990210	1410	22.8	13.0	12,700	12.7	6.8	61.0	7.0	18.1	73	0.32	0.002	0.097	BDL
140	TORUA04	Gainesville (Heflin) Dam	990220	1700	15.3	13.1	10,900	10.1	7.2	103.0	7.0	19.7	162	0.56	0.055	0.151	BDL
140	TORUA04	Gainesville (Heflin) Dam	990309	1800	18.5	13.3	26,300	10.2	7.2	722.0	16.0	43.7	117	0.36	0.023	0.143	0.110
140	TORUA04	Gainesville (Heflin) Dam	990329	1626	17.8	15.4	11,000	10.6	6.2	78.5	15.6	9.6	206	0.44	0.068	0.103	0.060
140	TORUA04	Gainesville (Heflin) Dam	990406	1505	23.3	20.2	16,500	8.9	7.3	495.0	15.3	23.0	42	0.36	0.023	0.076	0.090
140	TORUA04	Gainesville (Heflin) Dam	990424	1745	22.9	21.1	7,450	9.8	6.4	102.0	15.5	18.7	162	0.53	0.171	0.148	0.070
140	TORUA04	Gainesville (Heflin) Dam	990519	1330	23.1	25.4	1,280	8.4	7.2	93.5	23.7	11.3	102	0.55	0.050	0.117	0.110
140	TORUA04	Gainesville (Heflin) Dam	990531	1200	33.1	26.6	3,890	8.1	7.5	101.0	26.4	12.9	140	0.35	0.077	0.086	0.050
140	TORUA04	Gainesville (Heflin) Dam	990621	1610	27.2	29.1	654	8.7	8.1	185.0	8.1	6.2	117	0.40	BDL	0.031	0.060
140	TORUA04	Gainesville (Heflin) Dam	990720	1445	30.8	30.2	2,320	6.1	7.7	149.2	21.2	13.2	88	0.50	0.058	0.177	0.130
140	TORUA04	Gainesville (Heflin) Dam	990812	1700	30.1	32.7	1,370	6.2	7.6	182.7	10.9	10.7	107	0.52	0.023	0.076	0.080
140	TORUA04	Gainesville (Heflin) Dam	990812	1800	30.1	32.7	1,360	6.2	7.6	182.7	10.9	10.6	119	0.68	0.021	0.076	0.080
140	TORUA04	Gainesville (Heflin) Dam	990919	1830	25.9	27.3	500	8.0	7.8	177.2	9.1	11.9	84	0.26	0.017	0.011	0.050
140	TORUA04	Gainesville (Heflin) Dam	991024	1545	16.9	21.1	1,040	8.7	7.6	256.2	4.5	7.1	151	0.61	0.009	0.020	0.050
Sipsey River CU (0316-0107)																	
080	SIRUA01	Sipsey R.	981128	1400	17.7	14.3	151	9.6	7.0	100.0	19.0	38.1	209	0.19	BDL	0.042	BDL
080	SIRUA01	Sipsey R.	981230	1030	6.8	7.3	1,427	9.4	6.0	29.2	7.5	28.7	103	0.49	0.020	0.096	BDL
080	SIRUA01	Sipsey R.	981231	0800	4.2	6.8	1,427	11.0	6.2	44.4	7.5	28.7	103	0.70	BDL	0.073	BDL
080	SIRUA01	Sipsey R.	990109	1400	7.3	7.0	1,233	12.4	7.0	40.7	6.9	37.3	106	0.20	BDL	0.084	BDL
080	SIRUA01	Sipsey R.	990129	1400	17.7	13.6	flood	8.9	5.9	21.3	15.0	14.6	72	0.58	0.010	0.014	BDL
080	SIRUA01	Sipsey R.	990216	1530	22.2	11.0	754	10.5	6.2	60.0	6.0	11.0	80	0.35	0.034	0.047	BDL
080	SIRUA01	Sipsey R.	990224	1156	15.0	8.3	911	11.7	6.2	62.5	4.3	7.8	166	0.35	0.019	0.092	BDL
080	SIRUA01	Sipsey R.	990313	0900	18.8	12.7	1,960	9.7	6.5	41.0	4.9	7.8	70	0.37	BDL	0.009	0.060
080	SIRUA01	Sipsey R.	990330	1300	18.1	14.6	715	9.7	6.5	67.4	10.4	2.8	576	0.42	0.005	0.074	BDL
080	SIRUA01	Sipsey R.	990408	1510	26.5	22.3	1,116	7.3	6.7	64.3	8.5	13.9	40	0.64	0.117	0.043	BDL
080	SIRUA01	Sipsey R.	990424	1500	24.7	21.1	827	7.6	7.0	79.2	10.5	16.8	120	0.09	0.119	0.091	0.050
080	SIRUA01	Sipsey R.	990520	1630	23.2	23.6	425	8.4	7.0	104.0	13.4	29.1	131	0.21	BDL	0.157	BDL
080	SIRUA01	Sipsey R.	990531	1330	26.7	23.5	274	7.6	6.9	81.7	10.8	10.3	100	0.19	0.019	0.177	BDL
080	SIRUA01	Sipsey R.	990622	1330	31.0	27.1	82	6.0	6.9	75.4	10.6	7.3	62	0.72	BDL	0.128	0.060
080	SIRUA01	Sipsey R.	990720	1125	30.6	29.0	314	5.7	7.3	78.5	17.9	50.0	40	0.48	0.039	0.204	BDL

Appendix F-4a. Physical/chemical data collected by University of Alabama from tributaries to reservoirs located within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and Escatawpa River-Mississippi Coastal (0317-00) Basins.

Sub-watershed	Station	Stream	Date (yymmdd)	Time	Air Temp. °C	Water Temp. °C	Flow cfs	DO mg/L	pH s.u.	Conductivity µS/cm	Turbidity NTU	TSS mg/L	TDS mg/L	TKN mg/L	NH_3-N[a], mg/L	NO_3/NO_2-N, mg/L	Total P[a] mg/L
Noxubee River CU (0316-0108)																	
090	NBRUA01	Noxubee R.	981128	1000	16.4	14.4	99	8.0	7.4	107.0	25.0	24.3	190	0.27	0.010	0.727	0.090
090	NBRUA01	Noxubee R.	981203	1400	18.1	14.9	91	9.1	7.3	61.3	26.2	23.8	101	0.42	0.020	0.060	0.060
090	NBRUA01	Noxubee R.	981221	1400	22.1	12.7	187	9.3	7.5	103.0	9.0	36.5	136	0.35	0.020	0.627	0.070
090	NBRUA01	Noxubee R.	990112	1230	18.4	5.7	2,160	12.3	7.1	102.0	13.0	67.0	179	1.44	0.050	0.347	0.130
090	NBRUA01	Noxubee R.	990120	1300	19.5	10.4	959	10.1	7.3	105.0	13.0	77.3	180	0.61	BDL	0.256	0.130
090	NBRUA01	Noxubee R.	990209	1620	20.8	12.8	1,100	8.4	7.3	98.0	13.0	85.7	105	0.36	0.021	0.220	0.070
090	NBRUA01	Noxubee R.	990220	1615	16.1	11.6	556	10.9	6.7	133.0	6.0	23.8	105	0.35	0.002	0.206	BDL
090	NBRUA01	Noxubee R.	990309	1730	21.5	13.1	2,860	10.1	6.9	752.0	15.0	84.3	134	0.28	0.014	0.098	0.160
090	NBRUA01	Noxubee R.	990329	1549	17.9	14.8	1,120	9.1	6.8	118.0	27.8	10.7	207	0.38	0.007	0.351	0.130
090	NBRUA01	Noxubee R.	990406	1530	27.0	21.4	1,450	7.2	7.1	790.0	21.5	96.3	50	0.36	0.024	0.122	0.140
090	NBRUA01	Noxubee R.	990424	1715	23.3	22.4	302	7.7	5.9	135.0	22.4	30.8	169	0.71	0.103	0.230	0.100
090	NBRUA01	Noxubee R.	990519	1400	26.5	25.8	236	8.1	8.4	145.0	28.5	15.3	116	0.50	BDL	0.184	0.130
090	NBRUA01	Noxubee R.	990531	1245	28.4	24.7	220	6.5	7.8	181.0	140.0	153.7	200	1.54	0.309	4.422	0.080
090	NBRUA01	Noxubee R.	990621	1520	27.0	26.8	128	7.1	7.9	157.0	48.9	36.5	113	0.49	BDL	0.430	0.180
090	NBRUA01	Noxubee R.	990720	1425	30.5	30.2	181	6.4	7.9	154.4	33.2	30.0	92	0.53	BDL	0.322	BDL
090	NBRUA01	Noxubee R.	990831	1730	25.7	27.6	91	8.3	8.6	129.6	26.9	23.3	83	0.62	0.015	0.004	0.160
090	NBRUA01	Noxubee R.	990927	0505	29.1	22.2	68	9.9	8.0	109.6	25.0	22.7	80	0.20	0.017	0.164	0.050
090	NBRUA01	Noxubee R.	990927	0505	29.1	22.2		9.9	8.0	109.6	25.0	22.7	80	0.02	0.009	0.160	0.080
090	NBRUA01	Noxubee R.	991024	1625	13.7	14.8	70	9.6	7.7	130.6	11.7	15.2	65	0.33	0.353	0.416	0.050
090	NBRUA01	Noxubee R.	991024	1625	13.7	14.8		9.6	7.7	130.6	11.7	4.0	101	NM	0.535	0.460	NM
Middle Tombigbee -- Chickasaw River CU (0316-0201)																	
030	TORUA01	Demopolis Dam	981115	1402	16.6	19.5	12,200	9.0	6.8	144.0	85.0	208.0	160	1.43	0.020	0.191	0.650
030	TORUA01	Demopolis Dam	981205	1339	29.0	20.2	1,600	8.5	7.1	260.0	42.1	305.3	192	0.93	0.070	0.199	0.260
030	TORUA01	Demopolis Dam	981213	1350	12.6	16.5	27,900	11.0	7.5	175.0	10.0	119.8	166	0.51	0.020	0.066	0.090
030	TORUA01	Demopolis Dam	990109	1230	5.0	7.5	32,000	13.5	7.1	168.0	75.0	166.7	222	0.75	0.040	0.418	BDL
030	TORUA01	Demopolis Dam	990121	1500	17.9	11.1	27,700	12.2	6.5	138.0	9.0	225.7	143	0.90	BDL	0.541	0.150
030	TORUA01	Demopolis Dam	990222	1305	10.0	12.4	28,400	11.4	6.8	122.0	6.0	562.3	146	0.36	0.021	0.453	BDL
030	TORUA01	Demopolis Dam	990227	1315	18.0	12.9	20,400	11.4	6.7	132.0	5.5	49.7	163	0.36	0.012	0.529	BDL
030	TORUA01	Demopolis Dam	990311	1628	14.0	13.0	55,000	11.7	6.5	114.0	10.0	54.0	146	0.35	0.012	0.416	0.090
030	TORUA01	Demopolis Dam	990323	1434	19.8	15.3	31,000	11.1	7.2	144.0	41.5	59.3	185	0.25	0.056	0.443	0.110
030	TORUA01	Demopolis Dam	990413	1515	19.5	22.1	17,900	8.5	7.3	128.0	19.7	85.1	135	0.31	0.045	0.330	BDL
030	TORUA01	Demopolis Dam	990428	1430	26.8	22.5	38,300	9.2	7.3	110.0	44.9	134.7	152	0.62	0.187	0.399	0.100
030	TORUA01	Demopolis Dam	990514	1430	24.4	24.3	13,500	8.8	7.1	201.0	38.8	14.2	164	0.18	0.048	0.280	0.100
030	TORUA01	Demopolis Dam	990524	1730	22.5	26.7	3,980	8.3	7.5	267.0	19.5	13.6	130	0.30	0.046	0.237	BDL
030	TORUA01	Demopolis Dam	990607	1330	29.6	29.0	8,800	7.4	7.7	215.0	17.8	21.3	163	0.36	0.010	0.223	BDL
030	TORUA01	Demopolis Dam	990722	1145	34.6	31.7	6,790	7.5	7.4	228.4	11.9	13.7	141	0.45	0.025	0.242	BDL
030	TORUA01	Demopolis Dam	990908	1600	28.4	31.7	2,230	7.0	7.0	279.0	8.9	11.2	121	0.36	0.034	0.160	0.050
030	TORUA01	Demopolis Dam	991022	1655	20.3	23.7	1,400	8.3	8.0	266.2	11.0	38.2	164	0.60	0.009	0.079	0.050

Appendix F-4a. Physical/chemical data collected by University of Alabama from tributaries to reservoirs located within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and Escatawpa River-Mississippi Coastal (0317-00) Basins.

Sub-watershed	Station	Stream	Date (yymmdd)	Time	Air Temp. °C	Water Temp. °C	Flow cfs	DO mg/L	pH s.u.	Conductivity µS/cm	Turbidity NTU	TSS mg/L	TDS mg/L	TKN mg/L	NH_3-N[a], mg/L	NO_3/NO_2-N, mg/L	Total P[a] mg/L
Middle Tombigbee -- Chickasaw River CU (0316-0201)																	
070	CHBUA01	Chickisaw Bogue Cr.	981127	1130	24.0	16.8	8	9.3	7.2	184.0	7.0	5.6	174	0.41	BDL	0.002	0.080
070	CHBUA01	Chickisaw Bogue Cr.	981205	1230	27.0	21.5	5	9.7	7.8	242.0	8.1	7.2	204	0.58	0.030	0.011	BDL
070	CHBUA01	Chickisaw Bogue Cr.	981228	1200	13.0	8.4	62	11.2	7.8	186.0	11.0	21.5	237	0.61	0.040	0.257	0.090
070	CHBUA01	Chickisaw Bogue Cr.	990115	0900	12.3	11.6	50	10.9	7.2	280.0	78.0	10.0	227	0.35	BDL	0.161	0.320
070	CHBUA01	Chickisaw Bogue Cr.	990131	1225	16.6	16.1		8.2	6.6	41.4	19.0	99.0	53	1.20	0.010	0.047	0.370
070	CHBUA01	Chickisaw Bogue Cr.	990222	1200	13.4	9.4	150	10.7	7.0	161.0	6.0	24.4	198	0.57	0.050	0.144	BDL
070	CHBUA01	Chickisaw Bogue Cr.	990227	1216	19.0	14.8	68	9.3	7.1	166.0	6.7	11.9	219	0.41	0.033	0.039	BDL
070	CHBUA01	Chickisaw Bogue Cr.	990311	1730	15.0	14.3	273	9.2	7.1	180.0	12.0	65.0	193	0.40	0.060	0.091	0.100
070	CHBUA01	Chickisaw Bogue Cr.	990329	1700	16.7	17.4	82	10.7	7.1	214.0	18.3	26.0	148	0.30	0.014	0.020	BDL
070	CHBUA01	Chickisaw Bogue Cr.	990413	1640	20.5	23.2	10	8.5	7.6	227.0	7.4	8.3	207	0.45	0.025	0.017	BDL
070	CHBUA01	Chickisaw Bogue Cr.	990428	1530	26.8	25.8	12	7.9	7.4	189.0	15.9	17.6	217	0.63	0.146	0.192	BDL
070	CHBUA01	Chickisaw Bogue Cr.	990514	1248	21.9	27.4	7	8.9	7.6	343.0	11.1	12.2	199	0.22	0.012	0.003	0.060
070	CHBUA01	Chickisaw Bogue Cr.	990524	1610	24.1	30.9	2	8.1	8.9	288.0	8.6	17.3	222	0.43	BDL	0.086	0.050
070	CHBUA01	Chickisaw Bogue Cr.	990607	1500	30.1	33.4	1	10.8	8.5	263.0	8.5	32.5	183	0.66	BDL	0.008	BDL
070	CHBUA01	Chickisaw Bogue Cr.	990722	1230	34.8	33.4	6	8.1	7.7	207.4	7.8	11.3	121	0.48	0.010	0.010	BDL
070	CHBUA01	Chickisaw Bogue Cr.	990830	1925	25.6	30.9	-1	9.5	8.9	245.9	5.1	11.5	139	0.44	0.013	0.004	0.060
070	CHBUA01	Chickisaw Bogue Cr.	990919	1625	26.3	27.4	0	12.0	8.4	239.7	4.2	6.6	114	0.37	0.009	0.003	0.050
070	CHBUA01	Chickisaw Bogue Cr.	991022	1745	10.4	19.6	1	8.7	7.4	269.4	8.5	4.3	156	0.35	0.009	0.017	0.060
100	KBCUA01	Kinterbish Cr.	981127	0915	17.7	13.6	26	9.6	5.1	31.0	6.1	4.1	44	0.32	BDL	BDL	BDL
100	KBCUA01	Kinterbish Cr.	981205	0950	27.0	16.0	22	8.9	6.6	40.9	6.5	3.9	70	0.45	0.080	0.027	BDL
100	KBCUA01	Kinterbish Cr.	981228	1330	13.0	8.3	64	11.0	7.0	43.2	8.3	9.3	102	0.49	0.010	0.121	BDL
100	KBCUA01	Kinterbish Cr.	990120	1200	16.8	12.3	44	11.1	6.3	27.8	4.8	4.6	103	0.46	BDL	0.071	BDL
100	KBCUA01	Kinterbish Cr.	990131	1100	16.2	15.7	flood	8.6	6.2	12.9	17.0	90.0	24	1.10	0.170	0.081	0.060
100	KBCUA01	Kinterbish Cr.	990222	1021	5.1	8.2	96	11.0	5.8	24.9	4.0	8.3	83	0.29	0.010	0.102	BDL
100	KBCUA01	Kinterbish Cr.	990227	1115	17.0	12.7	81	10.1	6.3	28.0	3.7	6.6	96	0.40	0.007	0.095	BDL
100	KBCUA01	Kinterbish Cr.	990315	1600	12.2	11.5	547	9.5	5.3	27.8	11.0	132.7	110	0.61	0.008	0.103	0.060
100	KBCUA01	Kinterbish Cr.	990323	1620	18.6	15.6	23	9.0	6.6	54.3	12.6	14.0	148	0.24	BDL	0.048	0.060
100	KBCUA01	Kinterbish Cr.	990413	1806	17.7	18.3	9	6.2	6.5	46.4	10.5	12.7	141	0.38	0.025	0.050	0.050
100	KBCUA01	Kinterbish Cr.	990428	1650	28.2	21.8	137	5.8	5.8	29.1	93.0	204.3	114	0.54	0.133	0.095	BDL
100	KBCUA01	Kinterbish Cr.	990514	1126	22.1	19.2	41	8.9	6.4	47.4	13.0	1.2	73	0.19	0.018	0.093	BDL
100	KBCUA01	Kinterbish Cr.	990524	1500	22.3	23.0	23	8.0	7.4	44.7	10.0	6.7	182	0.18	0.010	0.363	BDL
100	KBCUA01	Kinterbish Cr.	990609	1400	27.1	25.1	17	7.2	7.4	40.9	10.9	12.7	77	0.46	0.020	0.102	0.060
100	KBCUA01	Kinterbish Cr.	990722	1355	30.5	26.6	13	7.4	7.3	43.5	10.5	6.8	55	0.34	0.045	0.123	BDL
100	KBCUA01	Kinterbish Cr.	990830	1800	25.9	26.7	2	6.8	6.8	46.1	6.5	4.5	36	0.37	0.022	0.048	0.050
100	KBCUA01	Kinterbish Cr.	990919	1545	24.4	21.3	5	8.3	6.6	44.6	9.6	6.7	31	0.31	0.009	0.055	0.050
100	KBCUA01	Kinterbish Cr.	991024	1415	14.1	12.2	7	10.7	6.8	48.9	4.4	2.8	41	0.36	0.009	0.025	0.050

Appendix F-4a. Physical/chemical data collected by University of Alabama from tributaries to reservoirs located within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and Escatawpa River-Mississippi Coastal (0317-00) Basins.

Sub-watershed	Station	Stream	Date (yymmdd)	Time	Air Temp. °C	Water Temp. °C	Flow cfs	DO mg/L	pH s.u.	Conductivity μS/cm	Turbidity NTU	TSS mg/L	TDS mg/L	TKN mg/L	NH_3-N[a], mg/L	NO_3/NO_2-N, mg/L	Total P[a] mg/L
Sucarnoochee River CU (0316-0202)																	
080	SURUA01	Sucarnoochee R.	981115	1230	19.0	14.7	195	9.5	6.6	37.6	28.5	22.9	67	0.44	BDL	0.120	0.080
080	SURUA01	Sucarnoochee R.	981205	1106	28.0	16.2	169	9.1	7.2	46.5	11.0	18.8	62	0.62	0.020	0.033	BDL
080	SURUA01	Sucarnoochee R.	981213	1215	11.8	12.9	850	9.8	7.4	31.4	17.0	185.7	73	0.85	0.060	0.129	0.090
080	SURUA01	Sucarnoochee R.	990120	1430	21.5	11.9	322	11.4	7.0	86.6	7.6	20.8	112	0.54	BDL	0.103	BDL
080	SURUA01	Sucarnoochee R.	990130	1100	19.8	15.7	3,690	9.0	6.8	114.0	23.0	648.0	118	1.76	0.020	0.173	0.790
080	SURUA01	Sucarnoochee R.	990222	0915	4.0	8.7	511	10.2	6.6	56.5	6.5	36.0	95	0.34	0.011	0.098	BDL
080	SURUA01	Sucarnoochee R.	990223	1710	16.7	15.9	474	9.0	6.8	81.5	22.3	36.8	146	0.50	BDL	0.086	BDL
080	SURUA01	Sucarnoochee R.	990227	1009	14.0	12.2	437	10.4	6.4	54.5	6.2	18.3	115	0.36	0.015	0.116	0.050
080	SURUA01	Sucarnoochee R.	990315	1510	13.2	11.1	3,840	8.9	5.8	39.4	15.0	127.3	133	0.56	0.000	0.067	0.080
080	SURUA01	Sucarnoochee R.	990413	1850	17.5	21.2	345	8.5	7.1	59.8	14.7	24.5	90	0.30	0.042	0.060	BDL
080	SURUA01	Sucarnoochee R.	990428	1800	25.4	24.7	311	6.9	6.9	65.0	19.8	31.8	116	0.61	0.115	0.145	0.080
080	SURUA01	Sucarnoochee R.	990514	1017	22.7	22.1	310	8.3	6.7	68.9	19.4	12.2	90	0.33	0.042	0.137	0.180
080	SURUA01	Sucarnoochee R.	990524	1345	20.5	25.8	172	8.7	7.9	55.9	20.3	22.9	116	0.24	BDL	0.045	BDL
080	SURUA01	Sucarnoochee R.	990609	1240	28.9	28.6	137	7.8	7.7	47.9	18.8	20.5	78	0.28	BDL	0.049	0.100
080	SURUA01	Sucarnoochee R.	990722	1515	32.6	30.1	140	7.9	7.3	54.3	19.6	25.7	60	0.20	BDL	0.088	BDL
080	SURUA01	Sucarnoochee R.	990830	1715	28.8	28.7	108	7.3	7.5	52.1	16.5	17.0	60	0.42	0.044	0.082	0.080
080	SURUA01	Sucarnoochee R.	990830	1815	28.8	28.7	108	7.3	7.5	52.1	16.5	17.3	55	0.40	0.009	0.084	0.120
080	SURUA01	Sucarnoochee R.	990919	1345	28.0	24.3	87	8.4	7.4	51.7	14.9	17.4	22	0.32	0.009	0.036	0.050
080	SURUA01	Sucarnoochee R.	991024	1330	12.2	15.0	112	7.4	7.6	59.9	11.9	9.6	38	0.45	0.009	0.037	0.050

a. BDL=below detection limit

Appendix F-5. Weeks Bay Watershed Monitoring Project.

Lead agency: Geological Survey of Alabama

Purpose: Intensive surface water and biological monitoring was conducted by the Geological Survey of Alabama from January, 1994 through September of 1998 as part of a cooperative effort between the Geological Survey of Alabama (GSA) and ADEM. It was part of the Weeks Bay Watershed project initiated in 1993 by the Natural Resource Conservation Service (NRCS), the U.S. Environmental Protection Agency (EPA) Gulf of Mexico Program, ADEM, and various other agencies to protect Weeks Bay, a designated Outstanding National Resource Water (ONRW) (ADEM 1992c) to document improvements in water quality resulting from the implementation of best management practices to control nonpoint source pollution. Intensive surface water quality data were collected monthly at 18 to 22 sites. Macroinvertebrate assessments were conducted 2-8 times during the study period at 19 sites.

Appendix F-5a. Habitat and macroinvertebrate assessment data

Appendix F-5b. Physical/chemical data

References:

O'Neil, P.E. and R.V. Chandler. 2003. Water quality and biological moitoring in Weeks Bay watershed, Alabama: 1994-98. Alabama Geological Survey Bulletin, in press. Alabama Geological Survey. Tuscaloosa, Alabama.

Chandler, R.V., P.E. O'Neil, V.L. Miller, S.S. DeJarnette, T.E. Shepard, and S.W. McGregor. 1998. Monitoring of surface-water and biological conditions in the Fish River watershed of Southwest Alabama: 1994. Geological Survey of Alabama. Tuscaloosa, Alabama. 28 pp.

Chandler, R.V., S.S. DeJarnette, and N.E. Moss. 1998. Evaluation of water-analysis data for surface-water sites in the Weeks Bay Watershed, Alabama: January 1994-September 1995. Geological Survey of Alabama. Tuscaloosa, Alabama. 13 pp.

Appendix F-5a. Summary of macroinvertebrate and habitat assessments conducted by GSA in the Weeks Bay watershed, 1994-1998.

Station Number	GSA-2	GSA-3	GSA-4	GSA-5	GSA-5a	GSA-6	GSA-7	GSA-8	GSA-8a	GSA-9	GSA-10	GSA-11	GSA-12	GSA-13	GSA-14	GSA-15	GSA-16	GSA-17	GSA-18
Sub-watershed #	050	050	050	050	050	050	050	050	050	050	050	060	060	060	060	060	060	050	050
Drainage area (mi^2)	67	7	6	28	4	5	9	5		17	6	3	17	6	3	6	5	5	5
Subecoregion	65f	75a	65f	65f	65f	65f	65f	65f	65f	65f	65f	65f	65f	75a	75a	65f	65f	75a	65f
Assessment Dates																			
Apr-94	X	X	X	X		X	X	X		X	X								
Aug-94	X	X	X	X		X	X	X		X	X								
Jan-95	X	X	X	X		X	X	X		X	X	X	X	X	X	X	X		
Apr-95	X	X	X	X		X	X		X	X	X	X	X	X	X	X	X		
Jun-95	X		X		X	X	X		X	X	X		X	X	X		X	X	X
Oct-95	X		X		X	X	X		X	X	X		X	X	X	X	X	X	X
Feb-96	X		X		X	X	X		X	X	X		X	X	X	X	X	X	X
Nov-98	X		X		X	X	X		X	X	X		X	X	X	X	X	X	X
# of samples collected	8	4	8	4	4	8	8	3	5	8	8	2	6	6	6	5	6	4	4
Habitat assessment[a]																			
Range of assessment scores	66-87	57-84	72-95	58-69	79-96	51-80	68-88	83-93	71-98	71-92	75-98	72-79	81-92	69-88	64-74	79-91	73-93	85-99	81-92
Average habitat assessment rating	Good	Fair-good	Good	Fair	Good	Fair-good	Good	Good	Good	Good	Good	Good	Good	Good	Fair-good	Good	Fair-good	Good	Good
Macroinvertebrate community metrics (ranges)																			
total # of families	18-27	10-13	20-26	13-23	14-24	18-27	15-25	21-26	20-29	8-21	10-23	13-18	13-22	14-23	9-22	15-21	12-28	20-22	14-18
# EPT taxa (genus/species)	9-17	0-2	8-17	1-5	1-4	5-9	7-14	4-6	5-13	1-8	1-6	0-2	5-9	1-4	0-3	1-4	1-7	4-9	1-5
Hilsenhoff Family-level Biotic Index[c]	4.67-6.48	7.75-8.01	4.35-4.98	6.53-6.80	6.76-7.07	4.37-6.41	4.14-5.59	6.01-7.01	4.06-5.27	5.82-7.27	5.61-6.75	7.74-7.75	5.08-6.74	6.74-8.38	7.24-7.68	5.82-7.16	4.37-6.51	4.23-5.94	5.85-8.09
# of individuals	68-302	111-214	104-408	75-247	151-309	72-210	58-217	185-247	146-288	71-326	36-219	130-236	120-168	75-548	98-343	194-414	40-194	200-293	256-427
Average assessment rating [d]	Fair	Very poor	Good	Poor	Poor	Fair	Good	Poor	Good	Poor	Fair	Very poor	Poor	Very poor	Very poor	Poor	Fair	Fair	Poor

a. Habitat assessment: Original habitat assessment (Plafkin et al. 1989; maximum score=155)

b. Guidelines developed by Plafkin et al. (1989) were used to assess habitat quality; summary rating provided to ADEM is based on average habitat assessment score.

c. Macroinvertebrate assessment ratings based on average of Hilsenhoff Family-level Biotic Index scores (Hilsenhoff 1988).

d. Assessment criteria developed by Hilsenhoff (1988) to evaluate organic pollution were used to assess the condition of the macroinvertebrate community; summary rating provided to ADEM is based on average Hilsenhoff Family-level Biotic Index score.

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

		Date	Time	Temp	DO	pH	Conductivity	Turbidity	Flow	BOD5	NH_3- N	TKN	NO_3/NO_2-N	DRP	Total P	TDS	TSS	Fecal coliform	Cl
Waterbody	Station	yymmdd	24 hr	(^oC)	mg/L	su	umhos/cm	ntu	cfs	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	#colonies/100mL	mg/L
Fish River Sub-watershed (050)																			
Fish River	GSA-2a	940207	1415	17	7.0	6.4	745	6	154	<0.1	0.02	0.32	1.28	<0.02	<0.08	427	<4	200	213
Fish River	GSA-1	940207	1615	16.5	17.2	8.5	12,220	42	197	13.2	<0.02	3.15	<0.03	<0.02	0.18	8,900	43	95	4780
Fish River	GSA-1	940228	1500	15	11.6	8.2	4,680	25	182	11.8	<0.02	1.78	0.43	0.02	<0.08	4,110	36	410	2180
Fish River	GSA-1	940328	1330	22	7.0	7.0	2,120	22	242	2	0.02	0.73	0.58	<0.02	<0.08	1,080	26	76	516
Fish River	GSA-1	940502	1345	25	10.2	8.3	1,897	18	200	5.8	0.02	1.25	0.38	<0.02	<0.08	1,060	15	33	615
Fish River	GSA-1	940613	1245	28	7.4	7.1	5,440	7	190	2.9	0.03	0.71	0.32	<0.02	<0.08	3,760	8	8	2010
Fish River	GSA-1	940719	1330	30	4.5	7.4	113	43	328	1.8	0.074	0.54	0.17	0.08	<0.08	96	19	3,100	20.6
Fish River	GSA-1	940818	1015	27	4.2	7.1	14,400	30	210	3.4	<0.02	1.21	0.16	<0.02	0.09	11,000	23	89	9900
Fish River	GSA-1	940914	0900	29.5	7.0	6.8	13,150	14	220	5.4	<0.02	0.69	1.01	<0.02	<0.08	12,000	30	6	5280
Fish River	GSA-1	941018	1230	22	8.7	7.2	14,290	20	220	4.9	0.045	0.31	0.27	0.02	<0.08	12,000	21	70	6750
Fish River	GSA-1	941115	1145	21	6.6	7.0	14,400	19	195	6.2	0.027	0.48	0.61	<0.02	<0.08	11,600	13	7	6210
Fish River	GSA-1	941213	1130	14	10.0	7.2	16,510	17	187	<0.1	0.025	0.47	0.25	<0.02	<0.08	12,900	<4	30	6900
Fish River	GSA-1	950124	1150	13	8.2	6.8	6,880	19	340	1.6	0.164	0.67	0.731	0.012	<0.08	4,930	6	200	2720
Fish River	GSA-1	950214	1200	13	11.0	7.1	8,580	8	260	4.3	0.034	0.22	0.34	<0.01	<0.08	7,590	21	40	5190
Fish River	GSA-1	950307	1330	20	9.6	7.2	5,650	30	210	10.8	0.024	0.35	0.384	0.01	<0.08	3,380	51	63	1870
Fish River	GSA-1	950426	1315	22	8.1	7.0	3,610	25	310	2.3	0.011	0.52	0.306	0.012	<0.08	2,260	22	108	1140
Fish River	GSA-1	950509	1230	26	7.5	7.0	6,250	20	230	4.8	<0.010	0.77	0.267	<0.010	<0.08	3,850		35	2050
Fish River	GSA-1	950613	1230	25	7.1	6.9	5,730	20	210	3.7	<0.010	0.37	0.304	<0.010	<0.08	3,720	27	40	2050
Fish River	GSA-1	950725	1250	30	5.8	7.0	6,140	8	200	3.6	0.047	0.62	0.232	<0.010	<0.08	4,290	19	90	2370
Fish River	GSA-1	950815	1220	31	5.8	6.8	7,900	18	220	6	0.021	0.78	0.096	0.044	<0.08	5,010	17	3	2660
Fish River	GSA-1	950912	1230	30	6.4	7.0	15,300	39	200	5.6	0.013	1.79	0.549	0.032	<0.08	10,900	31	53	5560
Fish River	GSA-1	951017	1250	26	6.5	6.8	18,200	35	250	<0.1	0.039	0.57	<0.010	0.022	<0.08	13,500	<4	30	6400
Fish River	GSA-1	951107	1235	19.5	6.7	6.2	4,180	30	440	1.2	0.116	0.58	0.271	0.059	<0.08	2,460	28	320	1270
Fish River	GSA-1	951212	1250	12	10.5	6.6	8,550	9	255	5.1	0.084	0.44	0.82	0.018	<0.08	5,050	13	37	2650
Fish River	GSA-1	960117	1330	14	9.5	6.6	1,390	15	287	1.6	0.074	0.23	2.76	0.022	<0.08	837	14	70	417
Fish River	GSA-1	960213	1230	12	11.2	7.2	475	18	305	3.7	<0.010	0.25	1	<0.010	<0.08	313	18	57	144
Fish River	GSA-1	960312	1210	11	9.9	6.7	5,300	15	235	6.4	0.012	0.21	0.529	0.042	<0.08	5,050	25	27	2690
Fish River	GSA-1	960416	1250	17	7.2	7.1	22	100	23,000	1.6	0.059	0.3	0.169	0.069	<0.08	51	43	10,600	3.02
Fish River	GSA-1	960514	1210	24	6.9	7.0	248	20	290	2.9	<0.010	0.39	0.728	0.031	<0.08	152	15	23	69
Fish River	GSA-1	960611	1230	25	7.5	6.9	248	15	300	1.3	0.047	0.53	1.05	0.028	<0.08	163	8	37	63.5
Fish River	GSA-1	960716	1220	26	7.8	6.3	7,030	18	320	3.1	0.031	0.42	0.299	0.015	<0.08	4,810	14	57	2370
Fish River	GSA-1	960813	1250	25	8.5	6.3	4,470	18	870	4	0.017	0.42	1.48	0.017	<0.08	2,600	15	90	1290
Fish River	GSA-1	960910	1220	27	4.5	6.3	3,500	20	230	4.1	0.053	0.65	0.691	0.02	<0.08	2,360	15	23	1250
Fish River	GSA-1	961016	1230	22	7.2	6.3	18,800	8	220	4.2	0.024	0.46	0.103	0.03	<0.08	15,100	12	40	8160
Fish River	GSA-1	961113	1220	16	10.0	6.2	12,200	18	210	3.8	0.038	0.53	0.457	0.015	<0.08	10,700	6	3	5600
Fish River	GSA-1	961210	1240	16	9.6	6.2	8,600	22	220	4.5	0.011	0.34	0.61	<0.010	<0.08	7,850	16	250	4220
Fish River	GSA-1	970122	1240	13	10.8	7.1	9,360	8	220	4.3	<0.010	0.8	0.604	<0.010	<0.08	6,090	5	33	3080
Fish River	GSA-1	970211	1220	12	10.0	6.9	4,420	8	230	9	<0.010	0.39	0.871	0.083	<0.08	2,980	7	60	1450
Fish River	GSA-1	970311	1200	22	6.1	6.6	2,490	16	200	3.2	0.024	1.69	0.705	0.048	<0.08	1,660	12	16	847

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (°C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Fish River Sub-watershed (050)																			
Fish River	GSA-1	970415	1220	16	9.0	7.0	10,100	10	260	10.2	<0.010	0.44	0.278	<0.010	<0.08	7,380	16	83	3910
Fish River	GSA-1	970513	1150	21	8.2	6.9	3,270	14	200	5.7	<0.010	0.75	0.521	<0.010	<0.08	1,910	6	16	1010
Fish River	GSA-1	970610	1230	22	7.5	7.0	2,130	20	240	3.4	0.013	1.31	0.268	0.017	<0.08	1,200	15	27	589
Fish River	GSA-1	970723	1250	25	4.7	6.7	35	35	1,400	1.3	0.039	0.66	0.125	0.065	<0.08	94	11	260	5.1
Fish River	GSA-1	970812	1220	25	4.8	6.4	1,920	18	358	0.3	0.083	0.48	1.01	0.013	<0.08	1,200	5	360	618
Fish River	GSA-1	970909	1210	26	8.4	7.1	10,320	18	255	4.8	<0.010	1.23	0.548	<0.010	<0.08	9,100	13	44	5020
Fish River	GSA-1	971016	1120	15	9.7	6.6	13,000	10	280	3.7	0.039	0.73	0.62	0.037	<0.08	10,100	7	170	5510
Fish River	GSA-1	971118	1250	10	12.2	6.8	9,570	15	260	9	<0.010	1.6	0.704	0.014	<0.08	8,450	11	43	5650
Fish River	GSA-1	971210	1250	18	10.4	6.8	6,800	1	300	4.4	0.014	0.62	0.716	0.015	<0.08	5,090	7	120	2750
Fish River	GSA-1	980121	1250	15	7.9	6.6	255	25	390	0.9	0.072	0.86	0.62	0.01	<0.08	224	10	130	90.9
Fish River	GSA-1	980211	1145	15	9.9	6.7	379	32	600	1.3	0.048	0.43	0.95	0.031	<0.08	304	26	90	131
Fish River	GSA-1	980310	1215	15	7.7	6.6	41	58	1,000	1.5	0.061	0.8	0.212	0.099	<0.08	45	32	4,000	6.3
Fish River	GSA-1	980422	1400	21	6.2	6.2	621	35	320	2.1	<0.010	0.6	0.779	0.015	<0.08	400	11	230	187
Fish River	GSA-1	980512	1300	26	6.9	6.8	456	8	260	2.2	0.023	0.74	0.73	0.014	<0.08	291	10	7	119
Fish River	GSA-1	980609	1505	28	10.2	6.7	2,230	5	290	2.5	<0.010	1.04	0.629	<0.010	<0.08	1,400	11		702
Fish River	GSA-1	980721	1345	29	6.6	6.8	2,040	5	500	1.9	0.079	0.72	0.927	<0.010	<0.08	2,320	16	43	1180
Fish River	GSA-1	980804	1445	30	9.7	6.5	7,200	30	210	2.8	0.013	1.22	0.294	<0.010	<0.08	7,500	13	20	4100
Fish River	GSA-1	980915	1230	28	8.0	6.4	6,600	18	230	4	0.032	0.86	0.607	0.01	<0.08	3,840	5	140	2060
Fish River	GSA-2	940228	1330	15	9.2	5.7	47	3	79.7	0.6	<0.02	0.19	1.59	0.03	<0.08	53	8	260	6.37
Fish River	GSA-2	940328	1030	19.5	7.3	7.7	42	5	106	0.4	0.04	<0.15	1.18	<0.02	<0.08	46	57	470	5.48
Fish River	GSA-2	940502	1040	20	7.9	7.0	39	8	88.3	0.3	0.04	<0.15	1.43	<0.02	<0.08	35	7	300	6.01
Fish River	GSA-2	940613	1030	22	7.6	6.6	40	6	82.8	1	0.02	0.24	1.46	0.02	<0.08	51	<4	215	6.23
Fish River	GSA-2	940719	1110	23	6.7	7.6	46	27	144	0.8	0.056	0.37	0.99	0.065	<0.08	55	39	4,600	5.5
Fish River	GSA-2	940818	0815	23	7.4	6.8	40	17	93.1	0.3	<0.02	<0.15	1.39	0.02	<0.08	37	5	180	5.89
Fish River	GSA-2	940914	0830	22	7.5	7.4	41	8	96.4	0.5	0.053	0.24	1.38	<0.02	<0.08	38	6	182	6.82
Fish River	GSA-2	941018	0830	19	7.6	7.7	40	9	97.4	0.2	<0.02	<0.15	1.49	<0.02	<0.08	40	<4	490	5.83
Fish River	GSA-2	941115	0935	17	8.5	7.3	44	13	85.7	0.3	<0.02	0.31	1.54	<0.02	<0.08	19	7	160	6.52
Fish River	GSA-2	941213	0930	13.5	8.8	7.1	56	13	82	<0.1	<0.02	<0.15	1.54	<0.02	<0.08	29	9	80	6.54
Fish River	GSA-2	950124	0910	10	9.8	7.3	43	50	151	0.9	0.054	0.35	0.948	0.033	<0.08	45	20	3,600	6.39
Fish River	GSA-2	950214	0845	13	10.0	7.1	44	6	116	0.5	0.03	0.21	1.37	0.037	<0.08	63	8	390	6.19
Fish River	GSA-2	950307	0840	18	9.8	6.4	43	4	92.5	0.5	0.016	<0.07	1.47	0.01	<0.08	25	7	136	5.52
Fish River	GSA-2	950426	0845	17	8.6	6.4	37	22	134	0.4	0.018	0.2	1.12	0.014	<0.08	63	16	83	7.15
Fish River	GSA-2	950509	0850	22	7.6	5.6	41	18	99	<0.1	<0.010	0.14	1.5	0.029	<0.08	63	7	205	5.88
Fish River	GSA-2	950613	0840	22	7.9	6.6	42	4	90.4	0.5	<0.010	<0.07	1.51	0.016	<0.08	12	11	166	8.34
Fish River	GSA-2	950725	0830	23	7.4	6.1	42	1	87.5	0.4	<0.010	0.07	1.58	<0.010	<0.08	71	14	220	8.28
Fish River	GSA-2	950815	0815	24	7.1	6.7	40	10	98.1	0.4	0.021	0.23	1.26	0.034	<0.08	10	12	270	9.96
Fish River	GSA-2	950912	0840	22	7.5	6.5	38	9	89.2	0.1	0.013	0.16	1.47	0.01	<0.08	38	7	400	5.65
Fish River	GSA-2	951017	0830	20	8.3	6.0	43	8	108	<0.1	0.019	0.11	1.2	<0.010	<0.08	35	7	163	5.62
Fish River	GSA-2	951107	0910	18	7.6	6.0	44	18	195	0.5	0.027	0.26	0.914	0.052	<0.08	39	15	370	4.88

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (°C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Fish River Sub-watershed (050)																			
Fish River	GSA-2	951212	0845	10	9.8	6.8	43	4	112	0.8	<0.010	<0.07	1.48	<0.010	<0.08	44	5	127	5.83
Fish River	GSA-2	960117	0830	15	8.7	6.7	41	9	126	0.6	<0.010	0.12	1.44	<0.010	<0.08	41	<4	140	5.77
Fish River	GSA-2	960213	0820	13	9.1	7.0	41	5	134	0.7	<0.010	0.14	1.35	<0.010	<0.08	52	9	127	5.77
Fish River	GSA-2	960312	0850	11	10.0	6.9	38	10	103	0.4	<0.010	0.2	1.41	0.019	<0.08	55	12	160	5.68
Fish River	GSA-2	960416	0820	16	8.0	5.9	19	85	10,000	1.3	0.02	0.3	0.189	0.059	<0.08	50	46	6,800	1.64
Fish River	GSA-2	960514	0820	18	7.9	6.2	36	10	127	0.4	0.022	0.37	1.25	0.017	<0.08	26	15	127	5.54
Fish River	GSA-2	960611	0830	20	7.9	6.6	35	5	134	0.6	0.024	0.4	1.22	<0.010	<0.08	26	12	200	5.44
Fish River	GSA-2	960716	0820	21	7.2	6.9	42	16	140	0.5	0.049	0.27	1.08	0.024	<0.08	45	18	330	5.4
Fish River	GSA-2	960813	0840	20	7.2	6.9	32	120	381	3.7	0.04	0.3	0.583	0.072	<0.08	32	184	32,000	2.94
Fish River	GSA-2	960910	0820	21	7.9	6.7	38	10	102	0.4	0.011	0.22	1.35	0.025	<0.08	25	11	163	5.74
Fish River	GSA-2	961016	0830	16	8.3	6.5	38	1	98.2	0.5	<0.010	0.09	1.53	<0.010	<0.08	87	5	130	6.04
Fish River	GSA-2	961113	0830	12	9.5	6.8	31	5	93.8	0.4	0.016	0.13	1.54	<0.010	<0.08	49	<4	90	6.15
Fish River	GSA-2	961210	0810	12	9.3	6.8	35	10	97.9	0.8	0.017	0.15	1.45	<0.010	<0.08	58	8	130	6.49
Fish River	GSA-2	970122	0820	13	9.5	6.0	42	4	96.8	0.4	0.022	0.26	1.55	<0.010	<0.08	20	7	70	6.12
Fish River	GSA-2	970211	0810	11.5	9.7	5.9	41	2	99	<0.1	<0.010	0.24	1.47	0.089	<0.08	38	11	50	5.99
Fish River	GSA-2	970311	0810	18	8.2	6.3	42	8	88.8	0.4	0.013	0.24	1.36	<0.010	<0.08	20	11	120	6.09
Fish River	GSA-2	970415	0800	14	9.0	6.3	43	8	114	0.4	0.011	0.15	1.17	<0.010	<0.08	30	26	153	5.88
Fish River	GSA-2	970513	0750	17	8.7	6.4	43	6	88.7	0.8	0.015	0.16	1.48	0.015	<0.08	22	7	210	6.12
Fish River	GSA-2	970610	0800	19	8.1	6.4	41	17	104	1	0.011	0.64	1.3	0.018	<0.08	47	24	1,030	5.77
Fish River	GSA-2	970723	0850	22	6.5	6.6	33	25	594	1.1	0.015	0.76	0.241	0.041	<0.08	50	24	610	3.04
Fish River	GSA-2	970812	0800	20	7.3	6.6	39	20	157	1	0.014	0.77	0.946	0.02	<0.08	37	18	550	5.91
Fish River	GSA-2	970909	0730	18	9.0	5.8	39	5	112	0.4	<0.010	0.29	1.38	0.015	<0.08	61	10	82	6.12
Fish River	GSA-2	971016	0730	14	9.6	6.2	45	16	123	0.8	<0.010	0.32	1.04	0.013	<0.08	19	7	360	6.64
Fish River	GSA-2	971118	0750	8	10.8	6.0	41	4	116	0.6	0.031	0.56	1.44	<0.010	<0.08	50	6	120	6.35
Fish River	GSA-2	971210	0830	16	8.2	6.1	34	4	130	0.5	0.01	0.29	1.22	0.015	<0.08	47	11	200	6.01
Fish River	GSA-2	980121	0750	13	9.7	6.4	39	16	171	0.4	0.025	0.23	1.17	<0.010	<0.08	128	13	77	5.7
Fish River	GSA-2	980211	0745	16	8.4	6.7	45	80	264	1.4	0.032	0.92	1.07	0.067	<0.08	64	86	1,600	5.66
Fish River	GSA-2	980310	0800	13	9.8	6.5	31	40	452	0.9	0.054	0.56	0.452	0.032	<0.08	39	55	830	3.75
Fish River	GSA-2	980422	0800	18	7.7	5.6	48	25	141	0.8	<0.010	0.23	1.25	0.014	<0.08	34	17	210	6.18
Fish River	GSA-2	980512	0800	20	8.0	6.0	41	5	113	0.4	<0.010	0.26	1.38	<0.010	<0.08	53	8	93	6.05
Fish River	GSA-2	980609	0815	22	7.9	6.2	40	10	126	0.3	0.02	0.19	1.4	<0.010	<0.08	55	8		6.19
Fish River	GSA-2	980721	0905	24	7.3	6.4	38	38	220	1.5	<0.010	0.98	0.67	0.019	<0.08	45	44	3,500	4.85
Fish River	GSA-2	980804	0755	22	8.4	6.2	44	15	94	0.3	0.022	0.14	1.62	0.027	<0.08	63	11	120	6.18
Fish River	GSA-2	980915	0750	22	8.0	6.4	42	8	99	0.3	<0.010	0.44	1.44	<0.010	<0.08	51	12	200	6.07
Turkey Branch	GSA-3	940208	0850	16	4.6	6.1	61	42	0.33	0.1	0.04	0.41	0.15	0.02	<0.08	50	16	86	10.4
Turkey Branch	GSA-3	940301	0830	15	7.8	6.3	65	118	0.33	2.5	0.06	0.55	0.12	0.14	0.08	118	35	220	11.1
Turkey Branch	GSA-3	940328	1200	19	3.3	6.7	77	45	0.38	1.8	0.04	0.95	0.11	0.04	<0.08	73	13	810	7.96
Turkey Branch	GSA-3	940502	1215	22	1.2	6.7	80	94	0	4.7	0.27	0.66	<0.03	0.03	<0.08	61	427	340	8.05
Turkey Branch	GSA-3	940613	1200	25	1.0	6.2	73	44	0	2.9	0.33	0.96	0.05	0.04	<0.08	86	14	90	8.61

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (°C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Fish River Sub-watershed (050)																			
Turkey Branch	GSA-3	940720	1120	26	1.4	7.2	87	33	0.14	2	0.123	0.56	0.12	0.057	<0.08	77	46	250	5.31
Turkey Branch	GSA-3	940817	0850	26	2.2	6.4	71	29	0.75	0.5	0.043	0.5	0.09	0.047	<0.08	39	6	830	6.21
Turkey Branch	GSA-3	940913	1240	25.5	3.2	7.0	78	38	0	3.6	0.091	0.47	0.08	<0.02	<0.08	56	11	850	10
Turkey Branch	GSA-3	941018	1200	20	5.6	7.2	72	32	0	0.8	0.063	0.54	0.1	0.037	<0.08	81	8	470	9.35
Turkey Branch	GSA-3	941116	1040	20	1.9	6.7	100	35	0	4.5	0.097	0.57	0.07	0.021	<0.08	59	25	200	18.4
Turkey Branch	GSA-3	941214	0930	10.5	2.7	7.1	75	45	0.25	2.4	<0.02	0.34	0.12	0.036	<0.08	56	8	33	11.6
Turkey Branch	GSA-3	950124	1110	9	8.8	7.2	44	118	3.72	2.1	0.049	0.52	0.046	0.175	0.12	82	35	400	7.11
Turkey Branch	GSA-3	950214	1115	10	6.6	7.0	47	40	0.27	0.4	0.067	0.28	0.161	0.032	<0.08	76	8	40	8.37
Turkey Branch	GSA-3	950307	1300	19	4.4	6.2	66	37	0.21	1.1	0.113	0.42	0.086	0.041	<0.08	52	14	250	9.73
Turkey Branch	GSA-3	970722	1410	25	5.0	6.7	63	50	41	2.2	0.036	2.24	0.029	0.2	<0.08	77	26	530	4.9
Cowpen Creek	GSA-4	940208	1000	18.5	7.6	6.0	39	8	7.68	<0.1	<0.02	0.16	1.21	<0.02	<0.08	27	<4	76	6.28
Cowpen Creek	GSA-4	940301	0930	18	7.3	6.4	42	12	6.5	0.6	<0.02	<0.15	1.34	0.02	<0.08	49	<4	230	5.99
Cowpen Creek	GSA-4	940329	0800	16.5	8.2	7.0	52	45	10.1	0.1	0.02	0.18	0.97	<0.02	<0.08	30	6	420	5.82
Cowpen Creek	GSA-4	940503	0830	20	6.8	6.9	21	8	5.52	0.2	0.02	<0.15	1.25	<0.02	<0.08	29	<4	37	6.09
Cowpen Creek	GSA-4	940614	0820	22	6.5	6.1	39	2	5.65	0.9	<0.02	<0.15	1.18	<0.02	<0.08	82	<4	70	40.3
Cowpen Creek	GSA-4	940720	1030	23	5.3	7.3	52	3	6.95	0.2	0.073	0.34	1.1	<0.02	<0.08	46	<4	66	5.57
Cowpen Creek	GSA-4	940817	1000	23	6.8	6.7	40	17	7.05	<0.1	0.026	<0.15	1.23	<0.020	<0.08	25	4	290	6.01
Cowpen Creek	GSA-4	940913	1150	22.5	6.8	6.9	38	9	6.48	0.4	<0.02	0.19	1.23	<0.02	<0.08	30	6	152	5.99
Cowpen Creek	GSA-4	941018	1050	15	7.1	6.9	41	8	6.47	0.1	0.033	<0.15	1.37	<0.02	<0.08	42	<4	460	5.99
Cowpen Creek	GSA-4	941116	1130	19	7.3	7.1	45	8	6.39	1	<0.02	0.15	1.41	<0.02	<0.08	22	<4	290	6
Cowpen Creek	GSA-4	941214	1040	15	8.3	7.1	43	13	7.21	<0.1	<0.02	<0.15	1.36	<0.02	<0.08	29	<4	23	6.12
Cowpen Creek	GSA-4	950124	1040	11	9.2	7.2	42	45	17.4	1.3	0.033	0.41	0.564	0.034	<0.08	46	18	2,000	5.31
Cowpen Creek	GSA-4	950214	1030	14	9.0	7.0	43	8	9.64	0.2	0.023	0.12	1.05	0.02	<0.08	63	<4	97	5.94
Cowpen Creek	GSA-4	950307	1000	19	8.9	6.0	40	2	6.86	0.8	0.016	<0.07	1.15	<0.01	<0.08	14	5	100	6.18
Cowpen Creek	GSA-4	950426	1030	19	7.9	6.1	40	19	10.1	0.4	<0.010	0.2	0.924	0.012	<0.08	71	7	117	5.8
Cowpen Creek	GSA-4	950509	1000	22	6.7	5.3	43	10	7.46	<0.1	<0.010	0.1	1.32	0.03	<0.08	76	12	90	6.08
Cowpen Creek	GSA-4	950613	1000	20	7.1	6.1	40	5	7.94	0.2	<0.010	<0.07	1.26	<0.010	<0.08	<10	7	37	5.48
Cowpen Creek	GSA-4	950725	1000	23	6.7	6.0	41	1	6.1	<0.01	<0.010	<0.07	1.41	<0.010	<0.08	67	7	157	6.27
Cowpen Creek	GSA-4	950815	0935	24	6.6	6.4	40	8	8.23	0.5	0.022	0.18	1.18	0.027	<0.08	<10	6	490	6.54
Cowpen Creek	GSA-4	950912	1010	23	6.9	6.4	38	12	6.2	0.1	0.02	<0.07	1.44	<0.010	<0.08	35	81	420	6.47
Cowpen Creek	GSA-4	951017	1000	21	7.6	6.2	44	6	7.97	<0.1	0.023	<0.07	1.27	<0.010	<0.08	31	<4	70	5.94
Cowpen Creek	GSA-4	951107	1010	19	7.5	5.6	38	18	14.2	0.5	0.017	0.3	0.92	0.052	<0.08	41	7	200	5.26
Cowpen Creek	GSA-4	951212	1015	13	8.6	6.3	42	2	7.83	0.3	0.01	<0.07	1.44	<0.010	<0.08	47	<4	37	6.12
Cowpen Creek	GSA-4	960117	1000	16	8.0	6.4	45	7	9.21	0.4	<0.010	0.14	1.37	<0.010	<0.08	41	<4	67	6.09
Cowpen Creek	GSA-4	960213	1000	12	9.1	6.8	42	2	9.96	0.2	<0.010	0.13	1.26	<0.010	<0.08	52	<4	176	6.1
Cowpen Creek	GSA-4	960312	0940	13	8.9	6.5	36	5	9.57	0.3	<0.010	0.18	1.31	0.083	<0.08	64	8	113	6.06
Cowpen Creek	GSA-4	960416	0850	15	7.7	6.2	34	60	59.9	1.3	0.014	0.31	0.273	0.04	<0.08	52	44	1,800	2.94
Cowpen Creek	GSA-4	960514	0950	19	7.3	6.6	39	3	9.51	0.3	0.013	0.24	1.44	<0.010	<0.08	30	6	47	6.1
Cowpen Creek	GSA-4	960611	1000	20	7.1	6.4	36	2	7.98	0.4	0.032	0.29	1.44	0.012	<0.08	47	<4	107	6.3

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (^oC)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Fish River Sub-watershed (050)																			
Cowpen Creek	GSA-4	960716	0950	21	6.9	6.6	50	5	10.5	0.3	0.018	0.23	1.3	<0.010	<0.08	45	7	420	6.14
Cowpen Creek	GSA-4	960813	1010	21	7.6	6.7	42	2	6.73	0.3	<0.010	0.08	1.48	0.016	<0.08	20	<4	200	6.09
Cowpen Creek	GSA-4	960910	0940	20	7.2	6.9	41	5	7.45	0.3	0.021	0.21	1.47	<0.010	<0.08	21	4	117	6.12
Cowpen Creek	GSA-4	961016	0940	18	7.5	6.8	37	1	6.12	0.2	<0.010	0.08	1.61	<0.010	<0.08	82	<4	37	6.27
Cowpen Creek	GSA-4	961113	0940	14	8.4	6.8	31	8	6.2	0.2	0.013	<0.07	1.64	<0.010	<0.08	52	<4	70	6.41
Cowpen Creek	GSA-4	961210	0950	14	8.0	6.9	29	18	7.92	0.6	0.011	0.31	1.23	<0.010	<0.08	78	<4	60	6.29
Cowpen Creek	GSA-4	970122	0950	15	8.2	6.2	38	0	7.96	0.3	0.015	0.24	1.42	<0.010	<0.08	26	<4	27	6.27
Cowpen Creek	GSA-4	970211	0930	13.5	8.7	6.2	45	5	6.84	0.3	<0.010	0.13	1.36	<0.010	<0.08	37	10	47	6.15
Cowpen Creek	GSA-4	970311	0920	19	7.8	6.0	42	4	9.19	0.4	<0.010	0.26	1.18	<0.010	<0.08	45	<4	92	5.99
Cowpen Creek	GSA-4	970415	0930	16	8.1	6.4	40	6	10.2	0.2	<0.010	0.18	1.02	0.047	<0.08	17	<4	103	5.64
Cowpen Creek	GSA-4	970513	0900	18	7.7	6.7	41	5	5.36	0.6	0.011	0.18	1.27	<0.010	<0.08	33	<4	40	6.28
Cowpen Creek	GSA-4	970610	0920	19	7.3	6.1	42	8	9.93	0.5	<0.010	0.28	1.18	<0.010	<0.08	44	5	1,700	5.72
Cowpen Creek	GSA-4	970723	0750	22	6.3	6.3	45	22	40.5	1.3	0.014	0.35	0.294	0.06	<0.08	35	13	2,100	4.32
Cowpen Creek	GSA-4	970812	0910	21	6.7	6.4	38	18	14.7	0.9	0.017	0.28	0.928	0.015	<0.08	41	<4	370	5.99
Cowpen Creek	GSA-4	970909	0900	18	7.5	5.4	41	2	8.19	0.3	<0.010	0.21	1.46	0.012	<0.08	56	<4	100	6.42
Cowpen Creek	GSA-4	971016	0850	15	8.6	5.9	38	8	8.17	0.3	<0.010	<0.07	1.37	<0.010	<0.08	17	7	77	6.77
Cowpen Creek	GSA-4	971118	0940	10	9.8	6.1	35	1	9	0.3	<0.010	0.22	1.47	<0.010	<0.08	50	<4	53	6.49
Cowpen Creek	GSA-4	971210	0955	18	7.2	5.8	37	4	12	0.3	<0.010	0.18	1.09	0.011	<0.08	50	<4	110	6.44
Cowpen Creek	GSA-4	980121	0920	15	8.7	6.4	36	15	12	0.4	0.018	0.46	1.11	<0.010	<0.08	46	<4	77	5.95
Cowpen Creek	GSA-4	980211	0900	15	8.9	6.6	28	40	41	1.1	0.046	1.06	0.686	0.029	<0.08	56	28	2,500	5.2
Cowpen Creek	GSA-4	980310	0920	14	9.9		42	30	29	0.9	0.051	0.35	0.529	0.033	<0.08	35	56	340	4.92
Cowpen Creek	GSA-4	980422	1025	19	7.0	6.1	43	10	11	0.3	<0.010	0.15	1.24	<0.010	<0.08	36	4	67	6.1
Cowpen Creek	GSA-4	980512	0930	21	7.0	6.5	36	2	8.7	0.2	<0.010	0.1	1.36	<0.010	<0.08	47	<4	27	6.25
Cowpen Creek	GSA-4	980609	1050	22	7.1	6.0	38	2	8.2	0.1	<0.010	0.13	1.33	<0.010	<0.08	25	<4		6.45
Cowpen Creek	GSA-4	980721	1015	25	6.8	6.1	46	20	17	1.2	<0.010	0.69	0.615	0.01	<0.08	54	7	2,800	6.46
Cowpen Creek	GSA-4	980804	1030	22	7.9	6.2	40	8	7.3	0.2	<0.010	0.09	1.42	<0.010	<0.08	55	6	150	6.01
Cowpen Creek	GSA-4	980915	0930	22	7.2	6.5	38	10	7.7	0.3	<0.010	0.18	1.18	<0.010	<0.08	43	<4	210	5.94
Polecat Creek	GSA-5	940208	1100	17.5	8.0	6.8	45	4	30.1	<0.1	<0.02	0.22	1.25	<0.02	<0.08	28	<4	310	7.42
Polecat Creek	GSA-5	940301	1010	15.5	8.0	6.5	44	15	29.1	0.6	<0.02	<0.15	1.37	0.02	<0.08	42	<4	460	7.58
Polecat Creek	GSA-5	940329	0915	17	8.0	6.2	51	1	52.2	0.7	<0.02	0.2	0.85	<0.02	<0.08	37	8	410	7.29
Polecat Creek	GSA-5	940503	0900	20	6.8	7.0	49	10	31.1	0.8	0.03	0.15	1.07	<0.02	<0.08	33	<4	270	8
Polecat Creek	GSA-5	940614	0900	22.5	7.2	7.5	41	5	32.7	0.3	0.02	0.28	1.06	<0.02	<0.08	53	<4	160	7.74
Polecat Creek	GSA-5	940720	0930	23.5	6.6	7.7	70	10	41.5	0.4	0.056	0.32	1.12	0.025	<0.08	56	<4	106	7.02
Polecat Creek	GSA-5	940817	1100	23	6.9	7.1	52	12	29.7	<0.1	<0.02	<0.15	1.14	<0.02	<0.08	33	<4	260	7.82
Polecat Creek	GSA-5	940913	1050	22.5	6.8	7.0	44	12	47.9	0.8	<0.02	0.16	0.98	<0.02	<0.08	29	5	550	6.87
Polecat Creek	GSA-5	941018	1000	19	7.2	7.4	49	9	37.3	0.2	0.022	0.19	1.27	<0.02	<0.08	50	<4	260	7.97
Polecat Creek	GSA-5	941115	1030	18.5	5.7	7.4	55	9	34.5	0.4	0.02	0.19	1.28	<0.02	<0.08	22	4	120	8.12
Polecat Creek	GSA-5	941213	1030	13	9.0	7.1	54	7	33.2	<0.1	<0.02	<0.15	1.29	<0.02	<0.08	34	6	30	8.73
Polecat Creek	GSA-5	950124	1000	11	9.2	7.2	45	38	59.5	0.9	0.045	0.32	0.817	0.025	<0.08	46	14	1,040	6.55

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (°C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Fish River Sub-watershed (050)																			
Polecat Creek	GSA-5	950214	0945	12	10.0	7.0	51	4	39.6	0.6	0.023	0.08	1.21	<0.01	<0.08	63	<4	110	7.94
Polecat Creek	GSA-5	950307	0920	18	9.2	6.4	48	3	31.7	0.9	0.013	0.1	1.18	<0.01	<0.08	26	<4	420	7.76
Polecat Creek	GSA-5	970723	1010	22	5.9	6.6	45	20	220	1.5	0.025	0.8	0.475	0.097	<0.08	65	15	340	5.36
Baker Branch	GSA-5a	950426	0940	17	6.7	6.2	64	18	2.96	0.6	0.058	0.31	1.3	0.051	<0.08	57	4	147	8.21
Baker Branch	GSA-5a	950509	0930	22	5.5	5.4	65	18	2.11	1.6	<0.010	0.12	1.21	0.028	<0.08	85	<4	90	9.65
Baker Branch	GSA-5a	950613	0930	20	6.1	6.8	61	8	1.8	0.6	0.032	0.17	1.36	0.031	<0.08	20	6	100	9.7
Baker Branch	GSA-5a	950725	0920	24	5.4	6.0	64	3	1.97	0.1	0.027	0.16	1.27	<0.010	<0.08	85	7	197	9.64
Baker Branch	GSA-5a	950815	0900	24	4.8	6.3	63	10	2.12	0.6	0.076	0.23	1.1	0.048	<0.08	19	5	520	9.82
Baker Branch	GSA-5a	950912	0930	21	5.0	6.1	58	15	1.83	0.1	0.022	0.17	1.07	<0.010	<0.08	42	<4	400	9.9
Baker Branch	GSA-5a	951017	0920	21	6.5	6.0	62	8	2.69	<0.1	0.031	0.11	1.41	0.014	<0.08	46	<4	37	9.58
Baker Branch	GSA-5a	951107	1140	19	6.3	5.3	55	15	6.66	0.9	0.039	0.39	0.894	0.108	0.13	54	<4	380	5.84
Baker Branch	GSA-5a	951212	0940	10	8.3	6.3	56	3	2.34	0.4	0.017	<0.07	1.84	<0.010	<0.08	55	<4	130	9.42
Baker Branch	GSA-5a	960117	0930	15	7.3	6.5	63	5	2.72	0.3	0.014	0.12	1.67	<0.010	<0.08	44	<4	43	9.4
Baker Branch	GSA-5a	960213	0920	10	8.6	6.6	64	4	2.53	0.3	0.014	0.15	1.62	0.016	<0.08	60	<4	67	9.36
Baker Branch	GSA-5a	960312	1050	12.5	8.7	6.2	43	1	2.34	0.5	<0.010	0.13	1.59	0.13	<0.08	72	5	93	9.24
Baker Branch	GSA-5a	960416	0950	13	8.6	6.6	23	95	48.7	2.5	0.048	0.34	0.278	0.15	0.12	62	40	9,700	1.97
Baker Branch	GSA-5a	960514	0910	19	5.8	6.5	52	8	2.24	0.5	0.043	0.31	1.16	0.018	<0.08	35	7	210	9.29
Baker Branch	GSA-5a	960611	0920	20	5.6	6.4	52	4	2.05	0.6	0.04	0.36	1.17	<0.010	<0.08	51	<4	267	9.41
Baker Branch	GSA-5a	960716	0910	21	5.5	6.5	64	10	1.99	0.5	0.075	0.15	1.15	0.026	<0.08	64	8	153	8.91
Baker Branch	GSA-5a	960813	0940	21	6.8	6.7	57	4	1.63	0.6	0.058	0.32	1.05	0.016	<0.08	40	5	140	9.08
Baker Branch	GSA-5a	960910	0910	21	5.8	6.8	55	15	1.59	0.6	0.08	0.34	1.14	0.022	<0.08	36	4	157	9.11
Baker Branch	GSA-5a	961016	0910	17	6.5	6.6	52	4	1.68	0.4	0.011	0.12	1.26	<0.010	<0.08	90	<4	83	9.54
Baker Branch	GSA-5a	961113	0910	12	7.4	6.7	41	5	1.46	0.5	0.021	0.19	1.3	0.023	<0.08	61	4	247	9.61
Baker Branch	GSA-5a	961210	0910	12	7.1	6.7	38	27	2.28	0.8	0.037	0.27	1.05	0.038	<0.08	82	5	106	6.99
Baker Branch	GSA-5a	970122	0910	13.5	7.5	6.1	54	5	1.77	0.4	0.048	0.31	1.52	0.017	<0.08	40	<4	280	8.54
Baker Branch	GSA-5a	970211	0900	11	8.4	5.9	57	8	1.92	0.4	<0.010	0.16	1.43	<0.010	<0.08	34	<4	130	9.12
Baker Branch	GSA-5a	970311	0850	19	16.8	6.1	60	12	2.69	0.6	0.012	0.28	1.16	0.066	<0.08	39	<4	250	9.09
Baker Branch	GSA-5a	970415	0850	14	6.9	6.1	58	12	1.87	0.6	0.039	0.6	1.1	0.029	<0.08	19	7	720	7.73
Baker Branch	GSA-5a	970513	0830	18	6.4	6.3	58	11	1.8	1.3	0.017	0.55	0.958	0.019	<0.08	37	<4	116	9.77
Baker Branch	GSA-5a	970610	0840	20	5.6	6.2	57	15	2.57	0.9	0.073	0.5	0.714	0.034	<0.08	56	6	810	8.64
Baker Branch	GSA-5a	970723	0930	23	5.1	6.6	55	22	19.5	2.3	0.021	0.85	0.39	0.133	<0.08	56	11	1,020	4.66
Baker Branch	GSA-5a	970812	0830	21	5.1	6.3	56	15	4.55	1.6	0.1	0.45	0.813	0.062	<0.08	45	4	220	8.51
Baker Branch	GSA-5a	970909	0820	18	6.4	5.3	55	5	2.57	0.6	<0.010	0.17	1.07	0.014	<0.08	59	<4	116	9.41
Baker Branch	GSA-5a	971016	0820	14	6.8	5.9	56	15	2.99	0.6	<0.010	0.15	1.08	0.037	<0.08	36	8	300	9.69
Baker Branch	GSA-5a	971118	0850	6	9.3	5.8	48	2	1.51	0.4	0.016	0.27	1.26	<0.010	<0.08	60	<4	110	8.83
Baker Branch	GSA-5a	971210	0920	17	5.7	5.6	47	10	1.73	0.8	<0.010	0.26	1.08	0.024	<0.08	57	<4	410	9.06
Baker Branch	GSA-5a	980121	0840	13	8.0	6.2	50	15	4	0.4	0.039	0.32	1.24	0.037	<0.08	173	<4	90	7.83
Baker Branch	GSA-5a	980211	0830	15	8.1	6.4	50	25	8.3	0.6	0.026	1.32	1.26	0.048	<0.08	66	9	450	8.86
Baker Branch	GSA-5a	980310	0850	11	10.1	6.5	44	55	18	1.6	0.09	0.67	0.44	0.092	<0.08	40	12	760	4.34

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

		Date	Time	Temp	DO	pH	Conductivity	Turbidity	Flow	BOD5	NH_3- N	TKN	NO_3/NO_2-N	DRP	Total P	TDS	TSS	Fecal coliform	Cl
Waterbody	Station	yymmdd	24 hr	(^{o}C)	mg/L	su	umhos/cm	ntu	cfs	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	#colonies/100mL	mg/L
Fish River Sub-watershed (050)																			
Baker Branch	GSA-5a	980422	0935	18	4.8	6.0	63	20	2.2	0.7	0.054	0.26	0.78	0.022	<0.08	42	<4	100	9.02
Baker Branch	GSA-5a	980512	0900	21	4.4	6.4	53	3	1.7	0.5	0.014	0.22	0.712	0.012	<0.08	57	<4	90	9.06
Baker Branch	GSA-5a	980609	0950	25	4.4	6.0	51	15	1.6	0.8	0.072	0.38	0.558	0.021	<0.08	69	6	120	9.56
Baker Branch	GSA-5a	980721	0945	24	3.9	6.1	51	35	17	1	0.054	0.46	0.523	0.03	<0.08	52	11	2,600	7.68
Baker Branch	GSA-5a	980804	0945	23	3.0	6.0	56	25	8	0.6	0.149	0.32	0.498	0.01	<0.08	67	119	80	8.83
Baker Branch	GSA-5a	980915	0850	23	3.8	6.4	54	15	1.3	0.5	0.091	0.86	0.455	0.02	<0.08	58	4	230	8.97
Pensacola Branch	GSA-6	940210	0945	18.5	8.0	6.2	47	10	3.54	0.7	<0.02	0.2	0.73	0.02	<0.08	59	6	100	8.29
Pensacola Branch	GSA-6	940301	1115	16	8.6	6.5	40	17	4.53	1.9	<0.02	0.21	0.81	0.02	<0.08	50	15	420	7.65
Pensacola Branch	GSA-6	940329	1015	16.5	9.5	7.2	48	2	5.2	0.4	<0.02	<0.15	0.66	<0.02	<0.08	38	13	470	7.49
Pensacola Branch	GSA-6	940502	1130	21	8.4	6.9	38	8	3.08	0.3	<0.02	<0.15	0.71	<0.02	<0.08	23	<4	53	9.96
Pensacola Branch	GSA-6	940613	1130	24	7.7	6.6	45	10	2.81	0.1	0.02	<0.15	0.71	<0.02	<0.08	54	4	2,500	7.82
Pensacola Branch	GSA-6	940720	0815	23.5	8.3	7.7	57	13	3.69	0.4	0.047	0.46	0.74	0.025	<0.08	60	7	79	7.27
Pensacola Branch	GSA-6	940817	1145	25	7.8	7.3	45	37	4.27	<0.1	<0.02	<0.15	0.82	<0.02	<0.08	27	17	480	8.62
Pensacola Branch	GSA-6	940913	1010	23	7.6	7.2	47	15	4.52	0.6	0.022	0.19	0.76	<0.02	<0.08	56	12	590	7.9
Pensacola Branch	GSA-6	941018	0920	19	8.0	7.5	46	9	4.03	0.4	0.026	0.19	0.88	0.024	<0.08	47	5	420	7.94
Pensacola Branch	GSA-6	941115	0830	17	8.9	7.4	50	18	3.41	0.4	<0.02	0.18	0.86	<0.02	<0.08	29	6	180	8.45
Pensacola Branch	GSA-6	941213	0850	12	9.2	7.2	53	9	3.21	2.2	<0.02	<0.15	0.91	<0.02	<0.08	37	8	43	11.2
Pensacola Branch	GSA-6	950124	0840	9	10.4	7.3	53	37	6.82	0.5	0.05	0.36	0.586	0.041	<0.08	54	23	3,500	6.62
Pensacola Branch	GSA-6	950214	0800	11	10.2	7.0	50	15	4.14	0.7	0.052	0.1	0.827	0.01	<0.08	63	25	560	7.46
Pensacola Branch	GSA-6	950307	0800	18	10.0	6.4	48	3	3.89	0.4	0.016	0.1	0.807	0.063	<0.08	37	11	123	8.07
Pensacola Branch	GSA-6	950426	0810	16	9.6	6.4	48	16	5.17	0.3	<0.010	0.21	0.864	0.018	<0.08	87	19	222	7.65
Pensacola Branch	GSA-6	950509	0815	23	7.8	5.4	48	21	4.34	0.7	<0.010	0.24	0.925	0.01	<0.08	79	9	360	8.46
Pensacola Branch	GSA-6	950613	0805	20	8.3	6.7	50	5	3.16	0.3	<0.010	0.09	1	0.011	<0.08	19	9	110	8.58
Pensacola Branch	GSA-6	950725	0800	25	7.6	6.3	52	2	3.27	0.3	0.015	0.12	0.912	<0.010	<0.08	74	8	110	8.26
Pensacola Branch	GSA-6	950815	0740	24	7.4	5.8	49	15	4.64	0.4	0.022	0.34	0.688	0.038	<0.08	10	26	650	7.88
Pensacola Branch	GSA-6	950912	0810	23	7.6	6.2	49	5	2.89	0.2	0.014	0.11	0.861	<0.010	<0.08	45	6	420	8.89
Pensacola Branch	GSA-6	951017	0800	20	8.5	5.5	53	10	5.02	<0.1	0.021	0.19	0.851	<0.010	<0.08	34	<4	63	8.27
Pensacola Branch	GSA-6	951107	0830	18	7.7	6.1	36	25	7.28	0.5	0.019	0.38	0.902	0.088	<0.08	45	9	260	6.97
Pensacola Branch	GSA-6	951212	0815	9	10.6	7.0	52	3	5.18	0.8	0.015	0.08	1.24	<0.010	<0.08	52	7	30	8.11
Pensacola Branch	GSA-6	960117	0800	14	9.4	6.6	49	8	5.02	0.7	<0.010	<0.07	1.24	<0.010	<0.08	46	<4	143	7.97
Pensacola Branch	GSA-6	960213	0750	10	9.4	7.1	55	8	5.82	0.6	<0.010	0.14	1.17	<0.010	<0.08	55	4	60	7.98
Pensacola Branch	GSA-6	960312	0820	10	10.5	6.7	45	10	5.62	0.7	<0.010	0.08	1.26	0.025	<0.08	63	9	50	7.88
Pensacola Branch	GSA-6	960416	0740	15	7.4	5.8	37	50	15	0.9	0.1	0.42	0.465	0.051	<0.08	46	52	5,000	4.12
Pensacola Branch	GSA-6	960514	0740	18	8.0	5.9	47	15	6.01	0.4	0.021	0.24	1.15	0.02	<0.08	31	10	210	8.06
Pensacola Branch	GSA-6	960611	0800	19	8.2	6.6	46	4	4.51	0.7	0.039	0.45	1.09	0.011	<0.08	57	4	70	8.52
Pensacola Branch	GSA-6	960716	0740	21	7.7	6.8	59	10	4.83	0.5	0.027	0.15	0.874	0.026	<0.08	50	18	196	8.47
Pensacola Branch	GSA-6	960813	0800	21	8.7	6.5	50	8	3.25	0.4	0.024	0.18	0.921	0.027	<0.08	31	<4	100	8.47
Pensacola Branch	GSA-6	960910	0750	21	7.8	6.2	41	4	2.63	0.3	0.03	0.22	0.976	<0.010	<0.08	25	4	340	8.53
Pensacola Branch	GSA-6	961016	0800	16	8.6	6.6	45	1	2.94	0.5	<0.010	0.12	1.2	<0.010	<0.08	101	9	160	9.18

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (^oC)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Fish River Sub-watershed (050)																			
Pensacola Branch	GSA-6	961113	0800	10	9.8	6.8	39	3	2.98	0.4	0.013	0.09	1.16	<0.010	<0.08	65	<4	43	9.02
Pensacola Branch	GSA-6	961210	0740	10	9.7	6.6	42	14	3.74	0.8	0.012	0.12	0.95	0.014	<0.08	81	6	2,100	8.79
Pensacola Branch	GSA-6	970122	0750	11.5	9.6	6.1	48	2	2.87	0.4	0.024	0.23	1.23	<0.010	<0.08	45	<4	53	8.41
Pensacola Branch	GSA-6	970211	0740	9.5	10.2	5.8	49	2	3.85	0.8	<0.010	0.27	1.14	<0.010	<0.08	36	4	53	8.48
Pensacola Branch	GSA-6	970311	0740	18	8.7	6.4	50	5	4.22	0.7	<0.010	0.11	1.03	0.029	<0.08	31	<4	80	8.28
Pensacola Branch	GSA-6	970414	1310	16	9.1	6.7	45	8	4.24	0.5	<0.010	0.34	0.714	0.01	<0.08	14	5	130	7.61
Pensacola Branch	GSA-6	970512	1330	20	9.2	6.8	40	8	2.64	1.1	0.012	0.17	1	<0.010	<0.08	32	<4	128	8.74
Pensacola Branch	GSA-6	970609	1310	22	9.5	6.5	41	5	2.85	0.3	<0.010	0.44	0.9	0.011	<0.08	52	11	220	8.26
Pensacola Branch	GSA-6	970722	1300	23	6.2	6.6	46	34	31.4	1.3	0.012	1.09	0.217	0.102	<0.08	62	36	750	4.76
Pensacola Branch	GSA-6	970811	1300	22	7.7	6.5	40	25	10.3	1.5	0.059	0.58	0.56	0.035	<0.08	49	10	950	7.91
Pensacola Branch	GSA-6	970908	1330	20	7.9	6.5	40	20	4.91	0.6	0.016	0.29	1.07	0.015	<0.08	54	5	430	8.78
Pensacola Branch	GSA-6	971015	1300	15	9.0	6.4	51	18	4.81	0.8	<0.010	0.17	0.841	0.01	<0.08	30	7	1,100	9.31
Pensacola Branch	GSA-6	971117	1330	8	10.8	6.2	45	8	3.92	0.6	<0.010	0.38	1.12	0.022	<0.08	57	5	120	8.48
Pensacola Branch	GSA-6	971209	1325	16	9.3	6.1	40	14	5.18	0.2	<0.010	0.21	1.11	<0.010	<0.08	55	<4	120	8.47
Pensacola Branch	GSA-6	980120	1310	14	9.8	6.7	38	15	7.7	0.3	0.023	0.29	1.07	0.012	<0.08	53	4	50	7.55
Pensacola Branch	GSA-6	980210	1230	16	9.6	6.6	32	15	7.8	0.4	0.025	0.37	1.24	0.094	<0.08	53	6	50	7.74
Pensacola Branch	GSA-6	980309	1310	15	9.3	6.3	44	45	18	1.1	0.051	0.61	0.405	0.075	<0.08	41	25	1,400	5.22
Pensacola Branch	GSA-6	980421	1420	20	8.0	6.0	43	24	6.7	0.4	0.01	0.16	1.03	0.013	<0.08	39	9	130	8.07
Pensacola Branch	GSA-6	980511	1350	24	8.2	6.4	38	10	4.6	0.4	0.013	0.26	1.22	<0.010	<0.08	53	4	60	8.4
Pensacola Branch	GSA-6	980608	1330	23	8.2	6.2	39	5	5.1	0.3	0.038	0.52	1.12	0.012	<0.08	68	13	960	8.93
Pensacola Branch	GSA-6	980721	0830	24	7.5	6.3	64	40	12	1	<0.010	0.73	0.644	0.019	<0.08	77	23	1,500	8.54
Pensacola Branch	GSA-6	980803	1345	26	7.9	6.7	50	15	2.7	0.5	<0.010	0.13	1.33	<0.010	<0.08	64	95	76	8.76
Pensacola Branch	GSA-6	980914	1340	26	7.9	6.4	48	18	3.9	0.4	<0.010	0.36	0.922	0.02	<0.08	60	16	380	8.48
Perone Branch	GSA-7	940210	0850	19	8.3	6.2	48	7	13.6	0.4	<0.02	0.22	1.82	<0.02	<0.08	56	<4	162	6.81
Perone Branch	GSA-7	940302	1045	16	8.3	6.1	32	150	91.8	1.3	0.02	0.61	0.36	0.04	<0.08	46	88	5,700	4.29
Perone Branch	GSA-7	940330	0845	15	9.4	7.4	51	8	15	<0.1	0.05	0.15	1.64	<0.02	<0.08	31	36	132	6.5
Perone Branch	GSA-7	940504	0830	20	7.9	7.1	41	10	17.4	0.4	0.03	<0.15	1.4	<0.02	<0.08	50	<4	240	6.89
Perone Branch	GSA-7	940615	0830	22	7.8	6.9	41	5	11.7	0.2	<0.02	<0.15	1.72	<0.02	<0.08	47	<4	250	6.7
Perone Branch	GSA-7	940718	1600	24	7.1	7.7	55	18	20.5	0.4	0.049	0.34	1.29	0.021	<0.08	47	69	5,200	6
Perone Branch	GSA-7	940816	1540	23	8.1	7.6	50	20	15.1	<0.1	0.021	<0.15	1.56	<0.02	<0.08	26	<4	450	6.89
Perone Branch	GSA-7	940913	0830	22	7.5	7.4	45	22	20.1	1	0.02	0.22	1.24	<0.02	<0.08	45	6	980	6.45
Perone Branch	GSA-7	941017	1400	20	7.6	7.5	47	3	14.8	0.2	0.021	<0.15	1.65	<0.02	<0.08		<4	720	6.58
Perone Branch	GSA-7	941114	1515	18	8.4	7.7	51	5	12.2	0.3	<0.02	<0.15	1.72	<0.02	<0.08	30	<4	67	6.68
Perone Branch	GSA-7	941212	1500	13.5	9.2	6.9	54	7	13.7	<0.1	0.02	<0.15	1.71	<0.02	<0.08	34	<4	30	8.54
Perone Branch	GSA-7	950123	1335	13.5	8.8	7.2	41	20	37.8	1.1	0.031	0.27	1.24	<0.01	<0.08	35	9	2,000	6.34
Perone Branch	GSA-7	950212	1230	14	10.8	6.8	41	7	24.3	0.3	<0.010	0.13	1.67	<0.010	<0.08	58	<4	67	6.44
Perone Branch	GSA-7	950213	1230	12	10.2	7.2	49	4	18.9	0.7	0.021	0.09	1.53	<0.01	<0.08	59	<4	1,370	6.9
Perone Branch	GSA-7	950306	1230	18	8.8	6.0	45	3	16.8	0.4	0.013	0.13	1.72	0.11	<0.08	24	<4	77	7.15
Perone Branch	GSA-7	950425	1245	18	8.8	6.2	46	12	21.1	0.3	<0.010	0.24	1.4	<0.010	<0.08	61	10	80	6.79

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

		Date	Time	Temp	DO	pH	Conductivity	Turbidity	Flow	BOD5	NH_3- N	TKN	NO_3/NO_2-N	DRP	Total P	TDS	TSS	Fecal coliform	Cl
Waterbody	Station	yymmdd	24 hr	(^{o}C)	mg/L	su	umhos/cm	ntu	cfs	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	#colonies/100mL	mg/L
Fish River Sub-watershed (050)																			
Perone Branch	GSA-7	950508	1220	21	8.3	6.4	44	7	16.3	0.1	<0.010	0.07	1.68	<0.010	<0.08	78		115	6.91
Perone Branch	GSA-7	950612	1230	22	7.7	6.6	47	7	15.8	0.1	<0.010	0.08	1.68	<0.010	<0.08	14	6	130	6.95
Perone Branch	GSA-7	950724	1220	24	7.4	6.0	45	1	15.6	0.3	<0.010	<0.07	1.6	<0.010	<0.08	73	8	163	6.72
Perone Branch	GSA-7	950814	1215	24	7.3	6.6	45	4	17.8	0.5	0.013	0.19	1.34	0.034	<0.08	10	7	200	7.49
Perone Branch	GSA-7	950911	1220	22	7.7	6.6	45	7	15.3	0.2	0.02	0.12	1.56	<0.010	<0.08	42	23	400	7.03
Perone Branch	GSA-7	951016	1230	18	8.2	6.6	50	3	17.1	<0.1	0.025	0.12	1.31	<0.010	<0.08	37	<4	123	6.43
Perone Branch	GSA-7	951106	1410	16.5	8.7	5.6	36	38	53.6	0.8	0.027	0.34	0.682	0.067	<0.08	41	11	320	4.06
Perone Branch	GSA-7	951211	1230	11	9.6	6.5	42	2	21.7	0.7	<0.010	0.11	1.73	<0.010	<0.08	46	5	70	6.48
Perone Branch	GSA-7	960116	1220	15	9.2	6.5	42	7	23.4	0.6	<0.010	<0.07	1.78	<0.010	<0.08	40	<4	73	6.57
Perone Branch	GSA-7	960311	1340	12	10.6	6.7	37	8	21.1	0.6	<0.010	0.13	1.75	0.147	<0.08	56	6	33	6.52
Perone Branch	GSA-7	960415	1250	17	8.5	6.0	22	180	453	1.9	0.057	0.93	0.27	0.064	<0.08	42	191	20,000	1.99
Perone Branch	GSA-7	960513	1220	18	8.4	6.6	39	16	22.8	0.4	0.028	0.17	1.47	0.017	<0.08	39	5	57	6.34
Perone Branch	GSA-7	960610	1200	20	8.2	6.7	41	4	23	1.1	0.061	0.44	1.22	<0.010	<0.08	44	4	123	6.52
Perone Branch	GSA-7	960715	1200	23	7.1	6.2	45	35	36.6	1.2	0.042	0.84	0.822	0.02	<0.08	46	19	2,300	5.46
Perone Branch	GSA-7	960812	1200	22	8.7	6.8	47	3	19.1	0.4	<0.010	0.18	1.44	0.06	<0.08	34	<4	130	6.7
Perone Branch	GSA-7	960909	1150	21	7.8	6.9	42	4	16.2	0.3	0.013	0.18	1.56	0.017	<0.08	26	<4	290	6.74
Perone Branch	GSA-7	961015	1200	16	8.7	6.7	40	2	16.7	0.4	<0.010	0.12	1.67	<0.010	<0.08	81	7	133	6.98
Perone Branch	GSA-7	961112	1150	13	9.4	6.8	33	4	16.4	0.3	0.016	0.15	1.7	<0.010	<0.08	56	<4	83	7.08
Perone Branch	GSA-7	961209	1200	12	9.7	6.4	30	5	17	0.7	0.02	0.31	1.43	<0.010	<0.08	71	5	73	7.3
Perone Branch	GSA-7	970121	1200	12	10.4	6.0	44	6	14.4	0.4	0.022	0.22	1.8	<0.010	<0.08	42	<4	240	7.05
Perone Branch	GSA-7	970210	1210	13	10.2	6.6	44	4	16.1	0.5	<0.010	0.18	1.68	<0.010	<0.08	40	4	77	6.73
Perone Branch	GSA-7	970310	1150	19	9.7	6.6	45	7	16.7	0.5	<0.010	0.07	1.56	<0.010	<0.08	25	<4	56	6.75
Perone Branch	GSA-7	970414	1210	15	9.0	6.8	42	8	20.6	0.4	<0.010	0.54	1.22	<0.010	<0.08	20	<4	63	7.12
Perone Branch	GSA-7	970512	1230	18	9.1	6.8	41	8	15.4	1	<0.010	0.13	1.53	<0.010	<0.08	30	<4	88	6.9
Perone Branch	GSA-7	970609	1200	20	9.5	6.5	41	5	14.5	0.3	0.018	0.58	1.423	<0.010	<0.08	54	<4	44	6.75
Perone Branch	GSA-7	970722	1120	22	6.2	6.7	39	37	80.9	1	0.011	0.67	0.342	0.045	<0.08	42	14	380	3.4
Perone Branch	GSA-7	970811	1150	21	7.6	6.5	40	28	23.6	1.5	0.041	0.26	1.15	0.026	<0.08	42	4	290	6.67
Perone Branch	GSA-7	970908	1220	18	8.0	6.5	38	7	19.2	0.4	0.011	0.15	1.47	<0.010	<0.08	51	<4	370	6.82
Perone Branch	GSA-7	971015	1200	15	8.6	6.6	43	27	29.9	1.1	<0.010	0.42	0.817	0.016	<0.08	19	12	470	8.47
Perone Branch	GSA-7	971117	1220	9	11.6	6.3	41	1	17.3	0.4	<0.010	0.4	1.6	<0.010	<0.08	55	<4	83	7
Perone Branch	GSA-7	971209	1255	16	9.3	6.1	36	4	22.9	0.2	<0.010	0.2	1.54	0.011	<0.08	51	<4	87	6.7
Perone Branch	GSA-7	980120	1200	14	9.6	6.5	37	12	25	0.5	0.022	0.18	1.5	<0.010	<0.08	52	<4	57	6.25
Perone Branch	GSA-7	980210	1130	16	9.5	6.3	33	14	26	0.3	0.026	0.68	1.64	<0.010	<0.08	59	6	47	6.37
Perone Branch	GSA-7	980309	1210	15	9.2	6.4	41	48	63	1.4	0.103	1.1	0.672	0.043	<0.08	36	92	2,000	4.53
Perone Branch	GSA-7	980421	1320	20	8.1	6.3	38	9	25	0.6	<0.010	0.11	1.38	0.011	<0.08	35	4	180	6.54
Perone Branch	GSA-7	980511	1250	22	7.9	6.5	38	4	22	0.3	<0.010	0.33	1.45	<0.010	<0.08	46	<4	87	6.68
Perone Branch	GSA-7	980608	1110	22	7.6	6.6	38	5	20	0.3	0.014	0.22	1.32	<0.010	<0.08	51	16	53	7
Perone Branch	GSA-7	980720	1230	24	8.3	6.7	42	15	17	0.3	<0.010	0.19	1.59	<0.010	<0.08	52	12	83	6.87
Perone Branch	GSA-7	980803	1200	23	8.0	6.4	41	8	16	0.3	<0.010	0.1	1.5	<0.010	<0.08	61	<4	90	6.54
Perone Branch	GSA-7	980914	1220	23	7.8	6.7	42	15	18	0.3	<0.010	0.28	1.36	<0.010	<0.08	49	<4	200	7.28

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (^{o}C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Fish River Sub-watershed (050)																			
Caney Branch	GSA-8	940209	0915	19.5	4.8	6.3	34	15	1.4	3.6	<0.02	0.29	2.27	<0.02	<0.08	78	<4	3,500	12.4
Caney Branch	GSA-8a	940302	1200	16	8.2	6.2	28	250	97	2.3	0.02	0.72	0.25	0.18	<0.08	54	174	47,000	2.46
Caney Branch	GSA-8a	940330	1000	15.5	8.3	7.3	58	15	4.42	<0.1	0.05	0.22	1.6	0.02	<0.08	26	<4	230	8.14
Caney Branch	GSA-8a	940504	0930	20	6.6	7.1	52	12	5.1	1	0.05	0.32	1.3	0.03	<0.08	57	<4	18,000	9.15
Caney Branch	GSA-8a	940615	0930	22	6.6	6.7	47	5	3.23	0.1	0.03	0.2	1.47	<0.02	<0.08	52	<4	500	8.2
Caney Branch	GSA-8a	940719	1000	23.5	6.4	7.6	65	22	9.69	0.3	0.051	0.58	1.33	0.091	<0.08	60	6	2,100	7.01
Caney Branch	GSA-8a	940816	1515	24	7.0	7.5	60	17	4.55	0.2	0.043	<0.15	1.61	0.038	<0.08	29	4	1,300	8.59
Caney Branch	GSA-8a	940913	0920	22	6.6	6.8	59	8	5.47	0.6	0.025	0.15	1.51	<0.02	<0.08	52	6	1,100	8.77
Caney Branch	GSA-8a	941017	1320	20	6.9	7.0	55	3	5.13	0.3	0.022	<0.15	1.74	0.021	<0.08	54	<4	3,100	8.75
Caney Branch	GSA-8a	941114	1420	19	7.3	7.2	56	9	3.81	0.6	<0.02	0.15	1.79	<0.02	<0.08	28	<4	2,600	8.59
Caney Branch	GSA-8a	941212	1410	14	8.7	7.3	58	8	5.18	<0.1	0.022	<0.15	1.77	<0.02	<0.08	47	<4	30	11.7
Caney Branch	GSA-8a	950123	1250	12	8.5	7.1	65	88	18.6	3.7	0.17	0.61	0.963	0.1	<0.08	63	40	83,000	8.55
Caney Branch	GSA-8a	950212	1300	15	8.5	6.5	54	4	7.85	0.5	<0.010	0.2	1.81	<0.010	<0.08	53	<4	167	8.44
Caney Branch	GSA-8a	950213	1315	13	9.2	7.0	65	3	7.48	0.8	0.012	0.21	1.51	0.021	<0.08	64	<4	5,200	8.65
Caney Branch	GSA-8a	950306	1315	19	4.0	6.0	56	9	6.37	1	0.018	0.08	1.66	0.015	<0.08	52	<4	240	8.47
Caney Branch	GSA-8a	950425	1330	18	7.9	5.8	56	8	8.55	0.4	0.011	0.32	1.37	0.027	<0.08	60	5	220	8.02
Caney Branch	GSA-8a	950508	1300	21	7.2	5.9	50	9	6.8	0.4	<0.010	0.13	1.62	<0.010	<0.08	76	<4	280	8.59
Caney Branch	GSA-8a	950612	1300	22	6.7	6.3	55	9	5.77	0.4	<0.010	0.12	1.65	0.01	<0.08	11	6	150	8.46
Caney Branch	GSA-8a	950724	1300	24	6.2	6.0	50	1	5.39	0.6	0.039	0.16	1.66	<0.010	<0.08	69	110	160	8.26
Caney Branch	GSA-8a	950814	1250	24	6.2	6.4	52	3	8.36	0.5	0.034	0.25	1.28	0.043	<0.08	37	6	540	8.18
Caney Branch	GSA-8a	950911	1300	23	6.5	6.3	52	9	5.54	<0.1	0.021	0.19	1.54	<0.010	<0.08	43	5	580	7.23
Caney Branch	GSA-8a	951016	1310	19	7.4	6.2	61	3	6.77	<0.1	0.032	0.2	1.56	0.021	<0.08	42	<4	170	8.33
Caney Branch	GSA-8a	951106	1330	16.5	8.6	5.7	48	30	16.2	0.8	0.027	0.45	1.1	0.098	<0.08	51	<4	810	5.98
Caney Branch	GSA-8a	951211	1300	12	8.7	6.3	54	5	6.42	0.6	0.018	0.07	1.88	0.01	<0.08	57	<4	117	8.78
Caney Branch	GSA-8a	960116	1300	16	8.3	6.1	52	5	7.06	0.5	0.022	0.1	1.97	<0.010	<0.08	51	<4	127	8.64
Caney Branch	GSA-8a	960311	1310	13	9.4	6.5	47	5	6.59	0.5	<0.010	0.23	1.89	0.026	<0.08	73	6	200	8.39
Caney Branch	GSA-8a	960415	1330	17	8.4	5.4	22	360	480	2.5	0.058	0.38	0.279	0.199	0.16	64	253	4,400	1.28
Caney Branch	GSA-8a	960513	1300	19	7.6	6.4	44	10	8.08	0.4	0.02	0.21	1.74	0.015	<0.08	44	4	107	8.24
Caney Branch	GSA-8a	960610	1240	20	7.4	6.6	48	20	10.2	0.7	0.047	0.91	1.39	0.038	<0.08	44	5	297	6.09
Caney Branch	GSA-8a	960715	1240	21	6.8	5.7	55	8	8.37	0.5	0.039	0.21	1.59	0.015	<0.08	43	6	440	7.93
Caney Branch	GSA-8a	960812	1240	22	7.4	6.6	54	2	5.84	0.4	0.021	0.19	1.66	<0.010	<0.08	37	<4	140	8.12
Caney Branch	GSA-8a	960909	1230	21	6.7	6.8	46	5	5.33	0.3	0.01	0.23	1.57	0.033	<0.08	26	<4	167	8.16
Caney Branch	GSA-8a	961015	1240	17	8.1	6.8	47	2	5.17	0.4	<0.010	0.09	1.75	0.014	<0.08	96	6	183	8.33
Caney Branch	GSA-8a	961112	1230	14	8.5	6.6	40	1	4.32	0.2	0.019	0.18	1.75	<0.010	<0.08	61	<4	63	8.86
Caney Branch	GSA-8a	961209	1230	13	8.6	6.3	37	4	4.85	0.6	0.019	0.2	1.37	0.014	<0.08	75	<4	203	8.46
Caney Branch	GSA-8a	970121	1240	12.5	9.3	6.1	54	2	4.03	0.4	0.023	0.21	1.91	<0.010	<0.08	36	<4	130	8.69
Caney Branch	GSA-8a	970210	1250	13.5	9.0	6.3	50	4	4.65	0.5	0.015	0.31	1.65	0.043	<0.08	45	<4	193	8.64
Caney Branch	GSA-8a	970310	1230	19	9.0	6.5	53	6	5.59	0.5	<0.010	0.12	1.54	<0.010	<0.08	26	<4	144	8.61
Caney Branch	GSA-8a	970414	1240	16	8.4	6.7	54	5	7.46	0.4	0.013	0.2	1.18	0.049	<0.08	15	<4	230	8.06
Caney Branch	GSA-8a	970512	1300	18	7.8	6.6	44	10	4.09	0.7	0.013	0.25	1.4	0.01	<0.08	32	<4	400	8.4

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

		Date	Time	Temp	DO	pH	Conductivity	Turbidity	Flow	BOD5	NH_3- N	TKN	NO_3/NO_2-N	DRP	Total P	TDS	TSS	Fecal coliform	Cl
Waterbody	Station	yymmdd	24 hr	(^{o}C)	mg/L	su	umhos/cm	ntu	cfs	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	#colonies/100mL	mg/L
Fish River Sub-watershed (050)																			
Caney Branch	GSA-8a	970609	1230	20	8.4	6.4	55	15	5.16	0.2	0.026	0.48	1.39	0.024	<0.08	63	<4	78	8.15
Caney Branch	GSA-8a	970722	1230	23	6.1	6.7	32	35	86	1.6	0.014	1.33	0.216	0.121	<0.08	26	43	1,490	2.18
Caney Branch	GSA-8a	970811	1230	21	7.1	6.5	49	15	10.6	1.1	0.017	0.36	1.4	0.03	<0.08	56	<4	240	8.64
Caney Branch	GSA-8a	970908	1300	19	7.2	6.3	42	2	6.81	0.5	0.013	0.09	1.6	0.05	<0.08	77	<4	92	8.74
Caney Branch	GSA-8a	971015	1230	15	7.9	6.5	53	17	8.57	0.8	0.013	0.23	1.47	0.018	<0.08	25	6	860	9.95
Caney Branch	GSA-8a	971117	1300	9	9.8	6.3	52	4	6.63	0.3	0.013	0.44	1.73	0.016	<0.08	56	<4	210	8.55
Caney Branch	GSA-8a	971209	1220	16	8.0	5.9	48	17	9.33	0.3	0.02	0.24	1.73	0.015	<0.08	57	<4	110	8.68
Caney Branch	GSA-8a	980120	1240	14	9.1	6.5	48	15	12	0.3	0.031	0.21	1.7	<0.010	<0.08	59	<4	160	7.89
Caney Branch	GSA-8a	980210	1200	16	8.8	6.6	40	14	11	0.2	0.025	0.16	1.92	<0.010	<0.08	68	<4	170	8.22
Caney Branch	GSA-8a	980309	1230	15	9.4	6.5	48	42	71	1.6	0.063	0.94	0.427	0.104	<0.08	40	37	2,300	3.8
Caney Branch	GSA-8a	980421	1240	19	7.6	5.9	53	27	10	0.2	0.017	0.08	1.53	0.026	<0.08	65	<4	100	8.41
Caney Branch	GSA-8a	980511	1220	22	7.5	6.2	44	5	9	0.3	0.038	0.22	1.52	<0.010	<0.08	55	<4	87	8.23
Caney Branch	GSA-8a	980608	1220	22	7.5	6.3	44	4	8.3	0.2	0.015	0.2	1.43	0.015	<0.08	58	<4	53	8.37
Caney Branch	GSA-8a	980721	0750	23	7.1	6.2	60	18	30	0.3	0.01	0.37	1.33	0.017	<0.08	61	<4	410	9.06
Caney Branch	GSA-8a	980803	1250	23	6.6	6.4	48	15	6	0.3	<0.010	0.15	1.54	<0.010	<0.08	68	<4	270	8.1
Caney Branch	GSA-8a	980914	1300	24	6.8	6.4	46	4	5	0.3	<0.010	0.43	1.32	0.015	<0.08	52	<4	290	8.75
Fish River	GSA-9	940209	1330	19.5	7.7	6.6	25	18	18	0.1	<0.02	0.22	0.33	<0.02	<0.08	48	5	172	4.6
Fish River	GSA-9	940302	0800	15.5	7.9	6.0	24	310	173	2.4	<0.02	0.84	0.14	0.16	<0.08	68	132	4,000	2.64
Fish River	GSA-9	940329	1115	16	9.0	7.2	24	3	10.6	0.3	<0.02	<0.15	0.29	<0.02	<0.08	34	5	300	4.44
Fish River	GSA-9	940503	1115	20	6.7	6.8	27	75	29.2	2	0.05	0.18	0.3	<0.02	<0.08	12	38	4,200	4.19
Fish River	GSA-9	940614	1010	23	6.3	6.7	24	5	14.9	0.7	0.05	0.28	0.36	<0.02	<0.08	39	<4	180	4.76
Fish River	GSA-9	940718	1420	24.5	6.3	7.4	34	33	28.5	0.5	0.067	0.46	0.24	0.037	<0.08	54	55	5,800	3.98
Fish River	GSA-9	940816	1220	24.5	6.0	7.2	33	35	19.3	0.2	0.037	0.28	0.3	<0.02	<0.08	11	10	165	4.58
Fish River	GSA-9	940912	1100	22.5	7.0	7.6	32	10	20.7	0.6	<0.02	0.17	0.25	<0.02	<0.08	28	8	480	4.64
Fish River	GSA-9	941017	1100	19	7.1	7.1	28	3	18.2	0.3	<0.02	<0.15	0.36	<0.02	<0.08	33	<4	340	4.47
Fish River	GSA-9	941114	1200	17	7.9	7.2	34	11	17	0.6	0.034	<0.15	0.36	<0.02	<0.08	21	5	200	4.75
Fish River	GSA-9	941212	1200	12	9.2	7.9	29	0	16	<0.1	0.021	<0.15	0.36	<0.02	<0.08	31	7	150	4.58
Fish River	GSA-9	950123	1030	11.5	8.8	7.2	35	112	52.8	0.8	0.137	0.46	0.332	0.058	<0.08	36	46	9,000	4.4
Fish River	GSA-9	950212	1030	12	9.0	4.8	27	2	28.8	0.4	<0.010	0.15	0.326	<0.010	<0.08	30	<4	170	4.34
Fish River	GSA-9	950213	1030	11	10.2	7.3	29	4	26.2	0.6	0.022	0.1	0.283	<0.01	<0.08	49	4	210	4.42
Fish River	GSA-9	950306	1030	17	8.6	6.0	24	8	20.4	0.6	0.019	0.1	0.356	<0.01	<0.08	12	<4	127	4.84
Fish River	GSA-9	950425	1030	17	7.3	5.9	22	28	38.5	0.6	0.01	0.32	0.187	0.01	<0.08	49	12	197	4.08
Fish River	GSA-9	950508	1030	21	7.4	6.0	26	8	18.3	0.4	<0.010	0.08	0.379	<0.010	<0.08	58	<4	100	4.94
Fish River	GSA-9	950612	1030	23	6.8	6.4	30	18	19.1	2.9	<0.010	0.13	0.346	<0.010	<0.08	<10	7	127	4.76
Fish River	GSA-9	950724	1030	25	6.6	5.0	30	3	16.8	<0.1	0.045	0.18	0.377	<0.010	<0.08	47	33	150	4.96
Fish River	GSA-9	950814	1030	24	6.3	6.8	38	23	27.4	0.6	0.59	0.38	0.223	0.047	<0.08	21	10	190	4.48
Fish River	GSA-9	950911	1030	17	7.0	6.2	28	20	17.2	0.2	0.038	0.14	0.302	<0.010	<0.08	24	<4	500	4.7
Fish River	GSA-9	951016	1040	17	7.9	5.8	28	20	23.8	<0.1	0.021	0.14	0.103	0.011	<0.08	23	<4	153	4.37
Fish River	GSA-9	951106	1140	15	8.1	6.0	26	19	43.7	0.6	0.32	0.32	0.223	0.03	<0.08	36	5	400	3.66
Fish River	GSA-9	951211	1030	9	10.0	4.8	26	15	25.9	0.7	0.017	0.11	0.381	0.01	<0.08	36	<4	107	4.51

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (°C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Fish River Sub-watershed (050)																			
Fish River	GSA-9	960116	1030	13	8.9	6.0	23	2	30.2	0.8	0.021	<0.07	0.39	<0.010	<0.08	31	<4	83	4.45
Fish River	GSA-9	960311	1115	10	10.6	6.5	26	4	27.9	0.9	<0.010	0.09	0.364	0.064	<0.08	47	6	47	4.32
Fish River	GSA-9	960415	1030	16	8.2	6.3	17	70	1,320	1.6	0.071	0.43	0.076	0.047	<0.08	39	42	1,280	1.08
Fish River	GSA-9	960513	1030	18	7.5	6.3	23	10	29	0.7	0.05	0.24	0.277	0.016	<0.08	15	8	117	4.06
Fish River	GSA-9	960610	1020	20	7.5	7.0	29	19	29.7	1	0.038	0.51	0.263	0.018	<0.08	34	9	300	3.89
Fish River	GSA-9	960715	1010	22	6.6	6.6	29	18	35.8	0.7	0.071	0.27	0.221	<0.010	<0.08	26	10	290	3.77
Fish River	GSA-9	960812	1020	22	7.6	6.8	30	15	30.8	0.6	0.037	0.95	0.228	0.01	<0.08	97	11	170	3.94
Fish River	GSA-9	960909	1020	21	6.4	6.7	27	10	29.4	0.6	0.036	0.33	0.278	<0.010	<0.08	14	8	250	4.21
Fish River	GSA-9	961015	1030	15	7.9	6.9	33	4	22.4	7.2	0.304	1.05	0.414	0.281	0.26	92	12	140	8.04
Fish River	GSA-9	961112	1020	11	9.0	7.3	18	5	22.6	0.6	0.032	0.2	0.394	<0.010	<0.08	40	<4	50	4.81
Fish River	GSA-9	961209	1015	11	9.2	6.1	25	8	21.9	0.6	0.018	0.17	0.357	<0.010	<0.08	55	6	166	4.73
Fish River	GSA-9	970121	1032	9.5	9.7	5.6	27	3	22.6	3.8	0.063	0.49	0.432	0.038	<0.08	34	<4	77	5
Fish River	GSA-9	970210	1030	11	9.1	5.7	27	7	22.7	0.6	0.017	0.22	0.386	<0.010	<0.08	22	<4	190	4.61
Fish River	GSA-9	970310	1020	18	8.4	6.6	26	15	22.5	0.8	0.02	0.26	0.345	0.07	<0.08	72	<4	240	4.58
Fish River	GSA-9	970414	1030	14	8.2	6.6	26	12	33.6	0.8	0.01	0.46	0.214	<0.010	<0.08	11	7	340	4.04
Fish River	GSA-9	970512	1100	17	6.7	6.4	29	13	20.4	4.1	0.07	0.8	0.352	0.046	<0.08	21	<4	84	5.44
Fish River	GSA-9	970609	1030	19	8.0	6.2	24	16	16.5	0.9	0.048	0.71	0.309	0.041	<0.08	35	5	92	4.38
Fish River	GSA-9	970722	0950	22	7.0	7.0	21	18	226	0.8	0.023	0.55	0.042	0.039	<0.08	15	9	580	2.07
Fish River	GSA-9	970811	1020	20	6.4	6.4	41	25	38.4	5.9	0.474	1.99	0.293	0.338	0.23	47	21	117	8.34
Fish River	GSA-9	970908	1030	18	7.1	6.4	23	10	25.3	0.4	0.025	0.3	0.373	0.072	<0.08	58	4	110	4.68
Fish River	GSA-9	971015	1030	14	7.8	6.2	22	20	39.1	1.2	<0.010	0.27	0.147	<0.010	<0.08	17	15	2,500	4.6
Fish River	GSA-9	971117	1020	6	10.2	6.4	26	3	23.6	0.7	0.015	0.5	0.34	0.01	<0.08	50	4	120	4.55
Fish River	GSA-9	971209	1040	14	8.5	5.7	18	4	31.6	0.8	0.012	0.19	0.336	0.014	<0.08	39	<4	67	4.3
Fish River	GSA-9	980120	1040	12	9.4	6.4	19	18	45	0.6	0.024	0.35	0.317	<0.010	<0.08	35	<4	83	3.96
Fish River	GSA-9	980210	1020	13	9.2	6.5	17	16	37	0.5	0.029	<0.07	0.384	0.02	<0.08	40	6	37	4.06
Fish River	GSA-9	980309	1030	14	8.5	6.6	26	40	220	1.1	0.063	0.47	0.081	0.024	<0.08	16	14	920	2.76
Fish River	GSA-9	980421	1035	17	7.2	6.2	25	19	31	0.9	0.023	0.24	0.324	0.02	<0.08	33	7	170	4.51
Fish River	GSA-9	980511	1015	22	6.0	6.1	25	15	25	0.5	0.046	0.29	0.371	<0.010	<0.08	32	6	9	4.46
Fish River	GSA-9	980608	0800	20	6.2	5.8	27	3	22	0.4	0.025	0.3	0.32	<0.010	<0.08	34	6	120	4.68
Fish River	GSA-9	980720	0930	24	5.4	6.4	37	20	16	2.8	0.071	0.39	0.326	0.079	<0.08	38	8	330	5.09
Fish River	GSA-9	980803	0935	23	6.1	6.4	28	18	14	0.6	0.03	0.18	0.423	<0.010	<0.08	93	<4	110	4.56
Fish River	GSA-9	980914	1030	23	5.6	6.4	46	5	18	5.6	0.525	2.08	0.336	0.376	0.34	60	9	320	8.82
Corn Branch	GSA-10	940209	1045	18.5	7.0	6.2	43	9	3.89	0.3	<0.02	<0.15	1.09	<0.02	<0.08	49	<4	240	6.47
Corn Branch	GSA-10	940302	0920	15.5	8.3	6.1	N.D.	425	47.5	1.8	<0.02	0.9	0.31	0.31	0.13	85	190	12,200	2.94
Corn Branch	GSA-10	940329	1230	16	7.5	6.5	34	7	2.06	0.1	<0.02	0.19	0.53	0.04	<0.08	38	4	320	6.12
Corn Branch	GSA-10	940503	1230	20	6.7	6.8	37	18	8.11	0.5	0.04	<0.15	0.91	0.02	<0.08	26	7	620	5.72
Corn Branch	GSA-10	940614	1115	21.5	6.5	7.2	27	2	8.11	0.2	0.02	0.2	0.93	0.02	<0.08	45	<4	60	6.24
Corn Branch	GSA-10	940719	0830	23.5	7.0	7.7	62	43	14.4	1.5	0.068	0.46	0.54	0.21	<0.08	65	19	30,000	5.76
Corn Branch	GSA-10	940816	1340	22	6.0	5.8	42	30	6.69	<0.1	<0.02	<0.15	0.92	<0.02	<0.08	<10	4	350	6.15
Corn Branch	GSA-10	940912	1215	22	6.5	6.4	40	12	4.88	0.8	<0.02	0.2	0.96	<0.02	<0.08	39	5	1,080	5.91

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (°C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Fish River Sub-watershed (050)																			
Corn Branch	GSA-10	941017	1200	19	6.7	6.5	41	5	4.25	0.1	<0.02	<0.15	1	0.023	<0.08	44	<4	310	6.1
Corn Branch	GSA-10	941114	1300	18	7.1	7.3	40	8	3.98	0.7	<0.02	<0.15	1.08	<0.02	<0.08	28	<4	210	6.16
Corn Branch	GSA-10	941212	1310	14	8.6	6.9	42	3	4.38	<0.1	<0.02	0.16	1.06	0.021	<0.08	28	<4	10	15.7
Corn Branch	GSA-10	950123	1145	12	8.5	7.1	60	120	28.9	5	0.211	0.74	0.399	0.199	0.19	66	62	86,000	5.2
Corn Branch	GSA-10	950212	1120	14	8.5	6.8	41	2	7.07	0.2	<0.010	0.12	0.971	<0.010	<0.08	35	<4	43	6.13
Corn Branch	GSA-10	950213	1130	12	10.4	7.2	48	35	5.94	0.7	0.042	0.16	0.941	0.052	<0.08	58	14	2,100	5.64
Corn Branch	GSA-10	950306	1130	17	8.0	6.6	40	4	4.58	1	0.027	<0.07	1.06	0.014	<0.08	17	<4	47	6.47
Corn Branch	GSA-10	950425	1140	18	7.5	6.1	45	18	7.45	0.4	0.015	0.25	0.826	0.067	<0.08	57	5	130	5.98
Corn Branch	GSA-10	950508	1120	20	6.9	6.1	38	9	4.91	1	<0.010	0.07	1.07	0.012	<0.08	68	<4	85	6.53
Corn Branch	GSA-10	950612	1120	21	6.5	6.0	42	7	5.3	2.6	<0.01	<0.07	1.09	0.016	<0.08	13	5	63	6.43
Corn Branch	GSA-10	950724	1120	22	6.2	5.8	38	1	4.3	0.2	0.025	0.11	1.12	<0.010	<0.08	45	5	80	6.35
Corn Branch	GSA-10	950814	1120	23	6.0	6.6	41	12	5.14	0.2	<0.010	0.18	0.902	0.048	<0.08	13	6	193	6.56
Corn Branch	GSA-10	950911	1120	22	6.2	6.2	41	18	4.43	<0.1	0.034	0.11	1.03	0.016	<0.08	35	<4	258	6.48
Corn Branch	GSA-10	951016	1130	18	7.2	6.2	43	2	5.38	0.4	0.03	<0.07	0.795	0.017	<0.08	32	<4	100	6.02
Corn Branch	GSA-10	951106	1230	16	8.7	5.6	44	15	10.2	0.7	0.064	0.4	0.794	0.084	<0.08	46	<4	580	5.89
Corn Branch	GSA-10	951211	1130	12	8.5	6.4	38	5	5.9	0.6	0.016	<0.07	1.1	<0.010	<0.08	40	<4	7	6.05
Corn Branch	GSA-10	960116	1130	15	8.1	6.4	36	4	6.57	0.3	0.01	<0.07	1.05	<0.010	<0.08	40	<4	23	6.03
Corn Branch	GSA-10	960311	1215	12	9.5	6.6	32	7	6.41	0.5	<0.010	0.15	1	0.046	<0.08	86	5	60	6.06
Corn Branch	GSA-10	960415	1140	16	8.5	6.3	26	160	60	3	0.216	0.59	0.316	0.253	0.23	54	125	5,900	1.85
Corn Branch	GSA-10	960513	1120	18	7.2	6.4	33	8	6.78	0.3	0.02	0.2	0.972	0.017	<0.08	25	5	23	6.12
Corn Branch	GSA-10	960610	1110	20	7.0	6.5	36	10	7.62	0.8	0.03	0.39	0.976	0.014	<0.08	41	4	243	5.13
Corn Branch	GSA-10	960715	1100	21	6.5	6.6	38	20	7.64	0.4	0.049	0.19	0.801	0.028	<0.08	45	8	225	5.28
Corn Branch	GSA-10	960812	1110	21	7.2	6.6	41	5	5.71	0.2	0.016	0.11	1	0.017	<0.08	99	7	67	6.39
Corn Branch	GSA-10	960909	1100	20	6.5	6.6	37	1	5.36	0.3	0.016	0.2	1.04	0.039	<0.08	21	<4	57	6.28
Corn Branch	GSA-10	961015	1110	16	7.7	6.5	35	2	5.05	0.2	<0.010	0.07	1.17	0.012	<0.08	64	7	30	6.6
Corn Branch	GSA-10	961112	1100	13	8.1	7.1	30	1	4.55	0.3	0.013	<0.07	1.19	<0.010	<0.08	45	<4	20	6.49
Corn Branch	GSA-10	961209	1100	12	8.1	6.1	30	2	4.37	0.6	<0.010	0.14	1.04	0.032	<0.08	31	<4	37	6.53
Corn Branch	GSA-10	970121	1100	12	9.0	5.9	42	5	4.18	0.4	0.033	0.12	1.23	<0.010	<0.08	34	<4	27	6.46
Corn Branch	GSA-10	970210	1120	13	8.7	5.9	41	1	4.79	0.3	<0.010	0.22	1.1	0.033	<0.08	22	<4	57	6.33
Corn Branch	GSA-10	970310	1110	18	8.4	6.2	39	8	5.89	0.6	0.073	0.09	1.01	0.07	<0.08	21	<4	62	6.36
Corn Branch	GSA-10	970414	1120	15	7.5	6.7	53	14	6.02	0.4	<0.010	0.28	0.838	0.037	<0.08	21	<4	163	7.08
Corn Branch	GSA-10	970512	1140	17	7.3	6.2	12	7	4.01	0.5	0.012	0.2	1.08	0.014	<0.08	27	<4	42	6.58
Corn Branch	GSA-10	970609	1120	18	8.0	6.3	36	8	4.12	0.3	0.021	0.59	0.945	0.038	<0.08	45	<4	20	6.47
Corn Branch	GSA-10	970722	1030	22	5.8	6.7	50	18	17.6	1.2	0.183	1.35	0.427	0.111	<0.08	62	13	1,180	5.27
Corn Branch	GSA-10	970811	1110	20	6.7	6.4	33	18	7.74	0.7	<0.010	0.13	0.742	0.104	<0.08	18	<4	140	6.21
Corn Branch	GSA-10	970908	1120	17	7.0	6.1	33	1	5.58	0.2	<0.010	0.18	1	0.026	<0.08	43	<4	170	6.52
Corn Branch	GSA-10	971015	1110	14	7.7	6.3	33	17	5.45	1.3	<0.010	<0.07	0.747	0.012	<0.08	34	5	170	6.86
Corn Branch	GSA-10	971117	1120	9	9.4	6.0	40	1	5.27	0.4	0.017	0.37	1.11	0.041	<0.08	62	<4	67	6.75
Corn Branch	GSA-10	971209	1130	16	7.7	5.8	32	5	6.61	0.4	<0.010	0.14	0.965	<0.010	<0.08	46	<4	53	6.68
Corn Branch	GSA-10	980120	1120	14	8.8	6.2	44	15	11	1.7	0.039	0.27	0.908	0.103	<0.08	51	5	280	7.09

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (^oC)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Fish River Sub-watershed (050)																			
Corn Branch	GSA-10	980210	1050	15	8.5	6.4	37	18	9.8	1.3	0.02	<0.07	0.932	0.073	<0.08	49	5	90	6.79
Corn Branch	GSA-10	980309	1115	14	9.4	6.4	52	75	29	1.6	0.076	0.51	0.398	0.151	<0.08	52	37	3,900	4.63
Corn Branch	GSA-10	980421	1130	17	7.0	6.0	34	12	7.9	0.2	0.018	0.32	0.92	0.029	<0.08	35	<4	140	6.27
Corn Branch	GSA-10	980511	1110	21	7.0	6.0	35	10	6.1	0.2	0.018	0.23	0.99	0.01	<0.08	39	<4	43	6.3
Corn Branch	GSA-10	980608	0945	20	6.8	6.2	35	2	5.5	0.1	0.028	0.35	0.993	0.012	<0.08	42	<4	27	6.67
Corn Branch	GSA-10	980720	1110	22	6.3	5.9	38	5	3.8	0.1	<0.010	0.13	1.13	0.016	<0.08	41	<4	350	6.37
Corn Branch	GSA-10	980803	1045	22	6.9	6.1	38	10	3.2	0.1	0.014	0.14	1.03	0.044	<0.08	56	<4	150	6.25
Corn Branch	GSA-10	980914	1120	22	6.2	6.5	35	8	4.5	<0.1	<0.010	0.18	0.964	0.011	<0.08	51	<4	200	6.63
Barner Branch	GSA-17	950426	1110	18	7.0	6.1	59	18	8	0.3	0.129	0.26	1.38	<0.01	<0.08	41	4	103	7.2
Barner Branch	GSA-17	950509	1040	22	4.0	6.2	53	15	6	1.7	0.107	0.31	1.29	<0.010	<0.08	56	24	780	7.57
Barner Branch	GSA-17	950613	1040	20	4.8	6.3	52	10	2	2.2	0.14	0.18	1.36	<0.010	<0.08	56	6	143	7.6
Barner Branch	GSA-17	950725	1030	24	5.3	6.2	52	4	5.13	1	0.095	0.12	1.39	0.044	<0.08	59	5	860	7.45
Barner Branch	GSA-17	950815	1015	24	4.6	6.3	46	16	6.86	0.5	0.152	0.27	1.23	0.026	<0.08	16	6	1,500	7.18
Barner Branch	GSA-17	950912	1040	23	4.8	6.0	28	15	5.44	<0.1	0.12	0.23	1.27	<0.010	<0.08	35	<4	560	8.01
Barner Branch	GSA-17	951017	1040	21	6.2	6.4	57	14	7.17	<0.1	0.278	0.42	1.18	<0.010	<0.08	34	<4	97	7.43
Barner Branch	GSA-17	951107	1050	20	6.0	5.6	52	10	8.84	2	0.35	0.51	1.3	0.014	<0.08	43	<4	130	7.22
Barner Branch	GSA-17	951212	1050	12	8.1	6.4	52	2	7.02	0.3	0.433	0.39	1.5	<0.010	<0.08	42	<4	53	7.83
Barner Branch	GSA-17	960117	1040	16	7.2	6.4	56	4	6.82	0.2	0.412	0.44	1.63	<0.010	<0.08	32	<4	320	8.01
Barner Branch	GSA-17	960213	1030	12	8.7	6.9	57	1	5.53	0.5	0.279	0.49	1.58	<0.010	<0.08	42	<4	57	7.77
Barner Branch	GSA-17	960312	1015	12.5	8.6	6.8	46	3	5.23	0.4	0.33	0.49	1.59	0.027	<0.08	91	6	123	7.61
Barner Branch	GSA-17	960416	1040	15	7.6	6.5	32	35	10.1	0.9	0.082	0.81	0.916	0.024	<0.08	39	9	1,540	4.62
Barner Branch	GSA-17	960514	1020	19	7.0	6.4	52	5	7.29	5	0.261	0.48	1.46	0.05	<0.08	30	4	70	7.83
Barner Branch	GSA-17	960611	1040	20	6.5	6.2	52	1	6.93	0.6	0.243	0.58	1.5	0.011	<0.08	53	<4	63	7.69
Barner Branch	GSA-17	960716	1020	22	5.8	6.7	59	5	7.11	0.4	0.214	0.36	1.47	<0.010	<0.08	50	6	173	7.61
Barner Branch	GSA-17	960813	1050	21	6.5	6.5	52	5	7.18	0.4	0.109	0.29	1.58	<0.010	<0.08	87	6	570	7.72
Barner Branch	GSA-17	960910	1020	20	6.1	6.7	50	4	6.78	0.4	0.115	0.31	1.55	0.07	<0.08	25	<4	330	7.65
Barner Branch	GSA-17	961016	1030	18	6.3	6.7	45	3	6.95	0.3	0.146	0.27	1.57	<0.010	<0.08	70	6	80	7.66
Barner Branch	GSA-17	961113	1020	13	7.6	6.7	38	1	6.61	0.3	0.228	0.37	1.56	<0.010	<0.08	45	<4	67	7.71
Barner Branch	GSA-17	961210	1030	12	7.6	6.2	32	16	6.23	0.5	0.198	0.31	1.47	<0.010	<0.08	33	9	70	7.3
Barner Branch	GSA-17	970122	1030	15.5	7.8	6.1	45	0	5.31	0.4	0.212	0.38	1.72	<0.010	<0.08	35	<4	370	7.51
Barner Branch	GSA-17	970211	1010	12	8.4	6.1	50	0	5.01	0.5	0.123	0.26	1.71	0.07	<0.08	34	<4	90	7.25
Barner Branch	GSA-17	970311	0950	20	6.9	6.3	50	6	5.71	0.6	0.051	0.23	1.55	<0.010	<0.08	19	<4	145	7.34
Barner Branch	GSA-17	970415	1000	16	7.5	6.6	47	3	6.45	0.4	0.094	0.28	1.46	0.023	<0.08	10	<4	53	7.24
Barner Branch	GSA-17	970513	0930	18	6.3	6.6	49	8	5.4	0.7	0.061	0.44	1.42	<0.010	<0.08	21	<4	200	7.4
Barner Branch	GSA-17	970610	1000	20	5.6	5.8	48	10	8.05	0.7	0.077	0.61	1.22	<0.010	<0.08	56	<4	960	6.68
Barner Branch	GSA-17	970723	1040	22	6.1	6.8	51	15	15	1.2	0.56	0.83	0.723	0.028	<0.08	50	4	700	6.66
Barner Branch	GSA-17	970812	0940	20	5.5	6.4	59	14	10.6	1.5	0.736	0.8	1.1	0.02	<0.08	30	<4	590	8.14
Barner Branch	GSA-17	970909	0940	18	6.3	5.6	56	4	8.45	0.5	0.629	0.76	1.3	<0.010	<0.08	51	<4	220	8.15
Barner Branch	GSA-17	971016	0920	14	7.4	6.1	53	6	6.79	0.5	0.462	0.5	1.39	<0.010	<0.08	40	4	90	7.95
Barner Branch	GSA-17	971118	1020	9	9.1	6.1	45	1	7.16	0.4	0.467	0.79	1.45	<0.010	<0.08	58	<4	33	7.69

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

		Date	Time	Temp	DO	pH	Conductivity	Turbidity	Flow	BOD5	NH_3- N	TKN	NO_3/NO_2-N	DRP	Total P	TDS	TSS	Fecal coliform	Cl
Waterbody	Station	yymmdd	24 hr	(°C)	mg/L	su	umhos/cm	ntu	cfs	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	#colonies/100mL	mg/L
Fish River Sub-watershed (050)																			
Barner Branch	GSA-17	971210	1030	18	6.2	5.9	49	3	7.37	0.5	0.593	0.72	1.36	<0.010	<0.08	38	<4	80	8.07
Barner Branch	GSA-17	980121	0950	15	7.6	6.4	49	10	7.2	0.5	0.577	0.76	1.48	0.033	<0.08	47	<4	30	7.65
Barner Branch	GSA-17	980211	0930	16	7.2	6.5	47	20	9.8	0.5	0.549	1.39	1.28	0.092	<0.08	41	<4	280	7.63
Barner Branch	GSA-17	980310	1000	14	9.4	6.4	43	10	6.1	0.5	0.211	0.25	1.26	0.012	<0.08	24	<4	40	6.33
Barner Branch	GSA-17	980422	1115	18	5.8	5.8	53	27	6.3	0.3	0.265	0.64	1.4	<0.010	<0.08	38	<4	30	7.16
Barner Branch	GSA-17	980512	1010	22	4.6	6.4	48	2	7	0.3	0.278	0.36	1.37	0.032	<0.08	39	<4	33	7.36
Barner Branch	GSA-17	980609	1145	24	4.2	6.3	43	3	6	0.2	0.196	0.41	1.46	<0.010	<0.08	48	16		7.74
Barner Branch	GSA-17	980721	1045	24	4.9	6.4	51	10	8	0.6	0.143	0.34	1.37	<0.010	<0.08	104	<4	310	7.04
Barner Branch	GSA-17	980804	1110	23	5.2	6.3	49	8	4	1.4	0.073	0.15	1.58	0.025	<0.08	40	<4	70	7.21
Barner Branch	GSA-17	980915	1000	23	4.5	6.6	49	10	4.1	0.2	0.158	0.37	1.4	<0.010	<0.08	55	<4	97	7.34
Waterhole Branch	GSA-18	950212	1350	13	5.4	6.1	50	18	1.02	0.6	0.033	0.33	0.495	<0.010	<0.08	46	7	240	7.94
Waterhole Branch	GSA-18	950425	1400	19	5.5	6.1	66	56	0.3	1.4	0.044	0.65	0.09	0.08	<0.08	73	6	153	8.09
Waterhole Branch	GSA-18	950508	1350	21	0.6	6.3	73	30	0.3	2.8	0.04	0.47	<0.010	0.026	<0.08	87	11	110	8.36
Waterhole Branch	GSA-18	950612	1350	24	0.8	6.2	64	28	0.9	9	0.111	0.2	<0.01	0.037	<0.08	56	24	430	7.12
Waterhole Branch	GSA-18	950724	1340	28	3.8	5.4	60	9	0.06	<0.1	0.115	0.54	0.044	<0.010	<0.08	68	51	77	7.49
Waterhole Branch	GSA-18	950814	1340	26	2.8	6.3	60	23	0.85	0.3	0.067	0.41	0.106	0.058	<0.08	32	13	300	6.92
Waterhole Branch	GSA-18	950911	1340	26	1.5	6.0	58	18	0.42	<0.1	0.089	0.39	<0.010	0.025	<0.08	42	7	123	8.26
Waterhole Branch	GSA-18	951016	1400	18	2.0	6.0	63	16	0.72	0.2	0.055	0.29	<0.010	0.026	<0.08	44	4	500	8.68
Waterhole Branch	GSA-18	951106	1500	16	7.1	5.5	57	35	2.12	0.7	0.034	0.43	0.34	0.105	<0.08	62	4	650	6.6
Waterhole Branch	GSA-18	951211	1350	9	4.9	5.5	48	20	0.44	0.4	0.027	0.11	0.339	0.028	<0.08	53	<4	13	8.57
Waterhole Branch	GSA-18	960116	1340	14	6.2	5.7	46	9	0.59	0.4	0.029	0.1	0.629	<0.010	<0.08	32	<4	60	8.25
Waterhole Branch	GSA-18	960311	1425	9	8.6	6.3	42	15	0.54	0.8	0.013	0.24	0.461	0.107	<0.08	26	8	117	8.13
Waterhole Branch	GSA-18	960416	1400	17	7.8	5.9	27	75	4	2.8	0.056	0.77	0.271	0.158	0.13	46	46	24,000	1.42
Waterhole Branch	GSA-18	960513	1340	20	3.0	6.1	48	22	0.68	1.5	0.06	1.29	0.255	0.07	<0.08	32	5	43	7.62
Waterhole Branch	GSA-18	960610	1330	21	2.3	6.1	50	18	0.36	2	0.136	0.72	0.13	<0.010	<0.08	53	29	67	8.26
Waterhole Branch	GSA-18	960715	1330	22	3.1	5.7	50	25	1.38	1.6	0.101	<0.07	0.219	0.013	<0.08	44	13	4,200	7.48
Waterhole Branch	GSA-18	960812	1320	23	2.2	6.5	54	18	0.29	1.6	0.06	0.43	0.238	<0.010	<0.08	93	11	97	8
Waterhole Branch	GSA-18	960909	1320	23	2.1	6.4	52	18	0.21	0.9	0.047	0.35	0.144	0.063	<0.08	31	5	150	8.18
Waterhole Branch	GSA-18	961015	1330	16	3.5	6.4	42	15	0.27	1.4	0.016	0.17	0.136	0.019	<0.08	57	7	83	8.28
Waterhole Branch	GSA-18	961112	1310	12	4.1	6.5	35	15	0.15	0.5	0.034	0.31	0.076	0.021	<0.08	50	<4	7	8.95
Waterhole Branch	GSA-18	961209	1320	12	5.2	6.1	32	72	0.41	1.5	0.026	1.52	0.067	0.139	<0.08	72	19	156	6.27
Waterhole Branch	GSA-18	970121	1330	8.5	7.1	5.9	47	18	0.25	0.5	0.051	0.65	0.324	0.029	<0.08	39	<4	7	9.01
Waterhole Branch	GSA-18	970210	1330	11	6.2	5.7	52	25	0.31	0.4	0.028	0.75	0.28	0.076	<0.08	51	8	93	8.9
Waterhole Branch	GSA-18	970310	1300	19	4.4	6.0	55	18	0.19	1.2	0.039	0.64	0.246	0.018	<0.08	45	<4	18	9
Waterhole Branch	GSA-18	970414	1350	14	5.3	6.6	60	30	0.87	1.5	0.034	0.73	0.196	0.088	<0.08	58	8	70	8.38
Waterhole Branch	GSA-18	970512	1400	18	5.0	6.3	46	15	0.05	0.1	0.039	0.91	0.084	0.036	<0.08	30	<4	100	7.35
Waterhole Branch	GSA-18	970609	1340	20	2.3	6.0	50	30	0.23	0.6	0.043	1.03	0.096	0.048	<0.08	64	5	10	7.32
Waterhole Branch	GSA-18	970722	1350	24	5.0	6.7	66	40	91	1.8	0.023	0.79	0.03	0.193	<0.08	51	6	1,250	5.17
Waterhole Branch	GSA-18	970811	1330	23	2.8	6.3	49	35	1.21	3.6	0.055	0.84	0.102	0.075	<0.08	37	17	2,300	6.93
Waterhole Branch	GSA-18	970908	1410	20	3.0	5.9	48	18	0.33	0.5	0.041	0.18	0.09	0.123	<0.08	53	<4	86	8.11

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

		Date	Time	Temp	DO	pH	Conductivity	Turbidity	Flow	BOD5	NH_3- N	TKN	NO_3/NO_2-N	DRP	Total P	TDS	TSS	Fecal coliform	Cl
Waterbody	Station	yymmdd	24 hr	(^oC)	mg/L	su	umhos/cm	ntu	cfs	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	#colonies/100mL	mg/L
Fish River Sub-watershed (050)																			
Waterhole Branch	GSA-18	971015	1340	16	3.1	6.3	46	20	0.43	0.7	0.013	0.42	0.093	0.023	<0.08	47	6	120	8.47
Waterhole Branch	GSA-18	971117	1400	8	5.8	5.7	45	8	0.5	0.3	<0.010	0.49	0.197	0.021	<0.08	65	<4	27	8.7
Waterhole Branch	GSA-18	971209	1410	16	5.2	5.6	42	18	0.43	0.5	0.02	0.33	0.309	0.026	<0.08	44	<4	10	9.41
Waterhole Branch	GSA-18	980120	1340	12	7.5	6.1	51	28	1.2	0.5	0.03	0.57	0.483	0.04	<0.08	64	<4	60	8.31
Waterhole Branch	GSA-18	980210	1300	13	7.4	6.4	39	18	0.98	0.5	0.036	1.07	0.617	0.031	<0.08	54	<4	50	8.46
Waterhole Branch	GSA-18	980309	1350	13	9.6	6.6	52	75	50	1.7	0.079	1.14	0.165	0.135	<0.08	57	12	710	5.52
Waterhole Branch	GSA-18	980421	1500	19	3.0	5.8	53	55	1.1	1.7	0.08	1.07	0.096	0.063	<0.08	70	15	100	6.64
Waterhole Branch	GSA-18	980511	1425	24	1.0	6.3	55	22	0.5	1.9	0.145	1.17	0.014	0.032	<0.08	70	25	83	8.55
Waterhole Branch	GSA-18	980608	1430	25	0.6	6.1	51	40	0.19	0.3	0.137	1.18	0.028	0.046	<0.08	69	17	53	7.25
Waterhole Branch	GSA-18	980721	1315	27	2.6	6.5	63	25	4	1.8	0.04	0.78	0.049	0.032	<0.08	62	332	630	8.11
Waterhole Branch	GSA-18	980803	1450	25	0.5	6.2	55	40	0.4	0.6	0.14	0.78	0.024	0.045	<0.08	61	8	130	8.3
Waterhole Branch	GSA-18	980914	1420	26	2.4	6.3	43	45	0.5	1.1	0.081	1.31	0.036	0.077	<0.08	81	21	190	4.36
Magnolia River Sub-watershed (060)																			
Eslava Branch	GSA-11	950125	0815	8	6.7	6.9	43	37	0.05	1.4	0.036	0.38	<0.01	0.043	<0.08	55	8	170	9.27
Eslava Branch	GSA-11	950215	0815	13.5	5.7	6.9	39	20	0.03	1.1	0.029	0.21	<0.01	0.019	<0.08	47	10	270	5.73
Eslava Branch	GSA-11	950308	0800	13.5	6.9	6.7	66	180	26	3.3	0.091	0.26	0.295	0.15	0.14	96	64	17,300	4.72
Magnolia River	GSA-12	950125	0850	12.5	8.2	7.0	206	10	39	3	0.048	0.25	2.29	0.659	<0.08	112	<4	490	50
Magnolia River	GSA-12	950215	1130	17	7.5	6.7	1,860	7	23.4	0.9	0.132	0.24	2.02	0.013	<0.08	1,120	5	186	558
Magnolia River	GSA-12	950307	1230	20	5.0	6.4	1,400	3	22	1.3	0.059	0.12	2.06	<0.01	<0.08	511	76	220	275
Magnolia River	GSA-12	950427	0850	19	7.2	6.5	66	10	42	<0.1	<0.010	0.11	2.4	0.019	<0.08	51	<4	197	9.21
Magnolia River	GSA-12	950510	0900	20	8.5	6.0	34	500	50	5.5	0.126	0.41	0.513	0.17	0.13	78	831	38,000	3.08
Magnolia River	GSA-12	950614	0950	21	6.0	6.5	63	5	25.4	0.2	<0.010	0.22	2.54	<0.010	<0.08	66	5	216	10.3
Magnolia River	GSA-12	950726	0810	23	6.0	6.2	111	3	31	0.4	0.025	0.1	0.749	0.027	<0.08	59	6	5,300	8.11
Magnolia River	GSA-12	950816	0825	23	5.5	6.4	55	7	41	0.4	0.025	0.13	2.22	0.096	<0.08	47	4	620	13.9
Magnolia River	GSA-12	950913	0840	26	0.8	6.5	9,840	20	31	3.7	0.221	1.26	1.595	0.014	0.09	7,120	5	420	4490
Magnolia River	GSA-12	951018	0840	23	0.6	6.4	16,400	25	44	0.7	0.119	0.74	1.067	0.022	0.22	10,200	10	73	5260
Magnolia River	GSA-12	951108	1135	19	6.5	6.1	61	10	81	0.3	<0.010	0.34	1.91	0.023	<0.08	38	4	800	8.56
Magnolia River	GSA-12	951213	0820	15	7.7	6.5	64	5	33.6	0.2	0.021	<0.07	2.59	<0.010	<0.08	49	<4	157	10
Magnolia River	GSA-12	960117	1310	17	7.6	6.7	65	8	44	0.2	0.012	<0.07	2.51	<0.010	<0.08	53	5	123	10
Magnolia River	GSA-12	960214	0920	16	8.9	6.9	68	5	45.4	0.4	0.011	0.15	2.49	0.031	<0.08	44	4	127	10
Magnolia River	GSA-12	960313	1000	15	8.1	6.4	52	1	35	<0.1	0.014	0.16	2.52	0.011	<0.08	88	9	90	9.83
Magnolia River	GSA-12	960417	0940	17	6.8	6.7	45	30	70	0.6	0.041	0.36	1.32	0.045	<0.08	59	12	1,690	6.05
Magnolia River	GSA-12	960515	0810	19	5.8	6.9	60	12	30	0.2	0.024	0.23	2.42	0.061	<0.08	72	4	113	9.64
Magnolia River	GSA-12	960612	0900	20	6.3	6.8	106	4	22.5	0.5	0.03	0.37	2.3	0.014	<0.08	69	29	150	19.4
Magnolia River	GSA-12	960717	0930	21	6.3	6.4	66	15	28	0.1	0.036	0.44	1.84	<0.010	<0.08	62	8	2,700	8.91
Magnolia River	GSA-12	960814	0800	21	7.1	6.7	96	2	18.8	0.1	0.013	0.26	2.34	0.011	<0.08	87	7	270	18.9
Magnolia River	GSA-12	960911	0730	21	5.1	6.3	67	5	32	1	0.017	0.12	2.39	<0.010	<0.08	63	<4	350	12.4
Magnolia River	GSA-12	961017	0750	19	3.6	6.5	1,880	2	30	1.6	0.02	0.23	2.22	<0.010	<0.08	1,400	6	380	740
Magnolia River	GSA-12	961114	0800	18	2.4	6.4	6,400	18	32	1.6	0.164	0.39	1.85	0.011	<0.08	5,870	16	480	613
Magnolia River	GSA-12	961211	0850	16	5.2	6.2	965	10	39	0.2	0.046	0.11	2.21	<0.010	<0.08	943	11	220	423

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (^oC)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Magnolia River Sub-watershed (060)																			
Magnolia River	GSA-12	970123	0750	14.5	4.7	6.1	2,180	5	30	<0.1	0.068	0.18	2.65	<0.010	0.1	1,480	<4	166	754
Magnolia River	GSA-12	970212	0900	14	7.9	6.6	100	4	40	0.2	<0.010	0.4	2.61	0.037	<0.08	70	<4	87	20.3
Magnolia River	GSA-12	970312	0850	19	6.8	6.2	71	10	42	0.1	<0.010	0.29	2.37	0.047	<0.08	66	<4	140	11.1
Magnolia River	GSA-12	970416	0850	17	7.1	6.5	5,280	5	35	0.4	0.053	0.15	2.4	<0.010	<0.08	1,050	4	103	548
Magnolia River	GSA-12	970514	0830	19	6.7	6.5	108	7	30	0.2	0.012	0.25	2.35	0.015	<0.08	67	<4	140	21.4
Magnolia River	GSA-12	970611	0830	20	6.3	6.5	67	5	38	0.3	0.022	0.47	1.96	0.02	<0.08	44	<4	490	10.2
Magnolia River	GSA-12	970724	0740	22	4.7	6.6	62	15	110	1.1	0.012	0.44	1.18	0.067	<0.08	53	6	540	7.91
Magnolia River	GSA-12	970813	0830	21	5.6	6.3	67	15	55	0.8	0.02	0.15	1.83	0.022	<0.08	60	<4	460	10.4
Magnolia River	GSA-12	970910	0740	23	5.2	6.3	2,140	15	41	0.7	0.048	0.59	1.67	0.09	<0.08	3,510	5	180	1780
Magnolia River	GSA-12	971015	1400	21	5.1	6.6	11,400	19	32	6	0.09	0.96	1.24	<0.010	<0.08	6,870	11	100	3860
Magnolia River	GSA-12	971119	0850	15	7.0	6.5	4,140	5	34	0.2	0.122	0.5	1.94	<0.010	<0.08	3,760	<4	110	20.2
Magnolia River	GSA-12	971210	1225	18	7.0	6.0	819	14	140	0.4	0.016	0.44	2.07	<0.010	<0.08	366	<4	920	177
Magnolia River	GSA-12	980122	0840	18	7.4	6.4	62	8	53	<0.1	0.044	0.23	2.3	<0.010	<0.08	77	<4	80	9.94
Magnolia River	GSA-12	980212	0900	17	8.1	6.6	60	20	58	3	0.03	0.53	2.12	<0.010	<0.08	69	6	780	9.97
Magnolia River	GSA-12	980311	0900	14	8.9	6.5	61	28	70	0.4	0.049	0.25	1.82	0.031	<0.08	34	9	460	8.32
Magnolia River	GSA-12	980423	0930	18	6.8	5.5	63	22	100	0.3	0.012	0.15	2.26	0.023	<0.08	62	32	120	9.97
Magnolia River	GSA-12	980512	1705	22	7.0	6.5	66	3	60	0.4	0.027	0.33	2.19	0.01	<0.08	56	5	57	10.1
Magnolia River	GSA-12	980608	1525	22	6.8	6.2	55	5	30	0.1	0.024	0.19	2.13	<0.010	<0.08	58	<4	150	10.6
Magnolia River	GSA-12	980722	1045	23	8.0	6.5	63	29	40	0.2	<0.010	0.18	2.15	<0.010	<0.08	57	6	190	13
Magnolia River	GSA-12	980804	1335	27	5.2	6.4	900	10	35	0.7	0.015	0.08	2.14	<0.010	<0.08	972	4	170	110
Magnolia River	GSA-12	980916	0810	26	0.2	6.1	10,800	15	48	1.6	0.192	0.62	1.83	<0.010	<0.08	7,190	4	110	4530
Weeks Creek	GSA-13	950123	1445	11.5	9.8	7.5	39	110	42	2.6	0.058	0.51	0.182	0.327	0.31	45	37	50,000	3.13
Weeks Creek	GSA-13	950214	1245	12	4.6	7.0	70	50	0.1	0.6	0.043	0.22	0.324	0.087	<0.08	76	16	720	15.5
Weeks Creek	GSA-13	950308	0930	13.5	7.2	6.9	50	275	59	3.9	0.094	0.38	0.382	0.65	0.54	76	134	7,900	4.71
Weeks Creek	GSA-13	950427	0830	19	4.5	6.4	86	3.5	0.3	3.2	0.072	0.32	0.623	0.092	<0.08	57	14	200	7.52
Weeks Creek	GSA-13	950510	0830	20	7.1	6.0	45	500	47	5.2	0.299	0.68	0.574	0.486	0.36	72	655	23,000	3.5
Weeks Creek	GSA-13	950614	0930	21	1.5	6.2	72	20	1.2	2.4	0.1	<0.07	0.922	0.034	<0.08	69	17	103	9.22
Weeks Creek	GSA-13	950726	0830	23	0.6	6.2	63	40	0.5	3.1	0.162	0.27	2.32	<0.010	<0.08	56	65	4,600	15.1
Weeks Creek	GSA-13	950816	0810	26	1.0	6.4	67	30	0.31	0.5	0.136	0.38	0.473	0.128	0.14	47	14	550	6.84
Weeks Creek	GSA-13	950913	0820	21	0.6	5.7	78	22	0.4	1.2	0.048	0.18	0.829	0.016	<0.08	15	11	1,040	11.1
Weeks Creek	GSA-13	951018	0820	19	2.8	5.2	70	22	1.5	<0.1	0.026	0.18	0.631	0.052	<0.08	35	<4	287	9.05
Weeks Creek	GSA-13	951108	1200	17.5	4.2	5.9	51	30	1.49	0.6	0.116	0.48	0.728	0.3	<0.08	36	7	1,420	6.84
Weeks Creek	GSA-13	951213	0800	11	4.3	6.7	57	18	2	0.6	0.041	0.13	0.678	0.044	<0.08	43	4	87	8.57
Weeks Creek	GSA-13	960117	1240	15	4.1	5.4	60	18	1	0.2	0.033	0.08	0.745	0.053	<0.08	43	12	117	9.05
Weeks Creek	GSA-13	960214	0950	13	5.3	6.5	61	15	0.5	0.8	<0.010	0.25	0.519	<0.010	<0.08	37	35	208	8.19
Weeks Creek	GSA-13	960313	1030	14	5.5	6.3	47	9	0.56	1	0.071	0.24	0.432	0.086	<0.08	84	10	33	8.96
Weeks Creek	GSA-13	960417	1010	15	4.5	6.7	47	50	5	1.5	0.216	0.65	0.6	0.16	<0.08	62	309	820	4.84
Weeks Creek	GSA-13	960515	0830	18	0.6	6.7	59	20	0.4	1.7	0.04	0.4	0.63	0.052	<0.08	64	8	47	8.01
Weeks Creek	GSA-13	960612	0930	20	1.2	6.2	66	14	0.4	2.3	0.054	0.59	1.15	0.019	<0.08	53	6	133	8.94
Weeks Creek	GSA-13	960717	1020	21	0.9	6.3	63	50	0.6	1.4	0.128	0.39	0.225	0.125	<0.08	56	41	19,000	4.73

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (°C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Magnolia River Sub-watershed (060)																			
Weeks Creek	GSA-13	960814	0950	20	0.6	6.6	64	20	0.4	3.2	0.172	0.59	0.862	0.016	<0.08	70	19	560	7.92
Weeks Creek	GSA-13	960911	0920	20	0.9	6.8	63	18	1.2	2.2	0.071	0.29	1.22	0.058	<0.08	81	5	600	8.76
Weeks Creek	GSA-13	961017	0930	17	0.9	6.7	56	10	0.3	1	0.024	0.29	0.665	0.029	<0.08	68	14	360	8.93
Weeks Creek	GSA-13	961114	0940	12	1.8	6.9	47	25	0.4	1	0.033	0.25	0.587	0.085	<0.08	61	10	63	10.8
Weeks Creek	GSA-13	961211	0920	13	1.2	5.9	59	25	0.4	1.1	0.03	0.22	0.349	0.122	<0.08	53	13	47	10.6
Weeks Creek	GSA-13	970123	0810	14	2.1	5.4	65	15	0.3	1.6	0.075	0.32	0.464	0.077	0.09	64	4	17	9.66
Weeks Creek	GSA-13	970212	0930	10	3.1	6.2	64	20	0.3	0.4	0.021	0.47	0.33	0.092	<0.08	42	13	150	8.45
Weeks Creek	GSA-13	970312	0920	19	1.4	5.8	67	20	0.3	1.2	0.064	0.37	0.495	0.07	<0.08	61	26	116	8.62
Weeks Creek	GSA-13	970416	0920	16	1.8	6.6	82	20	0.4	0.7	0.073	0.52	0.377	0.124	<0.08	37	12	77	7.72
Weeks Creek	GSA-13	970514	0900	18	1.4	6.2	56	20	0.3	<0.1	0.016	0.88	0.483	0.064	<0.08	30	11	40	8.06
Weeks Creek	GSA-13	970611	0900	20	1.1	6.2	68	30	0.4	5.1	0.218	2.11	0.175	0.081	<0.08	41	27	270	7.61
Weeks Creek	GSA-13	970724	0800	19	1.0	6.2	67	18	4.96	2	<0.010	0.18	0.052	0.051	<0.08	35	<4	940	7.58
Weeks Creek	GSA-13	970813	0900	23	3.1	6.4	57	20	3	2.4	0.077	0.65	0.242	0.096	<0.08	40	16	670	6.03
Weeks Creek	GSA-13	970910	0800	18	1.3	5.7	60	14	0.4	2	0.051	0.31	1.31	0.031	<0.08	71	4	110	9.86
Weeks Creek	GSA-13	971015	1420	15	1.8	5.9	62	23	0.45	1.3	0.038	0.79	0.557	0.049	<0.08	50	13	190	11.9
Weeks Creek	GSA-13	971119	0920	8	4.2	6.6	57	18	0.27	0.4	0.015	0.59	0.603	0.099	<0.08	59	<4	220	8.74
Weeks Creek	GSA-13	971209	1440	15	1.9	5.6	47	19	0.27	1	0.029	0.53	0.44	0.07	<0.08	54	<4	240	7.69
Weeks Creek	GSA-13	980122	0920	15	4.5	6.3	50	35	1	0.4	0.074	0.59	0.4	0.063	<0.08	61	7	150	6.62
Weeks Creek	GSA-13	980210	1340	15	6.2	6.3	37	30	0.97	0.6	0.042	0.1	0.515	0.036	<0.08	51	15	57	6.67
Weeks Creek	GSA-13	980309	1410	16	7.4	6.3	54	90	17	1.6	0.149	0.89	0.266	0.19	0.11	51	27	320	6
Weeks Creek	GSA-13	980423	0845	18	2.0	5.4	71	33	0.79	1.2	0.083	0.69	0.444	0.145	<0.08	68	10	40	10.5
Weeks Creek	GSA-13	980512	1620	24	1.5	6.0	57	9	0.22	1.3	0.094	0.69	0.379	0.057	<0.08	56	11	23	7.69
Weeks Creek	GSA-13	980608	1555	22	0.5	5.7	54	15	3	1.1	0.032	0.4	0.236	0.027	<0.08	46	7	27	8.46
Weeks Creek	GSA-13	980722	0945	22	7.5	6.0	74	90	12	2	0.022	0.37	0.506	0.096	<0.08	51	10	170	11.3
Weeks Creek	GSA-13	980804	1405	23	1.9	6.1	62	20	1	0.6	0.042	0.44	0.531	<0.010	<0.08	59	59	910	8.93
Weeks Creek	GSA-13	980916	0840	23	0.1	6.7	63	35	1	0.3	0.066	0.92	0.329	0.137	<0.08	68	16	350	6.75
Schoolhouse Branch	GSA-14	950125	1000	7	7.0	7.4	50	75	0.34	0.9	0.048	0.48	0.139	0.102	<0.08	70	11	510	6.44
Schoolhouse Branch	GSA-14	950215	1110	16	7.0	7.1	68	18	0.04	0.5	0.038	0.14	0.417	0.011	<0.08	68	8	230	7.46
Schoolhouse Branch	GSA-14	950308	0830	13.5	7.6	6.7	49	250	33.6	3.9	0.077	1.5	0.882	0.162	0.12	99	107	11,600	3.21
Schoolhouse Branch	GSA-14	950427	0910	18	3.8	6.3	72	36	0.18	1	0.018	0.29	0.107	0.037	<0.08	61	6	90	6.57
Schoolhouse Branch	GSA-14	950509	1210	24	4.2	6.3	71	35	0.19	3.6	<0.01	0.44	0.114	0.018	<0.08	96	6	140	9.43
Schoolhouse Branch	GSA-14	950614	0810	21	3.5	6.7	64	18	0.69	1.8	<0.010	<0.07	0.303	0.024	<0.08	63	7	270	7.72
Schoolhouse Branch	GSA-14	950725	1230	28	3.1	6.5	63	15	0.28	<0.1	0.029	0.32	0.115	<0.010	<0.08	72	12	940	7.17
Schoolhouse Branch	GSA-14	950816	0840	26	1.7	6.3	67	22	0.41	0.6	0.041	0.62	0.285	0.071	<0.08	47	9	1,800	5.54
Schoolhouse Branch	GSA-14	950913	0900	25	1.1	6.5	74	28	0.2	1.7	0.035	0.19	0.042	<0.010	<0.08	22	8	196	19
Schoolhouse Branch	GSA-14	951018	0900	16	4.5	6.0	66	20	0.95	<0.1	0.037	0.19	0.397	0.027	<0.08	34	<4	420	8.05
Schoolhouse Branch	GSA-14	951108	1000	17	6.0	6.0	63	25	2.48	0.6	0.05	0.43	0.41	0.193	<0.08	41	<4	990	6.52
Schoolhouse Branch	GSA-14	951213	0840	11	6.9	6.5	50	8	2.41	0.7	0.039	0.14	0.68	0.025	<0.08	41	<4	580	7.53
Schoolhouse Branch	GSA-14	960117	1210	15	6.7	6.3	52	18	1.06	0.6	0.028	0.11	0.516	<0.010	<0.08	48	<4	280	7.19
Schoolhouse Branch	GSA-14	960214	0850	11	6.2	6.6	56	18	1.08	0.7	0.02	0.35	0.48	0.086	<0.08	38	5	460	7.17

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (°C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Magnolia River Sub-watershed (060)																			
Schoolhouse Branch	GSA-14	960313	0800	10	6.1	6.4	49	17	1.15	0.7	0.049	0.29	0.392	0.027	<0.08	90	9	87	7.42
Schoolhouse Branch	GSA-14	960417	0910	14	7.4	6.7	46	40	2.82	0.9	0.077	0.33	0.839	0.045	<0.08	62	10	400	4.75
Schoolhouse Branch	GSA-14	960515	0850	20	2.6	6.8	60	25	0.67	1.6	0.031	0.39	0.492	0.062	<0.08	70	6	73	7.12
Schoolhouse Branch	GSA-14	960612	0830	21	2.7	6.7	50	18	0.38	2.3	0.106	0.29	0.361	0.046	<0.08	52	10	180	7.56
Schoolhouse Branch	GSA-14	960717	0850	24	2.5	6.2	63	28	1.03	1.1	0.128	0.58	0.206	0.019	<0.08	72	11	23,000	7.66
Schoolhouse Branch	GSA-14	960814	0830	23	1.3	6.7	66	18	0.21	1.8	0.06	0.25	0.124	0.124	<0.08	71	6	520	6.92
Schoolhouse Branch	GSA-14	960911	0800	23	1.0	6.6	71	20	0.71	0.5	0.069	0.43	0.041	0.01	<0.08	96	11	990	7.2
Schoolhouse Branch	GSA-14	961017	0820	17	2.4	6.7	50	10	0.22	1.3	<0.010	0.45	0.346	0.016	<0.08	63	7	350	4.84
Schoolhouse Branch	GSA-14	961114	0830	11	4.5	6.9	49	15	0.41	0.6	0.018	0.22	0.308	0.018	<0.08	70	8	93	11.4
Schoolhouse Branch	GSA-14	961211	0820	11	3.7	6.3	40	35	0.75	2.5	<0.010	0.27	0.262	0.087	<0.08	65	76	167	15.5
Schoolhouse Branch	GSA-14	970123	0830	13	4.1	5.7	53	18	0.29	0.4	0.046	0.28	0.484	0.021	<0.08	64	<4	40	7.47
Schoolhouse Branch	GSA-14	970212	0830	8.5	6.8	6.6	61	10	0.38	0.6	0.02	0.49	0.556	0.142	<0.08	39	6	103	8.67
Schoolhouse Branch	GSA-14	970311	1130	21	5.3	6.1	55	18	0.47	0.9	0.033	0.3	0.353	0.025	<0.08	31	5	210	7.78
Schoolhouse Branch	GSA-14	970415	1140	15	6.6	6.6	63	18	0.86	0.6	0.024	0.33	0.737	0.012	<0.08	32	<4	50	7.61
Schoolhouse Branch	GSA-14	970513	1110	19	4.5	6.6	50	18	0.24	0.7	0.027	0.37	0.161	0.025	<0.08	35	<4	42	7.2
Schoolhouse Branch	GSA-14	970610	1200	20	2.6	6.1	60	24	0.57	1.1	0.037	0.67	0.112	0.028	<0.08	62	5	240	6.78
Schoolhouse Branch	GSA-14	970724	0830	23	4.7	6.6	64	18	4.78	1.4	0.035	0.5	0.191	0.061	<0.08	49	4	1,150	6.98
Schoolhouse Branch	GSA-14	970812	1130	22	4.7	6.4	49	18	2.43	1.5	0.041	0.42	0.459	0.04	<0.08	35	<4	350	7.38
Schoolhouse Branch	GSA-14	970909	1130	18	7.4	5.9	41	20	1.55	0.5	<0.010	0.27	0.759	0.018	<0.08	67	4	300	7.21
Schoolhouse Branch	GSA-14	971016	1100	14	7.8	6.4	42	12	0.82	0.4	<0.010	<0.07	0.855	0.015	<0.08	46	6	200	7.93
Schoolhouse Branch	GSA-14	971118	1220	7	9.7	6.1	37	4	1.08	0.6	0.014	0.55	1.04	0.011	<0.08	69	<4	110	7.94
Schoolhouse Branch	GSA-14	971210	1200	17	5.7	6.0	39	30	2.81	1.4	0.021	0.35	0.278	0.043	<0.08	58	9	2,200	7.54
Schoolhouse Branch	GSA-14	980121	1120	13	8.8	6.4	41	24	1.3	0.3	0.036	0.14	0.796	0.044	<0.08	54	<4	110	7.07
Schoolhouse Branch	GSA-14	980211	1110	16	8.3	6.5	39	45	3.5	0.8	0.039	0.39	0.436	<0.010	<0.08	46	10	720	6.61
Schoolhouse Branch	GSA-14	980310	1140	12	9.7	6.3	54	95	4.2	0.9	0.115	0.65	0.743	0.121	<0.08	54	22	620	6.49
Schoolhouse Branch	GSA-14	980422	1320	19	6.2	6.0	51	25	1.3	0.5	0.015	0.41	0.83	0.013	<0.08	41	<4	53	7
Schoolhouse Branch	GSA-14	980512	1210	23	5.6	6.4	45	5	0.91	0.6	0.02	0.3	0.835	<0.010	<0.08	45	<4	110	6.87
Schoolhouse Branch	GSA-14	980609	1420	26	4.4	6.2	50	18	0.79	1.2	0.031	0.27	0.691	0.01	<0.08	54	<4	100	7.56
Schoolhouse Branch	GSA-14	980722	1230	26	4.6	6.7	63	90	0.2	1.1	0.022	0.27	0.758	0.123	<0.08	57	13	310	7.34
Schoolhouse Branch	GSA-14	980803	1535	26	4.6	6.5	46	20	0.4	0.8	0.044	0.4	0.771	<0.010	<0.08	63	38	540	7.08
Schoolhouse Branch	GSA-14	980915	1200	25	5.1	6.6	51	20	0.2	0.6	0.026	0.37	0.766	0.013	<0.08	66	4	1,700	6.7
Brantley Branch	GSA-15	950125	1015	8	6.7	7.1	72	27	2	1.4	0.261	0.97	1.47	0.054	<0.08	70	<4	8,100	10.4
Brantley Branch	GSA-15	950215	0915	15	6.4	7.0	72	12	2.31	0.2	0.042	0.17	1.68	0.014	<0.08	67	<4	236	11.9
Brantley Branch	GSA-15	950307	1050	19	6.9	6.2	75	3	2.66	1.7	0.042	0.17	1.13	0.016	<0.08	35	<4	400	12.5
Brantley Branch	GSA-15	950426	1600	19	5.7	6.1	75	12	3.08	0.7	0.045	0.33	1.31	0.033	<0.08	63	6	256	11.3
Brantley Branch	GSA-15	950509	1100	24	4.1	6.4	78	19	2.87	2.5	0.038	0.26	1.18	0.016	<0.08	101	<4	205	12.9
Brantley Branch	GSA-15	950613	1100	22	4.9	6.3	85	4	2.7	5.8	0.038	0.12	1.85	0.021	<0.08	44	7	350	12.9
Brantley Branch	GSA-15	950725	1110	27	1.7	6.3	88	7	1.77	<0.1	0.074	0.25	0.806	<0.010	<0.08	82	9	226	12.6
Brantley Branch	GSA-15	950815	1050	26	3.4	6.4	73	20	2.79	1	0.323	0.39	0.821	0.088	<0.08	42	7	2,100	10.8
Brantley Branch	GSA-15	950912	1120	25	3.8	6.3	78	4	2.86	<0.1	0.091	0.17	1.11	0.018	<0.08	68	4	1,320	13.4

Appendix F-5b. Physical/chemical data collected from February of 1994 through September of 1998 as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (°C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Magnolia River Sub-watershed (060)																			
Brantley Branch	GSA-15	951017	1120	21	5.3	6.3	89	17	2.93	<0.1	0.038	0.14	2.02	0.014	<0.08	64	<4	240	13.2
Brantley Branch	GSA-15	951108	0920	17	5.8	6.1	86	22	4.81	0.5	0.055	0.32	2.09	0.039	<0.08	53	4	2,300	10.8
Brantley Branch	GSA-15	951212	1130	9	8.1	6.3	75	5	2.99	0.5	0.028	0.13	2.8	0.018	<0.08	71	<4	53	12.8
Brantley Branch	GSA-15	960117	1100	14	6.7	6.4	79	5	1.09	0.3	0.02	0.08	2.54	0.015	<0.08	65	<4	143	12.6
Brantley Branch	GSA-15	960213	1110	12	7.7	6.8	76	3	3.68	0.5	0.011	0.23	2.52	<0.010	<0.08	70	<4	110	13.2
Brantley Branch	GSA-15	960312	1120	11	8.7	6.5	66	9	2.08	0.8	0.021	0.23	2.52	0.045	<0.08	128	6	123	12.8
Brantley Branch	GSA-15	960416	1120	16	7.5	6.5	42	55	14.6	2.2	0.093	0.54	0.905	0.128	0.09	60	31	20,000	4.45
Brantley Branch	GSA-15	960514	1050	20	5.3	6.4	77	4	1.65	0.7	0.045	0.3	2.15	0.023	<0.08	56	5	63	13.1
Brantley Branch	GSA-15	960611	1110	22	5.3	6.3	76	5	2.34	0.8	0.042	0.51	1.83	0.01	<0.08	68	<4	53	13.3
Brantley Branch	GSA-15	960716	1050	23	4.5	6.5	87	12	3.33	0.9	0.075	0.29	1.72	<0.010	<0.08	88	7	420	12.7
Brantley Branch	GSA-15	960813	1130	23	4.5	6.5	80	4	2.37	1.2	0.039	0.21	1.57	<0.010	<0.08	107	8	450	13
Brantley Branch	GSA-15	960910	1100	23	4.4	6.7	75	8	2.28	0.7	0.04	0.3	1.33	0.04	<0.08	50	<4	290	13.3
Brantley Branch	GSA-15	961016	1100	18	5.2	6.7	72	1	2.52	0.4	0.014	0.15	2.02	0.013	<0.08	108	9	120	13.4
Brantley Branch	GSA-15	961113	1100	11	6.9	6.8	58	5	2.1	0.4	0.023	0.17	2.11	0.012	<0.08	72	<4	110	13.9
Brantley Branch	GSA-15	961210	1110	11	6.3	6.4	46	25	2.68	0.9	0.032	0.39	1.51	0.048	<0.08	55	9	530	10.6
Brantley Branch	GSA-15	970122	1110	12	7.4	6.2	77	2	2.42	0.6	0.067	0.39	2.41	<0.010	<0.08	63	<4	107	12.7
Brantley Branch	GSA-15	970211	1050	10	8.0	6.4	73	5	3.16	0.5	0.011	0.27	2.42	0.016	<0.08	67	<4	137	13.2
Brantley Branch	GSA-15	970311	1030	20	5.4	6.2	77	12	3.39	0.6	0.042	0.18	1.81	0.064	<0.08	39	<4	130	12.9
Brantley Branch	GSA-15	970415	1040	14	6.3	6.6	73	15	3.14	0.7	0.044	0.29	1.53	0.045	<0.08	24	<4	200	11.1
Brantley Branch	GSA-15	970513	1010	18	5.6	6.5	65	11	2.57	0.8	0.025	0.48	1.68	0.015	<0.08	52	<4	146	13.7
Brantley Branch	GSA-15	970610	1040	20	4.5	6.1	79	20	5.58	1.6	0.039	1.03	1.11	0.036	<0.08	81	8	1,050	11.6
Brantley Branch	GSA-15	970723	1120	24	4.1	6.6	73	25	9.95	1.8	0.062	0.89	0.823	0.084	<0.08	71	13	730	7.89
Brantley Branch	GSA-15	970812	1020	22	3.7	6.4	69	25	3.2	1.3	0.093	0.49	1.07	0.092	<0.08	62	4	330	9.86
Brantley Branch	GSA-15	970909	1020	20	5.3	5.6	74	5	2.72	0.6	0.017	0.26	1.98	0.026	<0.08	96	<4	210	13.7
Brantley Branch	GSA-15	971016	0950	14	6.6	6.2	75	10	2.88	0.7	<0.010	0.18	2.36	0.013	<0.08	71	4	150	14.5
Brantley Branch	GSA-15	971118	1110	17	5.3	5.9	60	10	2.59	1.2	0.017	0.28	1.93	0.023	<0.08	57	<4	150	11.3
Brantley Branch	GSA-15	971210	1105	6	9.4	6.1	65	1	10.3	0.4	0.018	0.48	2.74	0.012	<0.08	89	<4	1,400	13.7
Brantley Branch	GSA-15	980121	1020	13	7.5	6.3	68	18	2.3	0.2	0.037	0.21	2.94	0.088	<0.08	80	<4	140	12.2
Brantley Branch	GSA-15	980211	1000	16	7.6	6.4	67	23	8.3	0.6	0.055	0.67	3.1	<0.010	<0.08	77	9	420	12.5
Brantley Branch	GSA-15	980310	1030	12	8.8	6.4	66	45	5.6	1.3	0.09	0.95	1.63	0.078	<0.08	56	12	2,000	8.02
Brantley Branch	GSA-15	980422	1150	18	2.0	5.7	103	27	3.5	1.7	0.171	0.57	1.58	0.068	<0.08	79	<4	170	13.6
Brantley Branch	GSA-15	980512	1040	22	2.5	6.4	90	5	2.6	1.3	0.076	0.58	1.39	0.01	<0.08	77	6	50	13.5
Brantley Branch	GSA-15	980609	1220	26	2.0	6.1	78	15	2.5	2	0.093	1.02	0.975	0.022	<0.08	77	37		15.2
Brantley Branch	GSA-15	980721	1115	26	2.0	6.2	93	15	12	1.4	0.05	0.47	1.19	0.032	<0.08	80	<4	540	13.9
Brantley Branch	GSA-15	980804	1145	25	1.0	6.4	88	25	1	0.4	0.072	0.36	0.722	0.017	<0.08	90	<4	420	13.4
Brantley Branch	GSA-15	980915	1040	25	0.0	6.5	82	10	2	0.8	0.04	0.57	0.739	<0.010	<0.08	94	<4	190	13
Magnolia River	GSA-16	950125	1100	12	8.4	7.1	62	15	5.05	0.4	0.049	0.27	2.74	<0.01	<0.08	56	5	160	10.8
Magnolia River	GSA-16	950215	0950	18	7.8	7.0	71	5	6.08	0.2	0.039	0.07	2.84	<0.01	<0.08	65	4	27	11.3
Magnolia River	GSA-16	950307	1120	20	8.5	5.8	70	2	5.35	0.8	0.027	0.12	2.74	<0.01	<0.08	41	<4	590	11.4
Magnolia River	GSA-16	950426	1230	18	7.8	5.7	66	10	7.4	0.3	0.02	0.24	2.97	0.01	<0.08	59	6	250	11.1

Appendix F-5b. Physical/chemical data collected as part of Weeks Bay Watershed long-term monitoring project conducted by the Geological Survey of Alabama.

Waterbody	Station	Date yymmdd	Time 24 hr	Temp (°C)	DO mg/L	pH su	Conductivity umhos/cm	Turbidity ntu	Flow cfs	BOD5 mg/L	NH_3- N mg/L	TKN mg/L	NO_3/NO_2-N mg/L	DRP mg/L	Total P mg/L	TDS mg/L	TSS mg/L	Fecal coliform #colonies/100mL	Cl mg/L
Magnolia River Sub-watershed (060)																			
Magnolia River	GSA-16	950509	1130	22	6.6	5.9	72	9	5.8	0.6	<0.010	0.13	3.04	<0.01	<0.08	101	<4	170	11.7
Magnolia River	GSA-16	950613	1130	20	7.0	6.0	60	4	6.34	2.9	0.025	0.08	3.06	<0.01	<0.08	27	6	133	11.5
Magnolia River	GSA-16	950725	1150	30	6.6	5.0	67	4	4.62	<0.1	0.039	0.12	3.05	<0.01	<0.08	63	10	620	11.4
Magnolia River	GSA-16	950815	1115	24	6.4	6.4	63	8	8.69	0.4	0.046	0.24	2.64	0.039	<0.08	36	5	845	11.2
Magnolia River	GSA-16	950912	1150	23	6.6	6.0	66	3	4.56	0.3	0.031	0.16	2.94	<0.010	<0.08	27	<4	186	12.4
Magnolia River	GSA-16	951017	1150	22	6.9	6.1	75	10	5.55	<0.1	0.027	0.15	2.92	<0.010	<0.08	55	<4	40	11.6
Magnolia River	GSA-16	951108	0835	17	3.7	5.8	77	11	11.9	0.4	0.023	0.36	2.12	0.035	<0.08	44	<4	400	10.1
Magnolia River	GSA-16	951212	1150	14	8.2	6.2	65	4	6.18	0.2	0.025	0.07	3.28	<0.010	<0.08	61	<4	183	11.5
Magnolia River	GSA-16	960117	1130	16	7.9	6.3	68	2	6.55	0.2	0.019	<0.07	3.1	<0.010	<0.08	43	<4	755	11.3
Magnolia River	GSA-16	960213	1140	13	8.8	6.8	70	1	6.75	0.3	<0.010	0.11	3.13	<0.010	<0.08	61	<4	120	11.5
Magnolia River	GSA-16	960313	0825	14	8.4	6.4	70	1	6.23	0.2	0.021	0.13	2.97	<0.010	<0.08	67	8	206	11.4
Magnolia River	GSA-16	960416	1150	15	8.1	6.4	36	45	25.8	1.5	0.061	1.09	1.01	0.089	<0.08	56	46	4,600	4.78
Magnolia River	GSA-16	960514	1110	19	7.4	6.4	63	4	6.56	0.2	0.024	0.21	3.17	0.124	<0.08	55	5	160	11.7
Magnolia River	GSA-16	960611	1140	20	6.9	6.4	62	4	4.69	0.5	0.041	0.4	3.17	0.01	<0.08	54	28	123	12
Magnolia River	GSA-16	960716	1120	21	6.3	6.5	68	10	5.37	0.4	0.073	0.47	2.09	<0.010	<0.08	65	8	800	10.2
Magnolia River	GSA-16	960813	1150	20	7.3	6.6	72	2	3.65	0.2	0.019	0.2	2.94	<0.010	<0.08	100	6	590	11.7
Magnolia River	GSA-16	960910	1130	20	6.9	6.6	66	4	3.99	0.3	0.022	0.16	2.99	0.037	<0.08	41	<4	320	11.8
Magnolia River	GSA-16	961016	1130	18	7.1	6.6	64	1	4.52	0.2	0.045	0.1	3.23	<0.010	<0.08	94	5	117	12
Magnolia River	GSA-16	961113	1130	14	8.1	6.8	51	1	4.17	0.2	0.018	0.16	3.25	<0.010	<0.08	59	<4	232	12
Magnolia River	GSA-16	961210	1150	14	8.1	6.2	45	9	4.84	0.5	<0.010	0.09	3.06	0.022	<0.08	56	9	133	11.5
Magnolia River	GSA-16	970122	1140	16.5	8.4	5.9	70	1	4.86	0.3	0.03	0.2	3.21	<0.010	<0.08	53	<4	90	11.7
Magnolia River	GSA-16	970211	1120	14	8.8	5.9	69	1	5.35	0.4	0.013	0.18	3.16	0.06	<0.08	53	<4	70	11.5
Magnolia River	GSA-16	970311	1050	20	7.7	6.3	65	9	5.45	0.4	0.017	0.22	2.97	<0.010	<0.08	40	<4	120	11.7
Magnolia River	GSA-16	970415	1110	16	8.0	6.6	67	5	6.43	0.2	0.013	0.14	2.82	<0.010	<0.08	27	<4	330	11.5
Magnolia River	GSA-16	970513	1040	18	7.6	6.5	69	8	5.04	0.5	<0.010	0.11	3	<0.010	<0.08	50	<4	74	12.1
Magnolia River	GSA-16	970610	1120	20	6.7	6.0	68	8	5.61	0.6	0.011	0.42	2.41	0.017	<0.08	88	4	230	11.2
Magnolia River	GSA-16	970723	1200	22	6.1	6.6	54	18	18.4	1.5	0.023	0.52	1.21	0.059	<0.08	76	12	720	8.35
Magnolia River	GSA-16	970812	1050	20	6.2	6.4	60	10	8.86	1.1	0.036	0.26	2.2	0.03	<0.08	67	<4	820	10.9
Magnolia River	GSA-16	970909	1050	18	7.5	5.6	53	3	4.75	0.1	<0.010	0.18	3.01	0.012	<0.08	93	<4	160	12.3
Magnolia River	GSA-16	971016	1020	14	8.7	6.1	63	6	3.71	0.2	<0.010	0.15	2.92	0.027	<0.08	51	<4	60	12.3
Magnolia River	GSA-16	971118	1140	9	10.2	5.9	58	1	3.81	0.2	<0.010	0.29	3.06	<0.010	<0.08	73	<4	80	12.1
Magnolia River	GSA-16	971210	1125	18	6.7	5.6	56	15	8.25	0.8	<0.010	0.4	1.92	0.019	<0.08	50	<4	1,200	11.3
Magnolia River	GSA-16	980121	1040	15	8.4	6.2	60	11	8.4	0.2	0.03	0.2	2.73	0.028	<0.08	71	<4	150	11.4
Magnolia River	GSA-16	980211	1030	16	8.0	6.3	57	38	14	2.2	0.095	0.62	2.21	0.042	<0.08	69	30	15,000	10.4
Magnolia River	GSA-16	980310	1100	13	9.0	6.2	60	25	13	0.8	0.075	0.56	1.85	0.038	<0.08	40	9	2,200	8.67
Magnolia River	GSA-16	980422	1230	18	7.0	5.7	70	13	5	0.1	0.018	0.27	2.98	0.01	<0.08	66	<4	740	11.8
Magnolia River	GSA-16	980512	1115	21	6.5	6.2	62	2	5	0.4	0.041	0.26	3.05	<0.010	<0.08	61	<4	940	11.8
Magnolia River	GSA-16	980609	1255	23	6.6	6.1	70	1	3.8	0.5	0.032	0.21	2.9	<0.010	<0.08	76	7	53	12.6
Magnolia River	GSA-16	980721	1145	24	6.0	6.4	74	8	6	0.3	<0.010	0.21	2.83	<0.010	<0.08	78	5	480	12
Magnolia River	GSA-16	980804	1225	23	7.2	6.5	64	5	2	0.3	<0.010	0.15	2.95	<0.010	<0.08	67	<4	150	11.9
Magnolia River	GSA-16	980915	1120	23	6.9	6.6	65	8	3.2	0.4	0.01	0.32	2.77	<0.010	<0.08	73	<4	150	12

Appendix F-6. Special Studies

***Lead agencies*:** ADEM, USEPA

***Purpose*:** A total of 13 special studies have been conducted by ADEM, EPA, and USGS in the EMT River Basins since 1990. Data from 5 of these studies are provided in Appendix 6.

Moore Creek Water Quality Demonstration Study: A Water Quality Demonstration Study (WQDS) of Moore Creek was conducted in 1989 and 1990 (ADEM 1990), and again in 1992 (ADEM 1992). The purpose of this study was to evaluate any water quality before and after an upgrade to the Haleyville Wastewater Treatment Facility. Habitat, chemical/physical and toxicological data were collected using standard methods, procedures, and quality control/quality assurance manuals used by ADEM during 1990. Macroinvertebrate bioassessments were conducted using a timed-mulithabitat assessment method as described in ADEM's 1990 SOP (ADEM 1990).

Appendix F-6a. Habitat assessment data

Appendix F-6b. Biological assessment data

Appendix F-6c. Physical/chemical data

References:

ADEM. 1990. Water quality demonstration study of Moore Creek at Haleyville, Alabama. Field Operations Division, Alabama Department of Environmental Management, Montgomery, AL.

ADEM. 1992. Water quality demonstration study of Moore Creek at Haleyville, Alabama. Alabama Department of Environmental Management, Internal Memo from Field Operations Division to Water Division, July 6, 1992.

Joint Bioassessment of Majors Creek: The EPA Region IV sponsored a pilot study to address issues related to bioassessment method comparability. In-situ water quality parameters were collected by ADEM using standard operating procedures.

Appendix F-6a. Habitat assessment data

Appendix F-6b. Biological assessment data

Appendix F-6c. Physical/chemical data

References:

Houston, L., M.T. Barbour, D. Lenat, and D. Penrose. 2001. A multi-agency comparison of aquatic macroinvertebrate-based stream bioassessment methodologies. Ecological Indicators 1:279-292.

Bodka Creek/Factory Creek Study: During 1986-1991, ADEM conducted quarterly sampling at several locations of Bodka and Factory Creeks to monitor potential nonpoint source impacts from Chemical Waste Management, Inc. Landfill to water quality, stream sediment, and biological communities near Emelle, Alabama. Data collected during 1990 and 1991 are provided in Appendix F-6c. All samples were collected in accordance with ADEM's SOPs and QA/QC manuals.

Appendix F-6c. Physical/chemical data

References:

ADEM. 1990a. Quarterly sampling of Bodka and Factory Creeks in the vicinity of Chemical Waste Management, Inc. at Emelle, Alabama. Field Operations Division, Alabama Department of Environmental Management, Internal Memo to Land Division, March 19, 1990.

ADEM. 1990b. Quarterly sampling of Bodka and Factory Creeks in the vicinity of Chemical Waste Management, Inc. at Emelle, Alabama. Field Operations Division, Alabama Department of Environmental Management, Internal Memo to Land Division, May 2, 1990.

ADEM. 1990c. Quarterly sampling of Bodka and Factory Creeks in the vicinity of Chemical Waste Management, Inc. at Emelle, Alabama. Field Operations Division, Alabama Department of Environmental Management, Internal Memo to Land Division, September 4, 1990.

Mobile River/Chickasaw Creek Chloride Study: ADEM conducted a chlorides study of Mobile River/Chickasaw Creek in August of 1993 at the request of the Industrial Branch of ADEM's Water Division. In situ profiles were measured at several locations. Data in the table was measured at a depth of 1.5 meters.

Appendix F-6c. Physical/chemical data

References:

ADEM. 1993. Mobile River/Chickasaw Creek chlorides study, August 1993. Field Operations Division, Alabama Department of Environmental Management, Internal Memo to Water Division, November 3, 1993.

Water quality of Chickasaw Creek: The USEPA monitored several stream segments to determine if their Agriculture and Industry water use classification could be upgraded to meet the goals of the Clean Water Act. Chickasaw Creek is located within the Mobile Bay area. It is tidally influenced and subject to stratification. The area is highly industrialized and subject to urban runoff from a variety of sources. The monitoring plan included chronic and acute toxicity testing, and collection of chemical/physical data.

Appendix F-6c. Physical/chemical data

References:

EPA. 1990. Plan of study: Water quality assessment of Rocky, Hollinger, and Chickasaw Creeks, Georgiana, Bay Minette, and Mobile, Alabama. U.S. Environmental Protection Agency Region IV. Environmental Services Division. 12pp.

Chlorides Study of Mobile, Alabama, Tombigbee, and Black Warrior Basins: ADEM conducted a study of 9 locations within the EMT Basin Group during 1990 to document existing chloride concentrations. In situ field parameters, total dissolved solids, and sulfates were also collected. Data are not provided in this report. Samples were collected in July and September in accordance with ADEM's SOPs and QA/QC manuals.

References:

ADEM. 1990. Survey of chloride concentrations and related parameters of the Warrior, Tombigbee, Mobile, and Alabama Rivers, 1990. Field Operations Division, Alabama Department of Environmental Management. Montgomery, Alabama.

ADEM. 1991. Survey of chloride concentrations and related parameters of the Warrior, Tombigbee, Mobile, and Alabama Rivers, 1991. Field Operations Division, Alabama Department of Environmental Management. Montgomery, Alabama.

Assessment of Lubbub Creek and Sipsey River--Monitoring the Effects of Coalbed Methane Production, 1990-1992: ADEM conducted monthly sampling, September of 1990 through November of 1993, to monitor water quality impacts from coalbed methane production. In situ parameters and surface water samples were collected at 4 sampling locations Lubbub Creek and Sipsey River. All samples were collected in accordance with ADEM's SOPs and QA/QC manuals.

Appendix F-6c. Physical/chemical data

References:

ADEM. 1990. Ambient monitoring trend data collected by ADEM: 1990 (unpublished). Alabama Department of Environmental Management. Montgomery, Alabama.

ADEM. 1991. Ambient monitoring trend data collected by ADEM: 1991 (unpublished). Alabama Department of Environmental Management. Montgomery, Alabama.

ADEM. 1992. Ambient monitoring trend data collected by ADEM: 1992 (unpublished). Alabama Department of Environmental Management. Montgomery, Alabama.

ADEM. 1993. Ambient monitoring trend data collected by ADEM: 1993 (unpublished). Alabama Department of Environmental Management. Montgomery, Alabama.

1990 Portersville Bay Study: ADEM conducted monthly sampling, June through September of 1990 to characterize water quality of Bayou La Batre and Portersville Bay and to identify the level and extent of wastewater discharge influence. Vertical profiles and surface water samples were collected at 18 sampling locations. Data are not provided in this report. All samples were collected in accordance with ADEM's SOPs and QA/QC manuals.

References:

ADEM. 1991. Portersville Bay Water Quality Study, June-September, 1990. Field Operations Division, Alabama Department of Environmental Management. Montgomery, Alabama.

Survey of the Dog River Watershed: The Dog River Watershed was surveyed extensively in 1994 and 1995 to investigate the stresses of urban growth on streams in the basin. Landuse, sediment metals, and benthic macroinvertebrate community structure were monitored at several locations using ADEM's standard methods, procedures, and quality control/quality assurance manuals. Data are not provided in this report.

References:

ADEM. 1995. A survey of the Dog River Watershed, 2nd year's findings: a review of ongoing development in the watershed and an assessment of the effects of urban non-point sources on the aquatic resources of the basin. Field Operations Division, Alabama Department of Environmental Management, Mobile, AL.

Survey of the Bon Secour River Watershed: The Bon Secour River Watershed was surveyed extensively in 1996 to investigate the stresses of urban growth on streams in the basin. Landuse, sediment metals, and benthic macroinvertebrate community structure were monitored at several locations using ADEM's standard methods, procedures, and quality control/quality assurance manuals. Data are not provided in this report.

References:

ADEM. 1996. A survey of the Bon Secour River Watershed: an overview of land-use practices and examination of the effects of development on the aquatic resources of the basin. Field Operations Division, Alabama Department of Environmental Management, Mobile, AL.

Assessment of Water-Quality Conditions in the J.B. Converse Lake Watershed, Mobile County, Alabama, 1990-98: The USGS monitored 9 stations within the J.B. Converse Lake Watershed during 1990-1998 to determine if the water quality of the lake and its tributaries meet Water Use Classification Criteria, document trends in water quality, and assess the sources of impairment to water quality. The effect of landuse practices on water quality was assessed. The monitoring program focused on the temporal and spatial distribution of concentrations of nutrients, fecal bacteria, and organic carbon in the lake and its tributaries. A copy of the final report is available at: www.al.water.usgs.gov.

References:

Journey, C.A. and A.C. Gill. 2001. Assessment of water quality conditions in the J.B. Converse Lake watershed, Mobile County, Alabama, 1990-98. U.S. Geological Survey, Water Resources Investigations Report 01-4225. Montgomery, Alabama. 138pp.

Escatawpa River Total Maximum Daily Load (TMDL) Development: The Escatawpa River from I-10 to the mouth of the Pascagoula River is on Mississippi's 1996 CWA §303(d) list of impaired waters. It is listed for impairments caused by organic enrichment/low dissolved oxygen, pH, pathogens, nonpriority organics, chlorine, and total toxics (EPA 2001). Agricultural activities were assumed to be source of the impairments. In 2001, the EPA began phased TMDL development to determine if these pollutants are present at levels sufficient to cause impairment and to identify the source(s) of these pollutants. Existing data were used to develop models for dissolved oxygen, fecal coliform, pH, estuary toxicity testing, and whole effluent toxicity testing of wastewater effluents. The study plan and final report are available at: www.epa.gov

References:

EPA. 2001. Escatawpa River Total Maximum Daily Load (TMDL) Development. Environmental Protection Agency Region IV. Environmental Services Division, Athens, Georgia. 41pp.

Mobile Bay intensive water quality surveys, July 2000/May 2001: The USEPA conducted 2 intensive surveys within Mobile Bay to provide instream data needed for TMDL development of dissolved oxygen criteria for Mobile River/Bay, Chickasaw Creek, and Three Mile Creek. The surveys were conducted in July, 2000 and May, 2001 to provide data for model calibration and verification under different seasonal conditions. The study included profiling of dissolved oxygen, salinity, and temperature, water quality sampling 120-day ultimate biological oxygen demand, 5-day biological oxygen demand, nutrients (dissolved phosphorus, total phosphorus, total Kjeldahl nitrogen, ammonia nitrogen, nitrate/nitrite, and total organic carbon), and total suspended solids. Dissolved oxygen, salinity, pH, temperature, and turbidity were continuously measured at 5'. To evaluate productivity, light/dark bottle experiments were conducted at 6 locations. Chlorophyll a and AGPT samples were also collected. A copy of the study plan and final report are available at: www.epa.gov

References:

EPA. 2001. Mobile Bay water quality model intensive surveys report. Environmental Protection Agency Region IV. Environmental Services Division, Athens, Georgia. 47pp.

Appendix F-6a. Physical characteristic and habitat quality estimates for sites assessed within the EMT Basin Group during special studies. Values are presented as percent maximum score for each of three major habitat parameter categories.

Station Number		MR-1	MR-2	MR-3	MR-4	MAJB-1
CU		0316-0103	0316-0103	0316-0103	0316-0103	0316-0204
Sub-watershed		010	010	010	010	010
Subecoregion		65i	65i	65i	65i	65f
Drainage area (mi^2)		<1	<1	1	2	44
Date (yymmdd)		900711	900712	900711	900712	971104
Width (ft)			4	9	23	20
Canopy Cover[a]		S	S	S	MO	MO
Depth (ft)[b]	Riffle	0.2	0.4	0.4	0.4	np
	Run	0.2	0.8	0.8	0.6	1.5
	Pool	NA	NA	1.8	1.8	>3
Substrate (%)	Bedrock	85	30		1	
	Boulder		10	3		
	Cobble		15	10	15	
	Gravel	1	15	40	49	2
	Sand	3	19	20	24	92
	Silt	1	1	5	1	2
	Detritus	10	8	8	7	4
	Clay					
	Org. Silt		2	2	3	
Habitat Assessment Form[c]		O	O	O	O	GP
Habitat Survey (% maximum)						
Instream Habitat Quality		28	53	75	85	59
Sediment Deposition		46	63	60	74	68
Sinuosity		100	93	40	100	63
Bank and Vegetative Stability		75	75	85	85	68
Riparian Measurements		90	90	70	80	75
Habitat Assessment Score		76	89	87	110	144
% Maximum		63	74	73	92	66
Assessment		Excellent	Excellent	Excellent	Excellent	Excellent

a. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open

b. np=none present

c. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)

Appendix F-6b. Aquatic macroinvertebrate and fish community bioassessment results for sites assessed during two special studies conducted in the EMT basin group.

Station	MR-1	MR-1	MR-2	MR-2	MR-3	MR-3	MR-4	MR-4	MR-4	MR-B	MAJB-1
CU	0103	0103	0103	0103	0103	0103	0103	0103	0103	0103	204
Sub-watershed	010	010	010	010	010	010	010	010	010	010	010
Subecoregion #	65i	65i	65i	65i	65i	65i	65i	65i	65i	65i	65f
Macroinvertebrate community											
Assessment Date	890821	900711	890821	900712	890821	900711	898021	900712	920616	920616	961104
# EPT families	6	2	0	1	1	1	7	6	1	1	13
Assessment	Fair	Poor	Poor	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Excellent
Fish community											
Assessment Date											
Time (min)											
# species											
# darter species											
# minnow species											
# sunfish species											
# sucker species											
# intolerant species											
% sunfish											
% omnivores and herbivores											
% insectivorous cyprinids											
% top carnivores											
# collected per hour											
% disease and anomalies											
IBI Score											
Assessment											

Appendix F-6c. Physical/chemical data collected from stations in the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and the Escatawpa -Mississippi Coastal (0317-00) River Basins during special studies conducted since 1990.

Water-shed	Stream Name	Station	Date	Time	Water Temp.	pH	Cond.	D.O.	BOD-5	Turb.	Stream flow	Fecal Coliform	TSS	TDS	NO3-N	NH3-N	TKN	TON	TOC	TP	Hardness	Alkalinity	Fe	Mn	Cl-
#		#	*yymmdd*	*24hr*	*°C*	*s.u.*	*μmhos @25°C*	*mg/L*	*mg/L*	*NTU*	*cfs*	*col/ 100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	mg/L	*ppm*	*mg/L*	mg/l	mg/L	mg/l	mg/l	*mg/L*
Buttahatchee R. (0316-0103)																									
010	Moore Cr.	MR-1	900515	1345	19	6.8	45	8.9	1.1		<0.1	nm	1	nm	0.460	<0.20	<0.40	0.00		<0.02					nm
010	Moore Cr.	MR-1	900516	0720	17	6.9	35	9.0	0.4			19	<1		0.460	<0.20	8.10	4.90		<0.02					nm
010	Moore Cr.	MR-1	900711	1722	23	7.1	55	8.3	0.5		<0.1	nm	2		0.580	<0.2	<0.40	0.00		<0.02					4.0
010	Moore Cr.	MR-1	900712	1020	22	6.9	45	8.6	0.4			41	2		0.600	<0.2	<0.40	0.00		<0.02					4.0
010	Moore Cr.	MR-1	900912	1240	24	7.6	50	7.8	1.2		<0.1		<1		0.810	<0.2	<0.40	0.00		<0.02					5.5
010	Moore Cr.	MR-2	900515	1325	25	7.6	2650	6.8	5.5		1.1		9		0.500	0.300	3.00	2.70		2.9					
010	Moore Cr.	MR-2	900516	0707	23	7.7	2400	6.7	5.5				15		0.080	0.300	2.20	1.90		4					
010	Moore Cr.	MR-2	900711	1710	25	7.9	1750	7.6	2.2		0.9		4		0.820	9.900	10.90	1.00		0.93					365.0
010	Moore Cr.	MR-2	900712	0846	26	7.8	1750	7.4	2.0				2		0.530	11.000	12.70	1.70		1.2					375.0
010	Moore Cr.	MR-2	900912	1225	28	7.7	2100	6.9	1.6		1.0		5		15.200	<0.2	1.10	1.10		3.8					410.0
010	Moore Cr.	MR-3	900515	1310	23	7.5	2100	6.7	2.4				7		0.720	0.200	2.40	2.20		2.2					
010	Moore Cr.	MR-3	900516	0649	21	7.5	1700	6.7	4.0			117	11		0.400	0.300	1.40	1.10		2.7					
010	Moore Cr.	MR-3	900711	1529	25	7.7	1400	6.3	6.4		NM		5		2.470	6.600	7.60	1.00		0.83					288.0
010	Moore Cr.	MR-3	900712	0730	23	7.7	1350	6.6	7.0			>600	7		1.190	7.600	8.40	0.80		0.94					288.0
010	Moore Cr.	MR-3	900912	1211	26	7.8	1650	6.9	1.7				6		13.180	<0.2	0.80	0.80		3.2					360.0
010	Moore Cr.	MR-4	900515	1200	19	7.2	690	9.1	1.0		6.4		7		0.780	<0.2	1.00	0.80		0.58					
010	Moore Cr.	MR-4	900516	0611	18	7.2	570	8.4	1.0			58	10		0.680	<0.2	0.60	0.40		0.73					
010	Moore Cr.	MR-4	900711	1212	24	7.4	195	8.2	1.5		4.4		1		2.750	0.800	1.20	0.40		0.27					45.0
010	Moore Cr.	MR-4	900712	0702	21	7.3	435	7.6	3.2			13	<1		1.600	1.700	2.10	0.40		0.25					97.0
010	Moore Cr.	MR-4	900912	1115	23	7.8	650	8.4	1.4		5.0		1		4.460	<0.2	1.10	1.10		0.85					118.0
010	Moore Cr.	MR-4	920616	1130	24	7.5	1121	7.9																	
Middle Tombigbee-Lubbub R. (0316-0106)																									
120	Lubbub Cr.	LBB-1	900220	1315	12	4.1	55	8.1		45															
120	Lubbub Cr.	LBB-1	900925	2500	19	7.1		7.6	0.8					47			3				30	18	1.73	110	4.5
120	Lubbub Cr.	LBB-1	901023	2500	15	7.1		8.3	1.4					69			1				37	7	2.08	110	6
120	Lubbub Cr.	LBB-1	901127	2500	16	6.6	40	9	0.9	12				51			2				43	9	1.52	0.07	5
120	Lubbub Cr.	LBB-1	901211	2500	7	6.8	40	12		12															
120	Lubbub Cr.	LBB-1	910107	2500					2.9				3	46							44	6	1.48	150	5
120	Lubbub Cr.	LBB-1	910123	2500	6	5.5	40	11.5		9.8															
120	Lubbub Cr.	LBB-1	910204	2500																			1.62	170	
120	Lubbub Cr.	LBB-1	910206	2500					1.3				1	24							44	6			5.5
120	Lubbub Cr.	LBB-1	910220	1315					2.5				23	39							54	5	1.91	130	2.5
120	Lubbub Cr.	LBB-1	910320	1325	15	4.6	74	8.7	1.6	18			6	1							44	6	1.93	100	2
120	Lubbub Cr.	LBB-1	910515	1352	21	6.1	32	6.2	0.7	29			21	36							40	9	1.8	0.05	2.5
120	Lubbub Cr.	LBB-1	910618	1453	24	6.6	36	6	1.4	35			28	11							40	10	3.23	290	2.5
120	Lubbub Cr.	LBB-1	910723	1400	27	6.6	43	6.4	0.7	12			2	48							34	15	1.82	120	4.5
120	Lubbub Cr.	LBB-1	910814	1250	25	5.9	60	6.2	0.6	13			5	55							42	14	3.12	130	4.5
120	Lubbub Cr.	LBB-1	910924	1345	20	6.6	44	6.9	1.7	24			17	43							54	14	2.97	220	3.5
120	Lubbub Cr.	LBB-1	911029	1335	22	6.5	37	6.8	1.9	12			5	31							150	10	1.88	150	5.5

Appendix F-6c. Physical/chemical data collected from stations in the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and the Escatawpa -Mississippi Coastal (0317-00) River Basins during special studies conducted since 1990.

Water-shed	Stream Name	Station	Date	Time	Water Temp.	pH	Cond.	D.O.	BOD-5	Turb.	Stream flow	Fecal Coliform	TSS	TDS	NO3-N	NH3-N	TKN	TON	TOC	TP	Hardness	Alkalinity	Fe	Mn	Cl-
#		#	*yymmdd*	*24hr*	^oC	*s.u.*	µ*mhos* @25^oC	*mg/L*	*mg/L*	*NTU*	*cfs*	*col/ 100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	mg/L	*ppm*	*mg/L*	mg/l	mg/L	mg/l	mg/l	*mg/L*
Middle Tombigbee-Lubbub R. (0316-0106)																									
120	Lubbub Cr.	LBB-1	911120	1320	16	6.5	72	7.9	1.9	20			22	14							80	10	1.93	120	1
120	Lubbub Cr.	LBB-1	911210	1309	11	6.6	34	10	1.6	19			8	251							35	8	1.86	150	4
120	Lubbub Cr.	LBB-1	920122	1305	4	6.8	42	12.7	2	14			5	37							44	7	1.39	90	4
120	Lubbub Cr.	LBB-1	920219	1250	15	6.1	31	8.8	1.1	31			14	38							38	5	1.74	147	4
120	Lubbub Cr.	LBB-1	920318	1415	16	6.8	30	9.1	0.7	17			5	36							42	10	1.92	150	5
120	Lubbub Cr.	LBB-1	920414	1420	21	6.8	38	7.6	1.2	15			5	43							90	15	2.29	170	3.5
120	Lubbub Cr.	LBB-1	920609	1345	25	6.5	45	6.7	0.9	22			10	80							43	11	3.11	140	3
120	Lubbub Cr.	LBB-1	920721	1450	25	6.6	35	6.5	0.9	22			8	59							21	8	2.67	170	3.5
120	Lubbub Cr.	LBB-1	920902	1320	23	6.3	42	6.4	1.6	30			23	58							51	10	3.06	600	4.5
120	Lubbub Cr.	LBB-1	920929	1330	21	6.9	49	7.2	0.8	12			2	55							45	16			5.5
120	Lubbub Cr.	LBB-1	921104	1243	15	6.5	37	7.4	3.2	25			35	43							95	9	3.56	390	3
120	Lubbub Cr.	LBB-1	921215	1440	9	6.8	29	10.6	1.4	8.9			4	30							41	10	1.31	90	5.5
120	Lubbub Cr.	LBB-1	930120	1640	9	6.3	29	10.1	1.5	24			15	37							42	8	1.61	100	4
120	Lubbub Cr.	LBB-1	930217	1315	9	6.8	26	10	1.7	34			21	38							43	7	0.161	<20	5
120	Lubbub Cr.	LBB-1	930317	1530	10	6.7	28	11.8	2.5	9.8			9	37							32	8	1.67	83	5
120	Lubbub Cr.	LBB-1	930420	1300	18	6.5	35	8.1	1	20			12	85							34	11	2.69	162	5
120	Lubbub Cr.	LBB-1	930518	1555	22	6.5	42	7.3	1.3	21			8	39							35	14	3.79	210	5
120	Lubbub Cr.	LBB-1	930623	1438	25	6.7	60	6.8	0.5	7.4			5	47							51	16	1.8	180	4
120	Lubbub Cr.	LBB-1	930721	1115	28	6.4	118	5.6	1	4.5			2	46							51	50	2.33	290	4.5
120	Lubbub Cr.	LBB-1	930824	1411	27	6.6	48	6.3	1.4	17			28	62							46	7	1.33	210	4
120	Lubbub Cr.	LBB-1	930908	1525	25	6.8	50	6.8	1.2	13			8	57							45	10	2.86	159	4
120	Lubbub Cr.	LBB-1	931116	1455	17	6.6	47	7.6	2.4	24			17	43							78	7	2.39	269	5
170	Factory Cr.	FC-2[a]	900214	1250																					
170	Factory Cr.	FC-2[a]	900410	1300																					
170	Factory Cr.	FC-2[a]	900727	nm																					
170	Factory Cr.	FC-2[a]	901026	1135																					
170	Factory Cr.	FC-2[a]	910215	1230																					
170	Factory Cr.	FC-2[a]	910613	1415																					
170	Factory Cr.	FC-2[a]	910823	nm																					
170	Factory Cr.	FC-3	910215	1215	9	7.8	600												18.0						
170	Factory Cr.	FC-3[a]	900214	1230																					
170	Factory Cr.	FC-3[a]	900727	nm																					
170	Factory Cr.	FC-3[a]	901026	1140																					
170	Factory Cr.	FC-3[a]	910613	1400																					
170	Factory Cr.	FC-3[a]	910823	nm																					
Sipsey R. (0316-0107)																									
070	Sipsey R.	SPY-2	900925	2500	20	7.3		8.2	1.2					49			10				43	18	0.72	130	3
070	Sipsey R.	SPY-2	901024	2500	14	6.74		7.8	1.7					94			8				60	20	0.77	180	6
070	Sipsey R.	SPY-2	901128	2500	16	7.1	80	8.3	1.4	50				65			32				63	18	1.98	0.21	4.5

Appendix F-6c. Physical/chemical data collected from stations in the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and the Escatawpa -Mississippi Coastal (0317-00) River Basins during special studies conducted since 1990.

Water-shed	Stream Name	Station	Date	Time	Water Temp.	pH	Cond.	D.O.	BOD-5	Turb.	Stream flow	Fecal Coliform	TSS	TDS	NO3-N	NH3-N	TKN	TON	TOC	TP	Hardness	Alkalinity	Fe	Mn	Cl-
#		#	*yymmdd*	*24hr*	*°C*	*s.u.*	μ*mhos @25°C*	*mg/L*	*mg/L*	*NTU*	*cfs*	*col/ 100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	mg/L	*ppm*	*mg/L*	mg/l	mg/L	mg/l	mg/l	*mg/L*
Sipsey R. (0316-0107)																									
070	Sipsey R.	SPY-2	901212	2500	6	7.29	70	10.3		21															
070	Sipsey R.	SPY-2	910107	2500					1.3				10	92							59	15			4.5
070	Sipsey R.	SPY-2	910122	2500																			1.15	310	
070	Sipsey R.	SPY-2	910124	2500	6	6.6	60	10.6		11.5															
070	Sipsey R.	SPY-2	910204	2500																			0.67	110	
070	Sipsey R.	SPY-2	910206	2500					1.2				2	55							53	13			4.5
070	Sipsey R.	SPY-2	910221	747	11	6.3	40	7.9	2.4	35			33	51							72	7	2.02	150	3
070	Sipsey R.	SPY-2	910321	800	15	6.2	111	8.1	1.5	13			5	45							48	15	0.57	100	1
070	Sipsey R.	SPY-2	910516	758	20.5	6.3	44	5.6	0.7	30			11	39							50	11	2.19	0.1	2
070	Sipsey R.	SPY-2	910618	1802	23.5	6.6	67	4.9	1.5	39.5			18	30							39	17	2.07	710	2.5
070	Sipsey R.	SPY-2	910724	845	27	6.8	96	5.6	0.7	15			10	67							57	24	1.27	290	4
070	Sipsey R.	SPY-2	910815	740	24	6.9	153	5.8	1.5	43			24	110							70	25	2.04	360	2
070	Sipsey R.	SPY-2	910925	725	19	6.3	90	6.1	2.9	46			41	76							47	18	2.43	700	2.5
070	Sipsey R.	SPY-2	911029	1628	21.5	6.9	96	7	1.5	4.6			3	42							54	21	0.76	180	2.5
070	Sipsey R.	SPY-2	911121	740	15	6	87	6.5	2.8	37			21	36							41	12	2.1	440	4.5
070	Sipsey R.	SPY-2	911210	1545	12	6.2	67	8.4	2.1	15			6	195							43	7	1.06	200	3.5
070	Sipsey R.	SPY-2	920122	1530	4.5	7	82	12.1	2.2	14			4	64							43	14	0.95	120	3
070	Sipsey R.	SPY-2	920220	740	12	6.2	60	8.5	1	25			10	48							58	9	1.88	113	3.5
070	Sipsey R.	SPY-2	920318	1645	15	6.8	80	8.4	1.3	18			9	69							52	16	0.82	180	2
070	Sipsey R.	SPY-2	920414	1647	20	7	99	7.1	0.9	13			11	83							50	25	1.28	380	3
070	Sipsey R.	SPY-2	920610	815	24	6.8	129	6.3	1.4	17			14	91							63	20	1.48	400	2
070	Sipsey R.	SPY-2	920721	1855	25	6.8	70	6.8	1.4	24			21	64							44	15	2.11	360	2.5
070	Sipsey R.	SPY-2	920903	820	21	6.3	65	5.2	1.9	23			14	59							62	13	1.83	380	3
070	Sipsey R.	SPY-2	920930	738	18	7	115	7.3	0.7	10			7	91							71	29	1.5	460	3.5
070	Sipsey R.	SPY-2	921105	840	13	6.9	78	6.5	2.3	28			19	54							60	20	1.96	430	2.5
070	Sipsey R.	SPY-2	921216	815					0.9				5	40							40	14	0.89	150	3.5
070	Sipsey R.	SPY-2	921216	1520	8	7.2	62	10.5		7.1															
070	Sipsey R.	SPY-2	930121	930	10	6.9	56	9.4	0.9	14			2	39							47	13	0.86	50	4
070	Sipsey R.	SPY-2	930218	745	4	6.8	63	10.6	1.4	16			2	55							42	10	1.22	60	5
070	Sipsey R.	SPY-2	930317	1700	10	7.1	69	11.3	2.2	5.5			2	58							42	15	0.864	119	3.5
070	Sipsey R.	SPY-2	930421	748	16	6.8	85	7.5	0.9	15			15	99							57	23	1.37	340	4
070	Sipsey R.	SPY-2	930518	1715	22	6.7	95	6.4	1.4	22			21	67							52	21	1.94	550	3.5
070	Sipsey R.	SPY-2	930623	1720	25	7.2	110	7	0.6	4.8			7	78							62	26	0.94	290	2.5
070	Sipsey R.	SPY-2	930721	1335	29	7	139	6.4	1.1	5.1			5	81							70	30	0.83	230	11.5
070	Sipsey R.	SPY-2	930824	1630	27	7.1	135	5.6	1.5	26			71	94							56	29	0.956	308	4
070	Sipsey R.	SPY-2	930908	1645	25	6.8	100	6.3	1.1	19			22	75							61	18	0.734	345	2
070	Sipsey R.	SPY-2	931116	1620	17	6.8	89	6.8	2.5	30			20	72							47	15	2.33	349	5
070	Sipsey R.	SPY-3	900925	2500	20	7.4		8.4	1.7					54			8				49	19	0.54	160	3
070	Sipsey R.	SPY-3	901023	2500	15.5	7.24		8.5	0.9					53			6				60	17	0.64	80	5

Appendix F-6c. Physical/chemical data collected from stations in the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and the Escatawpa -Mississippi Coastal (0317-00) River Basins during special studies conducted since 1990.

Water-shed	Stream Name	Station	Date	Time	Water Temp.	pH	Cond.	D.O.	BOD-5	Turb.	Stream flow	Fecal Coliform	TSS	TDS	NO3-N	NH3-N	TKN	TON	TOC	TP	Hardness	Alkalinity	Fe	Mn	Cl-
#		#	*yymmdd*	*24hr*	*°C*	*s.u.*	µ*mhos* *@25°C*	*mg/L*	*mg/L*	*NTU*	*cfs*	*col/ 100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	mg/L	*ppm*	*mg/L*	mg/l	mg/L	mg/l	mg/l	*mg/L*
Sipsey R. (0316-0107)																									
070	Sipsey R.	SPY-3	901127	2500	15.5	6.9	85	9.4	1.1	9				82			2				61	17	0.8	0.1	3
070	Sipsey R.	SPY-3	901211	2500	8	6.8	80	10.7		24															
070	Sipsey R.	SPY-3	910107	2500					2.8				12	109							60	9			4
070	Sipsey R.	SPY-3	910122	2500																			1.5	300	
070	Sipsey R.	SPY-3	910123	2500	7	5.7	65	11		8.1															
070	Sipsey R.	SPY-3	910204	2500																			0.7	80	
070	Sipsey R.	SPY-3	910206	2500					1.6				1	57							53	9			4.5
070	Sipsey R.	SPY-3	910220	1351	12	4.2	60	7.9	2.6	4.2			25	8							54	6	1.71	180	2.5
070	Sipsey R.	SPY-3	910320	1340	15	508.0	99	8.7	1.4	12			2	39							52	14	0.81	100	2
070	Sipsey R.	SPY-3	910515	1418	21	6.4	43	6.3	0.6	21			13	41							37	10	1.32	0.06	2.5
070	Sipsey R.	SPY-3	910618	1533	24.5	7.0	76	5.8	1.2	17			11	13							41	20	1.87	470	3
070	Sipsey R.	SPY-3	910723	1320	30	7.0	100	6.2	0.7	11			1	80							64	24	1.11	140	3
070	Sipsey R.	SPY-3	910814	1230	26	6.6	128	6	0.6	17			4	101							57	27	1.21	90	5
070	Sipsey R.	SPY-3	910924	1300	21	7.1	97	6.8	0.8	14			6	45							53	23	0.72	170	3
070	Sipsey R.	SPY-3	911039	1406	22	6.9	85	7.5	1.4	6.2			3	41							70	20	0.8	90	4.5
070	Sipsey R.	SPY-3	911120	1340	16	6.3	85	7.9	2.3	51			44	33							44	13	2.52	220	4.5
070	Sipsey R.	SPY-3	911210	1341	12	6.2	67	9.1	2.5	24			18	420							43	7	1.7	440	4
070	Sipsey R.	SPY-3	920122	1338	4.5	6.9	74	12.4	2.1	14.5			6	61							40	12	1.01	90	3
070	Sipsey R.	SPY-3	920209	1454	23	6.5	52	6.2	1.5	25			14	62							77	10			3
070	Sipsey R.	SPY-3	920219	1320	15	6.5	49	8.9	1.4	24			12	37							57	8	1.26	114	3.5
070	Sipsey R.	SPY-3	920318	1445	15	6.8	66	9.1	0.6	19			10	69							50	13	1.13	120	2
070	Sipsey R.	SPY-3	920414	1456	21	6.8	81	7.9	1.4	15			8	74							45	20	1.38	350	2.5
070	Sipsey R.	SPY-3	920609	1415	24	7	82	6.9	0.9	23			14	81							41	16	1.73	120	3
070	Sipsey R.	SPY-3	920721	1645	26	6.8	64	6.6	0.7	21.5			6	60							38	15	1.7	100	5
070	Sipsey R.	SPY-3	920902	1454																			2.79	330	
070	Sipsey R.	SPY-3	920929	1400	21	7.2	108	7.3	0.6	7.5			4	78							69	26	1.61	260	3.5
070	Sipsey R.	SPY-3	921104	1320	15	6.5	49	7.1	3.3	42			42	39							48	11	2.66	350	2
070	Sipsey R.	SPY-3	921215	1520					1.1				5	40							40	15	0.87	90	4.5
070	Sipsey R.	SPY-3	921216	1520	8	7.2	62	10.5		7.1															
070	Sipsey R.	SPY-3	930120	1605	9	6.7	43	9.9	1.3	20			2	33							38	6	1.27	40	3
070	Sipsey R.	SPY-3	930217	1350	8	6.6	44	10	1.4	24			7	42							42	10	1.28	106	5
070	Sipsey R.	SPY-3	930317	1615	10	6.6	56	12	2	6.8			5	42							40	11	1.03	103	4.5
070	Sipsey R.	SPY-3	930420	1325	19	6.9	73	8.2	0.5	12			9	93							48	19	1.38	139	4.5
070	Sipsey R.	SPY-3	930518	1630	23	6.7	78	7.3	0.9	9.3			11	51							42	21	1.84	210	3.5
070	Sipsey R.	SPY-3	930623	1513	26	7	108	7.4	0.5	4			2	79							62	23	0.77	140	3
070	Sipsey R.	SPY-3	930721	1045	29	7	116	6	1	3.8			2	70							64	28	0.56	148	3
070	Sipsey R.	SPY-3	930824	1450	28	7.1	104	6.8	0.8	5.9			41	78							56	20	1.03	130	3
070	Sipsey R.	SPY-3	930908	1605	25	7	90	7	0.6	15			10	63							53	13	0.612	91	2.5
070	Sipsey R.	SPY-3	931116	1535	17	6.9	71	7.7	2.1	19			13	63							41	12	1.48	190	4

Appendix F-6c. Physical/chemical data collected from stations in the EMT Basin Group during special studies conducted since 1990.

Water-	Stream Name	Station	Date	Time	Water Temp.	pH	Cond.	D.O.	BOD-5	Turb.	Stream flow	Fecal Coliform	TSS	TDS	NO3-N	NH3-N	TKN	TON	TOC	TP	Hardness	Alkalinity	Fe	Mn	Cl-
#		#	*yymmdd*	*24hr*	*^{o}C*	*s.u.*	µ*mhos* *@25^{o}C*	*mg/L*	*mg/L*	*NTU*	*cfs*	*col/ 100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	mg/L	*ppm*	*mg/L*	mg/l	mg/L	mg/l	mg/l	*mg/L*
Sipsey R. (0316-0107)																									
080	Sipsey R.	SPY-1	900925	2500	19.5	6.5		8.6	1.3					67			5				56	23	0.66	150	2.5
080	Sipsey R.	SPY-1	901024	2500	13.5	6.9		8.6	1.2					58			8				54	14	0.93	120	3.5
080	Sipsey R.	SPY-1	901128	2500	16	6.7	100	8.7	1.3	27				65			13				61	19	1.14	0.26	4
080	Sipsey R.	SPY-1	901212	2500	6	6.59	85	11		23															
080	Sipsey R.	SPY-1	910107	2500					2.7				10	97							62	16			4.5
080	Sipsey R.	SPY-1	910122	2500																			1.25	330	
080	Sipsey R.	SPY-1	910124	2500	6	6.8	75	11		19															
080	Sipsey R.	SPY-1	910204	2500																			1.06	290	
080	Sipsey R.	SPY-1	910206	2500					1.3				9	58							64	18			3.5
080	Sipsey R.	SPY-1	910221	825	11	4.3	55	8.2	1.6	72			25	49							47	6	3.01	90	3
080	Sipsey R.	SPY-1	910321	835	14	6.2	120	8.6	0.9	18			12	49							65	18	0.74	150	1.5
080	Sipsey R.	SPY-1	910424	920																			0.8	210	
080	Sipsey R.	SPY-1	910516	840	21	6.2	65	6.3	0.7	41			6	46							43	12	1.51	0.08	2.5
080	Sipsey R.	SPY-1	910619	957	24	6.7	112	5.8	1	21.5			22	56							55	25	1.78	470	2.5
080	Sipsey R.	SPY-1	910724	920	27	6.5	125	5.8	0.5	11			4	83							65	25			2.5
080	Sipsey R.	SPY-1	910815	815	24	6.9	112	6	0.3	35			19	85							57	20	1.71	250	4
080	Sipsey R.	SPY-1	910925	805	19	6.3	90	6.3	1.9	85			64	80							48	18	2.89	780	3
080	Sipsey R.	SPY-1	911030	815	19.5	6.4	117	7.1	1.1	5.7			3	34							60	23	0.73	220	3.5
080	Sipsey R.	SPY-1	911121	815	15	6	93	7.1	1	35			35	29							51	14	2.1	440	4.5
080	Sipsey R.	SPY-1	911211	829	9.5	6.9	99	9.6	1.1	25			23	165							56	18	1.34	240	3.5
080	Sipsey R.	SPY-1	920123	812	6.5	7.4	85	11.6	1.8	18			12	52							46	15	1.06	200	2.5
080	Sipsey R.	SPY-1	920220	820	11	6	89	8.9	1	26			12	49							51	10	1.46	88	3
080	Sipsey R.	SPY-1	920319	820	15	6.9	87	8.9	0.9	22			21	72							54	16	1.17	220	2.5
080	Sipsey R.	SPY-1	920415	835	19	6.3	107	8.1	1.5	13			8	106							62	25	1.2	310	2.5
080	Sipsey R.	SPY-1	920610	900	23	6.9	99	6.5	1.4	24			29	93							53	20	2.11	370	3
080	Sipsey R.	SPY-1	920722	840	24	6.7	92	6.1	1	26			13	72							43	18	2.05	250	2
080	Sipsey R.	SPY-1	920903	930	21	6.9	87	6.6	1.2	23			18	66							57	20	2.23	510	3.5
080	Sipsey R.	SPY-1	920930	923	18	7.1	133	7.7	0.6	6			7	98							72	31	1.05	360	3
080	Sipsey R.	SPY-1	921105	940	13	6.2	117	6.8	2.7	42			33	61							64	15	2.01	390	1
080	Sipsey R.	SPY-1	921216	920	9	7.1	79	10.4	1.2	18			18	40							48	15	1.52	240	3.5
080	Sipsey R.	SPY-1	930121	830	9	7.2	72	9.8	0.7	21			12	41							64	15	1.38	110	3
080	Sipsey R.	SPY-1	930218	820	5	6.8	52	11.1	1.1	27			12	56							44	16	1.38	70	5
080	Sipsey R.	SPY-1	930318	800	9	7	79	11.6	2	11			8	61							51	19	0.879	148	4
080	Sipsey R.	SPY-1	930421	820	15	6.6	87	8.2	0.7	22			16	88							52	19	1.48	273	3.5
080	Sipsey R.	SPY-1	930519	830	20	6.8	100	7.2	0.8	21			21	65							50	22	2.27	460	3
080	Sipsey R.	SPY-1	930624	824	24	7.1	133	6.8	0.6	4.5			3	94							70	27	0.93	230	2.5
080	Sipsey R.	SPY-1	930721	1418	29	7.1	149	6.9	1.1	3.9			6	96							76	33	0.74	220	3
080	Sipsey R.	SPY-1	930825	810	26	7	123	6	0.7	4.5			39	198							68	28	0.69	294	3
080	Sipsey R.	SPY-1	930909	820	23	7.2	151	6.6	0.9	11			11	116							82	29	0.942	336	2
080	Sipsey R.	SPY-1	931117	855	16	6.4	91	6.6	2.2	40			47	64							48	15	3.06	463	4

Appendix F-6c. Physical/chemical data collected from stations in the EMT Basin Group during special studies conducted since 1990.

Water-	Stream Name	Station	Date	Time	Water Temp.	pH	Cond.	D.O.	BOD-5	Turb.	Stream flow	Fecal Coliform	TSS	TDS	NO3-N	NH3-N	TKN	TON	TOC	TP	Hardness	Alkalinity	Fe	Mn	Cl-
#		#	*yymmdd*	*24hr*	*°C*	*s.u.*	*µmhos @25°C*	*mg/L*	*mg/L*	*NTU*	*cfs*	*col/ 100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	mg/L	*ppm*	*mg/L*	mg/l	mg/L	mg/l	mg/l	*mg/L*
Noxubee R. (0316-0108)																									
140	Bodka Cr.	BC-1	900214	1025	16	7.2	160												18.0						
140	Bodka Cr.	BC-1	900410	1100	16	7.7	245												<2						
140	Bodka Cr.	BC-1	900727	1100	28	8.0	230												20.0						
140	Bodka Cr.	BC-1	910215	1020	8	7.8	100												18.0						
140	Bodka Cr.	BC-1	910613	1110	26	7.6	264												15.0						
140	Bodka Cr.	BC-1[a]	901026	0950																					
140	Bodka Cr.	BC-1[a]	910823																						
140	Bodka Cr.	BC-2	900214	1115	16	7.6	155												18.00						
140	Bodka Cr.	BC-2	900410	1115	18	7.8	255												10.00						
140	Bodka Cr.	BC-2	900727	1137	29	8.0	245												18.00						
140	Bodka Cr.	BC-2	910215	1100	7	7.8	170												15.00						
140	Bodka Cr.	BC-2	910613	1200	27	7.7	275												12.00						
140	Bodka Cr.	BC-2[a]	901026	1015																					
140	Bodka Cr.	BC-2[a]	910823	nm																					
140	Bodka Cr.	BC-3	900214	1145	18	7.6	160												18.0						
140	Bodka Cr.	BC-3	900410	1209	18	8.0	255												13.0						
140	Bodka Cr.	BC-3	900727	1235	30	8.0	260												22.0						
140	Bodka Cr.	BC-3	910215	1134	8	7.8	185												12.0						
140	Bodka Cr.	BC-3	910613	1310	27	7.7	280												12.0						
140	Bodka Cr.	BC-3[a]	901026	1105																					
140	Bodka Cr.	BC-3[a]	910823	nm																					
	Mobile R.	AT-1	930825	0952	30	7.3	24200	3.2						9730											5260
	Chickasaw Cr.	AT-2	930826	0912	29	6.7	18770	1.3						10090											5380
	Chickasaw Cr.	AT-3	930826	0931	30	7.0	19450	4.3						11100											5640
	Mobile R.	AT-4	930926	1010	30	7.4	22340	3.8						9130											4990
	Mobile R.	AT-5	930825	1042	33	7.2	230	5.7						152											23
	Mobile R.	AT-6	930825	1252	31	7.2	217	6.8						128											21
Mobile Bay (0316-0204)																									
010	Majors Cr	MAJB-1	961111	1545	13	6.1	21	10.0		2.4															

a. No flow

Appendix F-7. ALAMAP (Alabama Monitoring and Assessment Program)

Lead agencies**:** ADEM and USEPA

Purpose**:** ADEM's ALAMAP Program is made up of two separate components that monitor Alabama's coastal and upland waters. The Upland ALAMAP (ALAMAP-U) Program is a statewide monitoring effort to provide data that can be used to estimate the current status of all wadeable streams within Alabama. Evaluated assessment data, including chemical, physical, and habitat parameters are collected once at 250 stations, randomly selected by USEPA-Gulf Breeze over a 5-year period using ADEM's SOPs and QA/QC manuals.

Coastal ALAMAP (ALAMAP-C) is an environmental monitoring program for Alabama's coastal waters. The goal of the program is to provide information on the overall health of the estuarine environment and to track health over time using physical, biological, and chemical indicators. During 1993-1995, ALAMAP-C investigated the ecological condition of Alabama's estuaries, including Mobile Bay, Perdido and Wolf Bays, the Alabama section of Mississippi Sound, and the tidal portions of the Mobile and Tensaw Rivers and delta system. Although discussed, program results from 1993-1995 were published by ADEM in 1996 and are not provided in this report.

Appendix F-7a. ALAMAP-U habitat assessment data

Appendix F-7b. ALAMAP U physical/chemical data

References:

ADEM. 2001b. Alabama Monitoring and Assessment Program (ALAMAP-U) data collected by ADEM 1997 to 2001 (unpublished). Field Operations Division, Alabama Department of Environmental Management. Montgomery, Alabama.

Carlton, J., J.S. Brown, J.K. Summers, V.D. Engle, and P.E. Bourgeois. 1998. A report on the condition of the estuaries of Alabama in 1993-1995: A program in progress. Alabama Monitoring and Assessment Program-Coastal. Alabama Department of Environmental Management, Field Operations Division, Mobile AL.

Appendix F- 7a. Physical characteristics and habitat parameters for sites assessed in the EMT Basin Group as part of the Alabama Monitoring and Assessment Program (ALAMAP). To compare levels of habitat degradation between stations, values given for each of three major habitat parameter categories are presented as percent of maximum score.

CU		0316-0103	0316-0103	0316-0105	0316-0105	0316-0105	03160105	0316-0105	0316-0106	0316-0106	0316-0106
Station Number		UT01U2-19	UT02U2-57[a]	UT03U2-36	UT01U3-40	UT02U1	UT01U1[c]	UT3U5-58	LT03U3-30	UT03U1	UT04U1
Sub-watershed #		010	030	010	030	030	040	060	070	110	120
Ecoregion/ Subregion		68e	65i	65i	65i	65i	65i	65i	65p	65i	65i
Date (YYMMDD)		980813	980813	980820	990824	970813	970813	010823	990804	970813	970813
Width (ft)		36		24	12	60		85	5	5	2
Canopy Cover[f]		O		50/50	S	MO		50/50	S	50/50	S
Depth (ft)	Riffle	0.8		0.1	0.5					0.1	0.1
	Run	1.5		0.8	1.0				1.0	0.7	
	Pool	3.0		1.0	4.0				3.0	0.8	0.7
Substrate (%)	Bedrock	60									
	Boulder	15									
	Cobble	5		10							
	Gravel	10		60	5			5	5		25
	Sand	5		25	50			65	50	20	25
	Silt			5	5			7	10	45	30
	Detritus	5			25			21	25	10	20
	Clay								10	25	
	Org. Silt				15			2			
Habitat assessment form[g]		RR		RR	GP	RR		GP	GP	GP	RR
Instream Habitat Quality		72		72	78	72		48	45	27	47
Sediment Deposition		60		73	93	35		66	88	33	45
Sinuosity		100		100	90	10		28	70	25	55
Bank and Vegetative Stability		80		88	73	20		38	55	23	30
Riparian Measurements		100		75	100	60		65	75	38	80
Habitat Assessment Score		199		782	188	109		110	139	65	124
% Maximum		83		76	85	50		50	63	30	52
Assessment[h]		Excellent		Excellent	Excellent			Good	Excellent		Good

a. Stream bed dry; samples, assessment information and flow data not collected.
b. Standing pools only; samples, asessment information and flow data not collected.
c. non-wadeable stream
d. Creek no longer exists
e. Braided wetland stream; habitat assessment not conducted; flow not measured
f. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
g. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
h. NG= no assessment guidelines

Appendix F- 7a. Physical characteristics and habitat parameters for sites assessed in the EMT Basin Group as part of the Alabama Monitoring and Assessment Program (ALAMAP). To compare levels of habitat degradation between stations, values given for each of three major habitat parameter categories are presented as percent of maximum score.

CU		0316-0107	0316-0107	0316-0107	0316-0107	0316-0108	0316-0201	0316-0201	0316-0201	0316-0201	0316-0201
Station Number		UT1U5-21	UT2U5-22	UT04U2-17[c]	UT02U3-39[d]	UT05U1	LT6U5-56	LT4U4-49[a]	LT02U2-24	LT02U3-21[d]	LT4U5-35
Sub-watershed #		040	040	050	070	140	060	060	130	220	220
Ecoregion/ Subregion		65i	65i	65i	65i	65p	65b	65b	65d	65q	65d
Date (yymmdd)		010822	010823	980820	990804	970813	010801	001023	980811	990804	010828
Width (ft)		250	85			2	5	12	35		4
Canopy Cover[f]		S	50/50			MS	S	MO	S		S
Depth (ft)	Riffle					0.1	0.05				0.1
	Run								1.0		
	Pool	3.0				1.5	2.5		3.0		1.0
Substrate (%)	Bedrock										1
	Boulder										
	Cobble										15
	Gravel						30				30
	Sand					20	5		84		45
	Silt					10	5		3		3
	Detritus	70				10	5		12		6
	Clay					60	55		1		
	Org. Silt	30									
Habitat assessment form[g]		GP	GP			GP	GP		GP		RR
	Instream Habitat Quality	83	25			47	47		40		69
	Sediment Deposition	99	50			78	68		70		81
	Sinuosity	75	33			95	33		80		98
	Bank and Vegetative Stability	95	65			18	23		38		55
	Riparian Measurements	100	70			90	34		83		88
Habitat Assessment Score		202	113			123	90		128		178
% Maximum		92	51			56	41		58		74
Assessment[h]		Excellent	Good			Good	Fair		Excellent		

a. Stream bed dry; samples, assessment information and flow data not collected.
b. Standing pools only; samples, asesment information and flow data not collected.
c. non-wadeable stream
d. Creek no longer exists
e. Braided wetland stream; habitat assessment not conducted; flow not measured
f. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
g. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
h. NG= no assessment guidelines

Appendix F- 7a. Physical characteristics and habitat parameters for sites assessed in the EMT Basin Group as part of the Alabama Monitoring and Assessment Program (ALAMAP). To compare levels of habitat degradation between stations, values given for each of three major habitat parameter categories are presented as percent of maximum score.

CU		0316-0201	0316-0201	0316-0201	0316-0202	0316-0202	0316-0202	0316-0202	0316-0202	0316-0203	0316-0203
Station Number		LT3U4-32	LT3U5-18	LT2U4-28[b]	LT01U1	LT01U3-3	LT01U2-3	LT1U5-3	LT1U4-3	LT02U1	LT5U5-47
Sub-watershed #		270	280	280	100	100	100	100	100	030	040
Ecoregion/ Subregion		65q	65q	65q	65d	65d	65d	65d	65d	65q	65q
Date (YYMMDD)		001023	010828	001023	970812	990804	980810	010801	001024	970812	010829
Width (ft)		20	20	10	20	20	30	28	35	35	8
Canopy Cover[f]		MO	MS	MO	50/50	MO	S	MS	MO	MS	MO
Depth (ft)	Riffle		0.2								0.15
	Run	0.2	0.3	0.0	1.5	1.5	1.5		1.5	2.5	
	Pool	2.0	1.5	nm	2.0	4.0	2.5		4.0	3.5	0.8
Substrate (%)	Bedrock	2									1
	Boulder	2									
	Cobble	1	5	40							
	Gravel	1	10	10							36
	Sand	86	75	25	75	68	60	85	60	82	60
	Silt	1	5		5	2	4	2	2	3	1
	Detritus	7	5	15	20	30	12	10	38	15	2
	Clay						24	3			
	Org. Silt										
Habitat assessment form[g]		GP	GP	nm	GP	GP	GP	GP	GP	GP	RR
Instream Habitat Quality		42	48		37	57	35	40	60	67	63
Sediment Deposition		80	78		60	75	70	76	83	73	49
Sinuosity		70	45		75	65	75	78	70	80	100
Bank and Vegetative Stability		48	61		33	33	45	48	63	45	75
Riparian Measurements		95	78		90	95	90	98	90	78	100
Habitat Assessment Score		138	132		124	138	133	142	156	142	175
% Maximum		63	60		56	63	60	65	71	65	73
Assessment[h]		NG	NG		NG	NG	NG	NG	NG	NG	NG

a. Stream bed dry; samples, assessment information and flow data not collected.
b. Standing pools only; samples, asessment information and flow data not collected.
c. non-wadeable stream
d. Creek no longer exists
e. Braided wetland stream; habitat assessment not conducted; flow not measured
f. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
g. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
h. NG= no assessment guidelines

Appendix F- 7a. Physical characteristics and habitat parameters for sites assessed in the EMT Basin Group as part of the Alabama Monitoring and Assessment Program (ALAMAP). To compare levels of habitat degradation between stations, values given for each of three major habitat parameter categories are presented as percent of maximum score.

CU		0316-0203	0316-0203	0316-0204	0316-0204	0316-0204	0316-0204	0316-0204	0316-0204	0316-0204	0316-0204	0316-0204
Station Number		LT2U5-11	LT03U2-32	MR04U3-12	MR01U1[a]	MR1U5-17	MR1U4-12[c]	MR2U5-28	MR02U2-6	MR05U3-11[d]	MR01U3-50	MR02U3-24
Sub-watershed #		050	130	010	010	010	020	030	040	050	050	050
Ecoregion/ Subregion		65q	65f	75i	75i	65f	75i	75i	75i	65f	65f	65f
Date (YYMMDD)		010905	980817	990901	970827	010820	000906		980915	990812	990812	990809
Width (ft)		3	20	50	3	25	90				3	12
Canopy Cover[f]		MS	MS	O	MS	MS	O		O		S	MS
Depth (ft)	Riffle	0.2				---						
	Run	0.5	1.0			---					0.5	0.5
	Pool	0.8	3.0			---					1.0	2.0
Substrate (%)	Bedrock											
	Boulder											
	Cobble	65										
	Gravel	5										
	Sand	5	80			28					90	46
	Silt	3				2					1	2
	Detritus	4	20			70					9	50
	Clay	18										
	Org. Silt											2
Habitat assessment form[g]		GP	GP			GP					GP	GP
	Instream Habitat Quality	72	72			80					53	82
	Sediment Deposition	93	95			96					70	88
	Sinuosity	95	85			88					95	100
	Bank and Vegetative Stability	84	65			96					90	85
	Riparian Measurements	100	75			89					100	100
Habitat Assessment Score		187	174			198					173	195
% Maximum		85	79			90					79	89
Assessment[h]		NG	Excellent			Excellent					Excellent	Excellent

a. Stream bed dry; samples, assessment information and flow data not collected.
b. Standing pools only; samples, asessment information and flow data not collected.
c. non-wadeable stream
d. Creek no longer exists
e. Braided wetland stream; habitat assessment not conducted; flow not measured
f. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
g. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
h. NG= no assessment guidelines

Appendix F- 7a. Physical characteristics and habitat parameters for sites assessed in the EMT Basin Group as part of the Alabama Monitoring and Assessment Program (ALAMAP). To compare levels of habitat degradation between stations, values given for each of three major habitat parameter categories are presented as percent of maximum score.

CU		0316-0204	0316-0204	0316-0205	0316-0205	0316-0205	0317-0008	0317-0008	0317-0008	0317-0008	0317-0008	0317-0008
Station Number		MR01A2-14	MR2U4-22	MR03U3-6	MR02U1	MR03U1	EW01U3-32	EW2U5-37[e]	EW01A2-42	EW1U5-36	EW02U2-30	EW1U4-48[a]
Sub-watershed #		050	050	030	040	050	030	030	100	100	120	120
Ecoregion/ Subregion		65f	65f	75a	75a	65f	65f	65f	65f	65f	65f	75a
Date (YYMMDD)		980805	000905	990830	970826	970826	990810	990810	980804	010815	980807	000906
Width (ft)		4	45		18	4	4		4	12	2	20
Canopy Cover[f]		50/50	MO	O	S	S	S		S	MS	S	O
Depth (ft)	Riffle									---		---
	Run		0.8				0.5			---		---
	Pool	2.0	2.5				1.0		1.5	---		---
Substrate (%)	Bedrock											
	Boulder											
	Cobble											
	Gravel		5		2							
	Sand	1	70		98	50			20	67	85	
	Silt	8	1				5		3	1	3	
	Detritus	40	22			50	50		70	29		
	Clay	1							2	3	10	
	Org. Silt	50	2				45		5		2	
Habitat assessment form[g]		GP	GP		GP	GP	GP		GP	GP	GP	
	Instream Habitat Quality	88	52		25	100	87		88	58	50	
	Sediment Deposition	98	88		63	100	100		95	88	95	
	Sinuosity	95	50		40	100	85		85	75	95	
	Bank and Vegetative Stability	98	65		75	100	100		85	86	63	
	Riparian Measurements	90	95		100	100	100		88	98	90	
Habitat Assessment Score		205	155		126	220	209		195	176	148	
% Maximum		93	70		57	100	95		89	80	67	
Assessment[h]												

a. Stream bed dry; samples, assessment information and flow data not collected.
b. Standing pools only; samples, asessment information and flow data not collected.
c. non-wadeable stream
d. Creek no longer exists
e. Braided wetland stream; habitat assessment not conducted; flow not measured
f. Canopy cover: S=shaded; MS=mostly shaded; 50/50=50% shaded; MO=mostly open; O=open
g. Habitat assessment form: RR=riffle/run (Barbour et al. 1999); GP=glide/pool (Barbour et al. 1999)
h. NG= no assessment guidelines

Appendix F-7b. Physical / chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and Escatawpa - Mississippi Coastal (0317-00) Accounting Units from 1997-2001 as part of the Alabama Monitoring and Assessment Program (ALAMAP) (ADEM 1997a)

Sub-Watershed	Stream Name	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Stream Flow	Fecal Coliform	BOD-5	TDS	TSS	NO2/ NO3	T-P	Cl-
#		*#*	*yymmdd*	*24hr*	*C*	*C*	*mg/l*	*s.u.*	*umhos @25c*	*NTU*	*cfs*	*col/100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/l*	*mg/l*
Buttahatchee (0316-0103)																		
010	Buttahatchee Cr	UT01U2-19	980813	1030	27	24	6.5	6.7	29	9.7	37.6	220	1.1	38	13	0.311	<0.005	<1.0
030	Tributary to Flurry Br[a]	UT02U2-57	980813	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Luxapallila (0316-0105)																		
010	Turkey Cr[b]	UT03U2-36	980820	1115	26	22	7.1	6.3	18	12.9	---	140	1.1	38	6	0.158	<0.005	<1.0
030	Cooper Cr	UT01U3-40	990824	1345	24	23	6.5	6.6	26	11.0	0.7	>240	2.9	33	11	0.087	0.028	6.5
030	Luxapallila Cr[c]	UT02U1	970813	1658	33	26	7.7	7.0	19	927.0	---	>600	1.3	96	497	0.310	0.070	4.2
050	Yellow Cr[e]	UT01U1	970813	1846	33	25	5.8	6.4	41	16.2	---	100	1.3	65	4	0.080	0.040	4.3
060	Tributary to Cutbank Cr	UT3U5-58	010822	1050	31	23.3	6.44	---	22	40.1		180	1.9	59	22	0.050	<0.004	3.6
Middle Tombigbee - Lubbub (0316-0106)																		
070	Greer Br	LT03U3-30	990804	1045	30	26	5.8	5.8	57	20.3	0.5	220	1.8	80	20	0.460	0.060	5.8
110	tributary to Sneads Cr	UT03U1	970813	0920	32	23	5.9	5.7	45	106.0	<0.1 est.	>1940	2.0	79	57	0.280	0.050	6.6
120	Cow Cr	UT04U1	970813	0737	29	24	6.6	5.5	47	10.6	0.1 est.	>6500	1.8	70	5	0.130	0.040	5.3
Sipsey (0316-0107)																		
040	Sipsey R	UT1U5-21	010822	1430	29	22.3	4.96	6.0	76	55.2		3	5.2	105	10	0.003	0.080	3.6
040	Sipsey R	UT2U5-22	010823	1040	32	25.4	7.16	7.2	153	16.5		140	0.7	100	23	0.079	<0.004	3.9
050	Sipsey R	UT04U2-17	980820	1430	26	26	5.7	6.6	68	23.0		272	1.1	77	22	0.163	0.089	<1.0
070	Tributary to Sipsey R[b]	UT02U3-39	990804	1845	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Noxubee (0316-0108)																		
140	Caney Cr	UT05U1	970813	1234	32	26	6.0	7.4	259	4.3	0.1 est.	660	1.2	232	4	0.070	0.040	34.9
Middle Tombigbee - Chickasaw (0316-0201)																		
060	Little Dry Cr	LT6U5-56	010801	1540	29	26	8.1	7.3	698.3	2.47		480	1.1	636	43	0.150	0.030	10.2
060	Tributary to Sandy Br	LT4U4-49		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
130	Tuckabum Cr	LT02U2-24	980811	0933	28	25	6.8	6.9	104	28.9	11.8 est.	57 est.	0.4	97	58	0.080	0.060	4.4
220	Big Tallawampa Cr	LT4U5-35	010828	1340	26	23.1	7.70	6.1	41.9	8.09	0.6	130	2.0	85	5	0.070	<0.004	4.4
220	Middle Tallawampa Cr[b]	LT02U3-21	990804	1400	---	---	---	---	---	---	---	---	---	---	---	---	---	---
270	Puss Cuss Cr	LT3U4-32	001023	1145	27	19	8.7	7.7	270	1.8	0.1	93	1.0	175	<5	0.013	0.052	5.0
280	Bogueloosa Cr	LT3U5-18	010828	1045	27	23.8	7.60	6.4	91.4	10.6	3.4	120	1.9	132	6	0.005	<0.004	5.2
280	Surveyors Cr	LT2U4-28	001023	1345	30	20	2.2	6.6	130	24	0.0	48	4.0	109	10	<0.006	0.053	4.0
Sucarnoochee (0316-0202)																		
100	Alamuchee Cr	LT01U1	970812	1618	37	26	7.7	6.3	68	13.9	20.5 est.	2500	1.1	127	8	0.140	0.060	5.2
100	Alamuchee Cr	LT01U2-3	980810	1648	27	27	7.4	7.0	63	42.7	28.1 est.	---	1.4	76	58	0.050	0.040	4.5
100	Alamuchee Cr	LT01U3-3	990804	1545	32	29	7.8	6.7	71	12.0	5.8	51	1.7	85	8	0.100	0.020	5.4
100	Alamuchee Cr	LT1U4-3	001024	1015	21	18	8.0	6.8	70	3.5	4.5	69	<1	62	<5	<0.005	0.051	3.0
100	Alamuchee Cr	LT1U5-3	010801	1215	27	26	8.8	6.7	64.0	15.0		120	1.1	187	43	0.120	0.020	4.4
Lower Tombigbee (0316-0203)																		
030	Santa Bogue Cr	LT02U1	970812	1253	35	26	8.9	6.2	73	5.7	60.2 est.	140	1.3	89	5	0.100	0.030	4.9
040	Tributary to Satilpa Cr	LT5U5-47	010829	1340	30.5	25.3	7.51	7.6	164.2	3.55	0.8	170	0.8	115	3	0.013	<0.004	5.2
050	Tributary to Nail Br	LT2U5-11	010905	1200	26	22.3	7.39	7.4	132	16.8	0.1	120	<1.0	136	7	0.025	0.057	4.0
130	Bates Cr	LT03U2-32	980817	1155	32	25	6.5	4.8	30	13.0	14.3	140	<1	44	9	<0.005	0.034	4.0

Appendix F-7b. Physical / chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and Escatawpa - Mississippi Coastal (0317-00) Accounting Units from 1997-2001 as part of the Alabama Monitoring and Assessment Program (ALAMAP) (ADEM 1997a)

Sub-Watershed	Stream Name	Station	Date	Time	Air Temp.	Water Temp.	Dissolved Oxygen	pH	Conductivity	Turbidity	Stream Flow	Fecal Coliform	BOD-5	TDS	TSS	NO2/ NO3	T-P	Cl-
#		#	*yymmdd*	*24hr*	*C*	*C*	*mg/l*	*s.u.*	*umhos @25c*	*NTU*	*cfs*	*col/100ml*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/l*	*mg/l*
Mobile - Tensaw (0316-0204)																		
010	Flat Cr	MR1U5-17	010820	1300	25	24.0	5.7	5.1	31	2.4	---	65	<1.0	53	5	0.061	0.030	<3.00
010	Tributary to Big Briar Cr[c]	MR04U3-12	990901	1050	25	29	1.9	6.6	690	3.4	---	140	1.0	396	<5	0.020	0.031	205.0
010	Tributary to Big Chippewa Lake[a]	MR01U1	970827	1120	29	---	---	---	---	---	---	---	---	---	---	---	---	---
020	Barrow Cr[c]	MR1U4-12	000906	1045	24	29	4.7	6.9	210	10.0	---	36	<2	158	11	<0.005	0.061	19.0
030	Steele Cr	MR2U5-28	010815	1330	32	25.0	1.64	5.8	36	6.2	---	120	<1.0	62	<5	0.392	0.029	<3.00
040	Tensaw R[c]	MR02U2-6	981015	0950	31	28	6.8	7.4	334	6.7	---	56	1.1	1960	3	<0.005	0.038	938.0
050	Chickasaw Cr	MR2U4-22	000905	1110	32	26	7.0	5.9	30	2.8	17.4	200	<1	54	<5	0.046	0.014	---
050	Drinking Br[b]	MR01A2-14	980805	1005	33	24	5.2	5.7	21	8.2	---	228	<1	11	1	0.222	<0.005	9.0
050	Mill Br	MR01U3-50	990812	1120	29	25	7.4	5.9	50	7.5	0.6	>400	<1.0	51	13	1.690	0.010	8.0
050	Sweetwater Br	MR02U3-24	990809	1150	24	26	7.0	6.0	20	6.1	5.3	1000	1.6	32	<5	0.349	0.010	118.0
050	Tributary to Threemile Cr[d]	MR05U3-11	990812	0915	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mobile Bay (0316-0205)																		
030	Fowl R[c]	MR03U3-6	990830	1120	27	29	5.4	6.4	5670	4.6	---	125		3040	5	0.349	0.010	118.0
040	Red Gully	MR02U1	970826	1030	23	21	7.9	6.6	110	2.8	0.4	135	<1	52	1	0.759	<0.005	4.0
050	Polecat Cr	MR03U1	970826	1330	34	22	4.0	6.5	80	4.2	0.9	133	<1	29	1	0.197	0.032	4.0
Escatawpa (0317-0008)																		
030	Long Br	EW2U5-37	010904	1035	29	23.3	3.80	4.7	39	3.2	---	22	<1.0	88	<5	0.032	0.021	3.0
030	Tributary to Bennett Cr[e]	EW01U3-32	990810	1300	30	28	5.0	5.5	20	3.5	---	480	1.1	29	7	0.105	0.014	3.0
100	Pasture Cr	EW1U5-36	010815	1125	28	23.9	6.45	6.7	74	2	9.3	100	<1.0	63	<5	0.015	0.204	6.0
100	Tributary to Pierce Cr	EW01A2-42	980804	1000	25	22	6.1	6.9	140	4.6	1.8	88	<1	46	1	0.015	<0.005	11.0
120	Tributary to Franklin Cr[a]	EW02U2-30	980807	1000	---	---	---	---	---	---	---	---	---	---	---	---	---	---
120	Tributary to Franklin Cr[a]	EW1U4-48	000906	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

a. Stream bed dry; samples, assessment information and flow data not collected.

b. Standing pools only; samples, asessment information and flow data not collected.

c. non-wadeable stream

d. Creek no longer exists

e. Braided wetland stream; flow not measured

Appendix F-8. Ambient Trend Monitoring Data

Lead agency: ADEM

***Purpose*:** Long-term water quality and biological monitoring has been conducted at fixed ambient monitoring stations located throughout Alabama. Stations were established primarily to monitor water quality below point source discharges. During 1996, with the addition of ADEM's ALAMAP Program, the ambient trend monitoring program was modified to focus on wadeable streams and rivers. Sites more applicable to the rivers and reservoirs were transferred to ADEM's Reservoir Monitoring Program.

Nineteen ambient trend monitoring stations were established in the EMT Basin Group along the mainstem of the Escatawpa, Mobile, Tensaw, and Tombigbee Rivers and several of their tributaries. The program constituted a large portion of the data collected within the basins during the '70s and '80s. In general, intensive water quality sampling was conducted at these sites using ADEM's SOP's and QA/QC manuals. Data that are more than 5 years old are considered evaluated assessments.

Appendix F-8a. Physical/chemical data

References:

ADEM. 1998. Water Quality Report to Congress for Calendar Years 1996 and 1997. Alabama Department of Environmental Management. Montgomery, Alabama.

ADEM. In press. Fifty years of water quality in Alabama; a comparison of water quality data from 1948-1949 through 1999. Field Operations Division. Alabama Department of Environmental Management. Montgomery, Alabama.

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Middle Tombigbee River-Lubbub Creek (0316-0106)																						
070	Tombigbee R.	T4	900313	1305	26	18	7.3	100	42	9.7	34	3.4	4.5	58	68	27	18		0.18	0.7	0.09	
070	Tombigbee R.	T4	900411	1345	17	17	7.4	90	16	10.0	30	2.6	8	49	80	16	13		0.11	0.6	0.04	
070	Tombigbee R.	T4	900508	1300	26	23	7.4	130	17	7.7	34	2	10	63	<1	19	13		0.15	<0.4	0.07	
070	Tombigbee R.	T4	900606	1505	31	26	7.2	125	46	7.4	39	3	5.5	69	100	25	20		0.43	1	0.13	
070	Tombigbee R.	T4	900717	0740				160	14								18					
070	Tombigbee R.	T4	900717	1442	27	28	7.37			5.5	37	2.6	18.5	58	110	8			<0.04	0.6	<0.02	
070	Tombigbee R.	T4	900829	1327	39	34	7.6	225	7	6.4	43	2.3	25	78	121	3	15		<0.04	<0.4	<0.02	
070	Tombigbee R.	T4	900925	1355	26	26	7.6	205	4.8	6.2	42	1.8	25	75	120	9	14		<0.04	<0.4	0.04	
070	Tombigbee R.	T4	901023	1358	14	19	7.5	220	10	7.3	39	1.1	38	93	150	6	18		0.06	0.6	0.05	
070	Tombigbee R.	T4	901127	1320	25	19	7.3	235	12	7.9	32	1.8	33.5	78	156	7	33		0.06	<0.4	0.05	
070	Tombigbee R.	T4	901211	1330	18	11	7.3	115	48	10.2	33	3.1	12.5	63	115	20	20		0.16	<0.4	0.09	
070	Tombigbee R.	T4	910123	1335	13	8	6.5	155	27	11.2	27	1.7	12.5	61	84	13	20		0.25	<0.4	0.05	
070	Tombigbee R.	T4	910220	1441	10	11	6.9	116	>100	8.4	34	2.3	4	92	61	292	22		0.14	0.6	0.42	
070	Tombigbee R.	T4	910320	1430	24	15	6.7	119	23	10.1	28	1.8	5	58	46	10	10		0.13	<0.4	0.08	
070	Tombigbee R.	T4	910515	1503	31	22	6.8	64	95	6.0	24	0.5	2.5	52	49	116	22		<0.04	<0.4	0.18	
070	Tombigbee R.	T4	910619	0819	26	28	7.2	104	31.5	6.2	29	1.9	8	47	44	15	10		<0.04	6	0.26	
070	Tombigbee R.	T4	910723	1215	35	34	7.7	141	13	6.6	37	2.2	15	59	88	7	12		0.04	0.88	0.07	
070	Tombigbee R.	T4	910814	1350	32	31	6.6	251	14	5.9	37	1.6	17	61	90	8	16		0.05	0.41	0.05	
070	Tombigbee R.	T4	910924	1430	20	23	6.9	156	13.5	5.6	35	1.2	16.5	60	88	12	16		0.04	0.63	0.05	
070	Tombigbee R.	T4	911029	1504	27	23	7.3	226	17	7.6	38	6.8	28	68	122	10	20		0.11	0.66	0.08	
070	Tombigbee R.	T4	911120	1425	20	15	6.6	247	30	8.9	36	1.8	27	64	123	10	22		0.13	0.52	0.11	
070	Tombigbee R.	T4	911210	1431	17	11	6.8	68	66	11.5	20	2.6	5.5	42	67	43	18		0.11	1.05	0.14	
070	Tombigbee R.	T4	920122	1434	11	6	7.4	127	32	12.4	35	2.9	7.5	57	101	17	16		0.23	0.67	0.06	est.12
070	Tombigbee R.	T4	920219	1415	20	15	7.1	111	58	10.1	30	2	6.5	67	102	18	18		0.22	0.97	0.15	53
070	Tombigbee R.	T4	920318	1545	19	16	7.2	97	63	10.2	26	1.5	6	58	109	31	22		0.15	0.59	0.08	58
070	Tombigbee R.	T4	920414	1603	29	21	7.4	162	17	9.9	36	3.4	14	57	99	14	12		0.03	1.35	0.08	<2
070	Tombigbee R.	T4	920513	1950	26	25	8.1	140	23	9.1	39	1.9	11.5	57	108	18	18		0.04	<0.5	0.06	est.4
070	Tombigbee R.	T4	920609	1520	30	27	7.4	202	30	5.7	42	3.1	19.5	67	125	15	39		0.395	0.575	0.087	est.2
070	Tombigbee R.	T4	920722	1005	28	29	7	195	13.5	4.1	41	2.6	16.5	63	116	9	16		0.067	0.487	0.17	<2
070	Tombigbee R.	T4	920902	1540	30	26	7.3	167	28	7.4	44	2.4	11.5	69	119	19	16		0.19	0.664	0.13	est.2
070	Tombigbee R.	T4	920929	1540	25	24	7.6	158	15	7.0	41	3.4	15.5	63	108	10	10		0.091	0.912	0.035	est.1
070	Tombigbee R.	T4	921104	1400	8	17	7.5	236	23	7.6	42	2.6	26	72	135	16	8		0.12	<0.15	0.074	est.4
070	Tombigbee R.	T4	921215	1605	13	8	7.5	148	27.5	11.2	44	2	8	67	94	31	19		0.17	0.626	0.16	
070	Tombigbee R.	T4	930120	1500	10	9	6.7	115	37	11.3	30	1.5	7.5	62	75	31	13		<0.003	1.76	0.091	est.37
070	Tombigbee R.	T4	930217	1450	7	8	6.5	118	97	11.0	37	2.5	8.5	68	99	93	7		0.17	0.748	0.177	146
070	Tombigbee R.	T4	930317	1445	13	10	7.4	126	15	11.9	30	3.2	11	60	100	11	40		0.13	0.8	0.049	est.3
070	Tombigbee R.	T4	930420	1415	16	18	7	104	44	9.0	36	1.6	6	57	129	26	30		0.085	0.687	0.041	est.27
070	Tombigbee R.	T4	930518	1515	29	24	7.3	133	31	9.0	45	2.6	8	60	83	20	19		0.068	0.161	0.079	est.3
070	Tombigbee R.	T4	930623	1610	30	29	7.4	149	13	5.0	37	1.4	13.5	689	92	14	22		0.013	0.481	0.059	est.3
070	Tombigbee R.	T4	930721	0900	26	31	7.5	135	4.5	5.9	34	2.3	11	58	79	7	19		0.005	<0.15	0.034	<3
070	Tombigbee R.	T4	930824	1544	35	31	8.8	166	5.6	6.9	42	4.1	11	65	108	9	<2		<0.003	<0.15	0.036	<1
070	Tombigbee R.	T4	930908	1515	30	29	7.1	158	10	4.7	35	1.3	14	64	98	9	13		0.049	<0.15	0.055	<1
070	Tombigbee R.	T4	931116	1420	24	16	7.4	254	17	9.2	38	2.1	27	67	149	13	21		0.18	0.92	0.064	35
070	Tombigbee R.	T4	931207	1335	11	10	7.3	175	7.1	10.8	34	2	19	69	109	12	11		0.14	0.348	0.008	est.8
070	Tombigbee R.	T4	940119	1420	1	1	7.9	157	70	13.6	45	2.7	9.5	78	143	74	<2		0.22	0.228	0.11	123
070	Tombigbee R.	T4	940224	1300	10	12	7.5	120	60	10.4	37	2	6	74	95	51	<2		0.21	0.62	0.11	700
070	Tombigbee R.	T4	940316	1430	16	13	6.8	78	56	10.5	25	2.4	4.5	44	73	32	21		0.11	0.441	0.111	133
070	Tombigbee R.	T4	940406	1504	10	14	7.2	89	54	9.3	22	1.6	6	53	79	31	15		0.15	0.253	0.085	430
070	Tombigbee R.	T4	940518	1330	25	25	8.2	165.8	22	10.2	34	2.5	14.7	63	99	12	13		0.013	0.65	0.067	216
070	Tombigbee R.	T4	940607	1430	35	30	6.8	272	17	5.7	38	1.5	4.4	64	137	3	14		0.15	0.1	<0.04	
070	Tombigbee R.	T4	940715	1100	30	29	7.1	191	42	6.2	41	0.6	9.9	52	120	10	17		0.19	0.3	0.1	
070	Tombigbee R.	T4	940812	1030	32	28	7.2	20.1	23	7.8	26	1.7	9.7	38	94	5	17		<0.04	0.2	0.39	
070	Tombigbee R.	T4	940909	1055	30	28	7.6	225	14.3	7.8	43	2.7	6.7	66	143	7	20		0.07		0.36	

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_20 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Middle Tombigbee River-Lubbub Creek (0316-0106)																						
070	Tombigbee R.	T4	941014	1050	23	20	7.4	187.2	39	9.0	39	1.4	18.6	56	131	12	15		0.18	0.3	<0.04	
070	Tombigbee R.	T4	941107	1210	20	28	7.1	171	40	9.1	37	1.3	17.1	58	123	24	10		0.12	0.3	0.75	
070	Tombigbee R.	T4	941220	1200	15	11	7.9	144	29	10.9	40	1.1	5.2	50	118	13	15		0.17	0.4	0.08	
070	Tombigbee R.	T4	950120	1050	15	11	7.2	122.5	84	10.1	39	0.7	4	68	105	159	28		0.16	0.2	0.57	
070	Tombigbee R.	T4	950224	1125	14	12	8.0	89.4	44	11.5	20	0.7	3.2	46	92	17	10		0.13	0.2	0.03	
070	Tombigbee R.	T4	950313	1150	28	14	6.7	70.4	56	10.0	20	1	4.4	30	96	31	16		0.1	0.2	0.08	
070	Tombigbee R.	T4	950403	1150	23	20	7.4	120	13.3	7.8	31	1.6	6.5	42	96	9	<5		0.06	<0.1	0.69	
070	Tombigbee R.	T4	950508	1100	29	22	7.0	108	26	8.6	28	2	1.9	56	86	16	15		0.16	0.2	0.78	
070	Tombigbee R.	T4	950609	1140	32	32	8.3	132	11.6	7.2	35	0.3	11.1	56	93	6	15		0.04	0.2	0.98	
070	Tombigbee R.	T4	950718	1135	34	33	7.6	150	7.7	8.3	32	2.2	11.8	58	100	7	13		<0.03	0.2	1.22	
070	Tombigbee R.	T4	950814	1130	34	32	7.3	172	11.2	7.8	40	3.2	11	56	111	7	20		<0.01	0.2	<0.01	
070	Tombigbee R.	T4	950908	1055	30	30	7.4	154	6	4.8	39	1.4	11.7	26	97	4	14		<0.02	0.1	0.51	
070	Tombigbee R.	T4	951013	1100	29	23	7.0	184.4	11.6	7.5	29	1.3	30.1	60	115	10	18		0.04	0.3	0.11	
070	Tombigbee R.	T4	951109	1130	14	14	7.3	197.2	16.2	8.9	32	1.3	36.6	48	124	13	17		0.605	0.1	0.042	
070	Tombigbee R.	T4	951213	1115	21	8	7.0	141.5	59	12.4	34	1.5	2.4	72	124	46	22		0.218	0.4	0.105	
070	Tombigbee R.	T4	960119	1115	6	7	6.9	94.7	39	11.2	22	0.2	<1	38	86	19	11		0.159	0.4	0.101	
070	Tombigbee R.	T4	960223	0930	20	13	7.1	133.7	19.2	11.9	32	1.3	12.7	348	84	14	12		0.144	0.3	0.334	
070	Tombigbee R.	T4	960318	1110	25	15	7.2	97.5	24	9.9	22	1.1	<1	56	95	11	15		0.136		0.361	
070	Tombigbee R.	T4	960426	1110	29	21	6.8	92.6	71	6.8	27	1.4	<1	58	99	63	25		0.096	0.2	0.815	
070	Tombigbee R.	T4	960513	1055	22	24	6.9	124.1	18.2	7.5	30	0.9	8.5	88	102	13	16		0.052	0.2	0.578	
070	Tombigbee R.	T4	960607	1020	31	28	7.2	177	17.3	6.5	36	1.3	17.3	50	113	15	9		<0.05	<0.1	0.056	
070	Tombigbee R.	T4	960712	0905	28	29	7.2	180	11.4	8.2	36	2.5	22.3	60	142	10	15		<0.05	0.3	<0.05	
070	Tombigbee R.	T4	960805	1150	33	31	7.4	270	14.6	6.2	36	0.8	14.1	54	114	7	17		0.086	0.3	0.052	
070	Tombigbee R.	T4	960909	1100	34	30	7.1	233	6.5	6.3	37	2.1	9.7	58	108	5	14		<0.05	0.1	<0.04	
070	Tombigbee R.	T4	961018	1230	29	19	7.2	129	15.7	8.1	34	2	<1	48	103	10	15		1.09		<0.05	
070	Tombigbee R.	T4	961115	0915	17	13	7.5	98.8	25	8.8	27	1.7	<1	36	91	10	20		1.35	0.7	0.12	
070	Tombigbee R.	T4	961209	1000	14	10	7.0	95.3	39	11.0	20	2.1	5.8	40	96	15	19		0.082	0.8	0.19	
070	Tombigbee R.	T4	970221	1020	20	15	7.6	106.6	39	11.5	25	3.4	<1	34	94	21	15		0.102	0.8	0.06	
070	Tombigbee R.	T4	970317	1015	23	16	6.8	74.3	26	9.4	29	0.5	<1	38	85	11	13		0.491	0.5	0.022	
070	Tombigbee R.	T4	970425	0900	14	17	7.3	85.8	13.4	8.3	30	2.1	<1	52	85	9	15		<0.005	0.7	0.022	
070	Tombigbee R.	T4	970512	0920	26	22	6.8	58.5	40	8.6	20	1.7	<1	46	77	10	16		0.14	0.7	0.095	
070	Tombigbee R.	T4	970609	1105	28	22	6.9	59.3	38	7.5		1.5	<1		91	15		<0.005	0.127		0.076	212
070	Tombigbee R.	T4	970814	1110	33	29	7.5	135	13.1	6.6		2	18		117	13		<0.005	0.062		0.077	40
070	Tombigbee R.	T4	971120	1230	18	12	7.7	103.7	21	9.3		1.4	1		115	13		<0.005	0.169		0.11	
070	Tombigbee R.	T4	980820	1000	29	29	7.1	100.3	27	6.7		1.8	<1.0		106			<0.005	0.116		0.111	31
070	Tombigbee R.	T4	981015	1000	27	21	7.1	288	7.8	6.1		0.6	<1.0		166			<0.005	0.034		<0.005	2
070	Tombigbee R.	T4	990603	1030	31	28	7.1	190	19.8	8.3		2.9	<1.0		122			<0.005	0.048		0.101	480
070	Tombigbee R.	T4	990805	1030	32	32	6.6	161	17.5	4.5		1.8	20		180			<0.005	0.0178		0.069	2
070	Tombigbee R.	T4	991014	1030	26	24	7.0	244	9.4	4.1		1.5	44		207			<0.015	<0.003		0.058	12
070	Tombigbee R.	T4	000608	1100	25	27	7.3	195	9.8	6.6		2.1	31.3		168			<0.005	0.014		<0.004	<1 est.
070	Tombigbee R.	T4	000809	0925		27	7.6	482	1.8	7.4		0.9	28		152			<0.015	<0.003		0.048	7
Middle Tombigbee River-Chickasaw Creek (0316-0201)																						
190	Tombigbee R.	T2	900116	1020	15	10	7.1	110	45	11.8		2.8		52	115		17		0.22	2.1	0.77	
190	Tombigbee R.	T2	900313	1040	24	16	7.3	120	41	10.1		3.2		57	77		12		0.21	0.9	0.08	
190	Tombigbee R.	T2	900411	1125	15	17	7.4	115	32	9.5		2		53	93		10		0.24	0.6	0.06	
190	Tombigbee R.	T2	900508	1125	23	23	7.9	180	17	9.5		2.6	12.5	65	140		13		0.14	<0.4	0.04	
190	Tombigbee R.	T2	900606	1145	31	25	6.8	130	57	7.9		1.4	7	64	95		18		0.35	0.6	0.11	
190	Tombigbee R.	T2	900717	1210	25	29	7.5	195	22	6.8		1.3	14.5	71	145		15		0.22	0.5	0.04	
190	Tombigbee R.	T2	900829	1105	34	32	7.5	330	14	4.6		1.5		99	198		10		0.1	<0.4	0.03	
190	Tombigbee R.	T2	900925	1030	24.5	28	7.9	325	6.5	6.0		1.3		95	180		18		0.18	<0.4	0.06	
190	Tombigbee R.	T2	901023	1035	16	20	7.7	315		6.6		1.4		99	230		26		0.2	<0.4	0.12	
190	Tombigbee R.	T2	901127	0955	23.5	17	7.9	290	20	8.6		1.9		97	199		20		0.06	<0.4	0.09	
190	Tombigbee R.	T2	901211	1025	11	12	7.5	190	22	10.6		3.5		77	143		22		0.1	0.6	0.07	

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_20 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Middle Tombigbee River-Chickasaw Creek (0316-0201)																						
190	Tombigbee R.	T2	910123	1025	6	9	6.9	180	31	11.3		2	11	73	94		18		0.46	0.6	0.05	
190	Tombigbee R.	T2	910220	1045	12	12	7.3	180	>100	10.2		2.3	10	92	106		20		0.22	0.6	0.29	
190	Tombigbee R.	T2	910320	1055	22	15	6.6	148	28	9.8	26	1.9	5.5	65	69		12		0.23	0.6	0.04	
190	Tombigbee R.	T2	910515	1156	30	21	6.9	108	64	6.1	32	1.1	4	41	65		16		0.09	<0.4	0.14	
190	Tombigbee R.	T2	910618	1155	30	28	7.4	143	49	6.3		1.2	8	62	71		10		0.25	9.8	0.22	
190	Tombigbee R.	T2	910723	1005	32	32	7.3	190	31	5.7	39	1.6	19	74	131		16		0.22	<0.4	0.11	
190	Tombigbee R.	T2	910806	1350	37	32	7.6	199	20.5	7.1	49	2.9	24	78	198		16		0.16	0.66	0.07	
190	Tombigbee R.	T2	910924	1025	28	26	7.5	304	15	6.3	52	1.9	31	90	166		20		0.22	0.79	0.09	
190	Tombigbee R.	T2	911029	1057	27	25	7.5	268	40	7.5	50	1.4	33	83	145		16		0.23	<0.4	0.12	
190	Tombigbee R.	T2	911120	1115	17	17	6.8	271	27	9.0	45	1.4	28	79	129		18		0.09	0.49	0.11	
190	Tombigbee R.	T2	911210	1054	14.5	12	7.0	126	89	9.3	30	1.7	9	74	511		18		0.18	<0.4	0.18	
190	Tombigbee R.	T2	920122	1055	14	8	7.7	155	34	12.4	40	2.7	11	67	106		18		0.29	<0.4	0.06	est.28
190	Tombigbee R.	T2	920219	1100	18	15	7.2	155	76	10.3	36	1.9	13	43	105		16		0.28	0.75	0.14	218
190	Tombigbee R.	T2	920318	1115	24	17	7.3	159	58	9.7	40	0.4	11	74	113		20		0.4	0.62	0.09	est.6
190	Tombigbee R.	T2	920414	1111	26	20	7.0	188	33	9.4	39	1.9	15	66	122		56		0.33	1.61	0.13	62
190	Tombigbee R.	T2	920513	1230	30	26	7.9	208	21	9.3	52	1.4	3.5	75	154		18		0.29	0.66	0.08	est.12
190	Tombigbee R.	T2	920609	1130	27	27	7.5	214	40	6.7	46	1.1	19.5	74	133		35		0.297	0.311	0.074	est.5
190	Tombigbee R.	T2	920721	1140	29	29	7.8	260	17.5	7.1	55	1.4	25	86	154		20		0.35	1.01	0.059	32
190	Tombigbee R.	T2	920902	1055	27	26	7.5	206	36	6.5	49	0.9	17	80	153		12		0.25	0.497	0.12	est.14
190	Tombigbee R.	T2	920929	1105	21	24	7.5	255	38	6.5	48	0.8	22	86	163		8		0.33	1.475	0.031	est.12
190	Tombigbee R.	T2	921104	1035	12	20	7.6	232	33	7.4	50	1.4	19.5	79	139		4		0.34	0.41	0.06	31
190	Tombigbee R.	T2	921215	1230	14	10	7.6	175	25	11.2	38	1.4	11.5	70	104		7		0.3	0.721	0.127	est.9
190	Tombigbee R.	T2	930120	1200	10	10	7.0	133	78	10.0	35	1.4	6.5	70	96		13		0.012	2.24	0.124	
190	Tombigbee R.	T2	930217	1123	8	10	7.4	158	92	10.9	45	2.2	12.5	83	110		4		0.24	0.85	0.11	90
190	Tombigbee R.	T2	930317	1130	16	12	7.2	153	41	11.9	36	3	10.5	69	114		35		0.26	0.7	0.058	123
190	Tombigbee R.	T2	930420	1100	24	20	7.3	144	48	9.2	47	1.3	10.5	71	155		22		0.22	0.687	0.041	est.17
190	Tombigbee R.	T2	930518	1250	28	23	7.2	187	60	7.9	41	1.7	10.5	70	96		16		0.14	0.473	0.084	est.40
190	Tombigbee R.	T2	930623	1130	28	28	7.1	251	27.5	5.9	45	1	27	85	173		22		0.31	<0.15	0.079	est.1
190	Tombigbee R.	T2	930720	1335	34	31	7.5	296	9.4	6.2	48	2.4	35.5	84	166		16		0.26	0.309	0.048	<3
190	Tombigbee R.	T2	930824	1145	32	32	8.0	353	6	6.5	50	1.5	47	95	204		<2		0.19	<0.15	0.044	est.2
190	Tombigbee R.	T2	930908	1200	25	29	7.5	316	15	6.7	51	1.2	38.5	89	201		12		0.25	<0.15	0.074	est.9
190	Tombigbee R.	T2	931116	1135	23	19	7.6	294	42	8.4	50	1.9	31.5	82	181		16		0.17	0.41	0.077	157
190	Tombigbee R.	T2	931207	1045	9	12	7.5	266	20	9.8	45	2	32	76	146		13		0.28	0.563	0.009	44
190	Tombigbee R.	T2	940119	1100	6	4	7.8	200	85	12.1	50	2.7	10.5	89	174		3		0.19	0.437	0.15	est.33
190	Tombigbee R.	T2	940224	1035	7	11	7.4	116	66	10.9	27	1.6	7.5	64	88		<2		0.29	0.743	0.11	est.170
190	Tombigbee R.	T2	940316	1125	18	13	7.2	123	60	10.3	31	2.5	6	62	88		19		0.28	0.415	0.102	240
190	Tombigbee R.	T2	940406	1205	17	16	7.2	115	64	8.0	28	1.7	4.5	62	98		17		0.16	3.39	0.1	est.30
190	Tombigbee R.	T2	940518	1045	23	22	7.6	180	26	7.9	39	1	17.8	99	128		<2		0.23	0.402	0.067	<1
190	Tombigbee R.	T2	940628	1130	29	28	7.3	196	21	6.9	42	1.6	7.1	81	120		18		0.53	0.503	0.11	est.50
190	Tombigbee R.	T2	940727	1055	28	27	7.5	173	52	6.8	47	1.1	8.6	74	157		15		0.19	1.05	0.072	est.60
190	Tombigbee R.	T2	940824	1120	30	28	7.4	255	23	6.9	49	1.2	19	95	197		9		0.278	0.216	0.062	est.3
190	Tombigbee R.	T2	941018	1045	22	19	7.4	271	55	8.4	44	1	32	82	176		22		0.124	0.75	0.2	est.27
190	Tombigbee R.	T2	941115	1032	20	17	7.6	236	27	9.1	44	0.9	22	93	165		20		0.33	<0.15	0.05	est.10
190	Tombigbee R.	T2	941208	1125	23	16	7.1	163	81	9.3	41	1.4	8	82	139		15		0.38	<0.15	0.08	83
190	Tombigbee R.	T2	950126	1110	15	10	7.3	154	76	11.4	38	1.8	9	63	146		20		0.22	0.582	0.05	240
190	Tombigbee R.	T2	950223	1110	21	15	7.0	124	63	10.2	33	2.1	12	67	110		9		0.26	0.737	0.11	est.43
190	Tombigbee R.	T2	950323	1100	24	17	7.5		38	9.4	32	1.6	6	62	99		15		0.23	0.405	0.04	est.37
190	Tombigbee R.	T2	950426	1040	18	17	7.2	136	>100	7.0	34	1.5	5	57	110		18		0.34	<0.15	0.19	183
190	Tombigbee R.	T2	950516	1045	30	25	7.6	130	27	8.2	34	1.2	8	44.3	108		17		0.22	0.237	0.12	est.13
190	Tombigbee R.	T2	950620	1050	23	28	7.5	199	21	7.1	44	1.3	20	75	137		5		0.121	0.297	0.07	est.3
190	Tombigbee R.	T2	950718	1055	34	32	7.7	273	20	6.5	50	1.3	29	66.4	186		12		0.024	0.16	0.078	est.14

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_2O (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Middle Tombigbee River-Chickasaw Creek (0316-0201)																						
190	Tombigbee R.	T2	950802	1040	37	32	7.6	335	20	6.2	53	1	39	96	221		5		0.2	0.315	0.05	est.14
190	Tombigbee R.	T2	950927	1130	31	29	7.5	339	18	5.9	60	1	41	87.5	255		18		0.21	<0.15	0.07	34
190	Tombigbee R.	T2	951019	1105	27	24	7.4	260	21	6.9	54	1.4	19	75.7	112		11		0.42	0.26	0.063	>63
190	Tombigbee R.	T2	951115	1100	6	13	7.3	195	66	9.5	39	2.1	11	63.6	178		<2		0.43	1.01	0.11	240
190	Tombigbee R.	T2	951219	1050	10	12	7.2	133	>100	10.6	33	2.2	7	44.9	131		19		0.27	<0.15	0.17	>2700
190	Tombigbee R.	T2	960125	1115	9	8	7.3	170	56	11.5	35	2	8	57.1	115		10		0.36	0.747	0.05	770
190	Tombigbee R.	T2	960215	1120	15	8	7.3	148	40	11.9	28	1.8	8	45.1	92		6		0.33	<0.15	0.05	67
190	Tombigbee R.	T2	960320	1045	8	14	7.2	108	62	10.1	30	1.9	8	42.5	114		3		0.21	0.46	0.24	est.120
190	Tombigbee R.	T2	960417	1050	21	18	7.3	139	36	9.7	39	1	9	48.1	106		3		0.2	11.77	0.087	14
190	Tombigbee R.	T2	960516	1045	27	27	7.2	183	20	7.4	39	1.3	13	55.3	134		6		0.27	0.29	0.09	<1
190	Tombigbee R.	T2	960606	1110	30	29	7.5	177	27	8.4	40	2.2	18	50.5	124		10		0.1	<0.15	0.08	est.10
190	Tombigbee R.	T2	960710	1110	30	32	7.4	221	19	6.2	47	0.9	19	62.1	179		7		0.21	<0.15	0.05	70
190	Tombigbee R.	T2	960808	1155	33	32	7.7	194	26	6.6	44	0.8	15	56.1	171		<2		0.14	0.34	0.04	25
190	Tombigbee R.	T2	960918	1130	25	30	7.9	144	15.4	7.3	57	1	23	71.6	172		16		0.23	0.27	0.03	est.7
190	Tombigbee R.	T2	961016	1055	26	23	7.6	256.9	23.3	7.5	53	1	18	69.5	166		<2		0.34	0.32	0.08	est.3
190	Tombigbee R.	T2	961119	1015	19	18	7.6	263.2	22.1	9.2	47	1.1	19	77.1	170		<2		0.35	0.64	0.08	26
190	Tombigbee R.	T2	961217	1100	8				26.1	11.5	33	1.6	11	2.74	134		<2		0.26	<0.15	0.01	est.15
190	Tombigbee R.	T2	970225	1058	12	12	6.3	124	114	11.7												
190	Tombigbee R.	T2	970312	1046	24	16.66	6.2	126	49.2	10.0	34	1.5	7	43.3	86		11		0.23	0.42	0.184	100
190	Tombigbee R.	T2	970429	1125	26	19.7	6.4	189	14.1	10.2	44	1.9	13	53.7	93		8		0.43	<0.15	0.09	est.10
Mobile-Tensaw River (0316-0204)																						
020	Tensaw R.	TE-2	900111	1500	20	11	6.5	120	28.0	8.9	39	1.0	3	57	95	108	21		0.206	<0.1	0.073	110
020	Tensaw R.	TE-2	900208	0920	14	14	5.2	95	22.0	8.4	29	1.7	3	35	77	21	10		0.213	0.24	0.057	92
020	Tensaw R.	TE-2	900314	1220	25	18		100	32.0	8.7	30	<1.0	1	46	69	15	14		0.222	0.15	0.036	168
020	Tensaw R.	TE-2	900424	1310	27	23	7.1	120	11.3	8.6	34	1.7	4	48	87	3	<5		0.186	<0.05	0.072	4
020	Tensaw R.	TE-2	900515	1245	28	23	7.0	108		7.0	26	1.4	5	28	71	16	17		0.034	0.26	0.022	100
020	Tensaw R.	TE-2	900612	1325	34	31	7.8	150	15.0	6.3	33	1.5	9	42	95	5	<5		0.194	0.17	0.064	4
020	Tensaw R.	TE-2	900710	1345	35	32	7.3	1000	6.3	5.9	44	1.7	304	120	546	4	14		0.064	1.072	0.036	2
020	Tensaw R.	TE-2	900821	1010	32	31	7.5	1100	5.4	5.2	46	<1.0	308	140	656	2	<5		<0.005	0.99	<0.005	1
020	Tensaw R.	TE-2	900918	1255	34	31	7.1	900	4.0	6.4	50	2.0	650	120	428	3	14		<0.005	0.44	0.018	1
020	Tensaw R.	TE-2	901016	1339	31	25	7.9	1850	5.8	8.0	55	1.2	491	212	1000	6	16		<0.005	0.54	0.069	2
020	Tensaw R.	TE-2	901115	1300	26	19	7.6	520	12.7	7.2	57	1.6	287	112	417	5	18		0.074	0.74	0.051	12
020	Tensaw R.	TE-2	901211	1420	19	14	7.6	358	14.8	9.1	57		106	89	333	3	13		0.224	<0.05	0.054	6
020	Tensaw R.	TE-2	910116	1245	15	12	7.4	135	37.0	9.4	37	<1.0	12	62	98	42	13		0.246	0.61	0.103	102
020	Tensaw R.	TE-2	910221	1210	17	14	7.1	180	14.5	9.7	33	<1.0	11	55	78	8	9		0.22	0.25	0.053	44
020	Tensaw R.	TE-2	910314	1205	17	15	6.7	100	26.0	7.5	28	<1.0	5	42	76	14	9		0.116	0.4	0.077	204
020	Tensaw R.	TE-2	910416	1155	27	21	7.0	120	21.0	6.7	22	1.2	6	47	64	19	20		0.156	0.07	0.072	39
020	Tensaw R.	TE-2	910515	1155	29	22	6.8	80	30.0	5.6	34	1.3	3	43	88	26	12		0.181	0.36	0.086	55
020	Tensaw R.	TE-2	910620	1110	27	28	6.6	130	33.0	5.0	40	1.5	17	52	73	13	11		0.221	0.51	0.108	11
020	Tensaw R.	TE-2	910709	1225	28	28	6.8	120	20.0	6.6	34	1.6	12	47	88	11	14		0.111	0.75	0.069	17
020	Tensaw R.	TE-2	910813	1155	33	31	7.3	230	10.1	6.2	36	<1.0	32	53	99	1	13		0.041	1.28	0.048	
020	Tensaw R.	TE-2	910917	1145	31	31	7.8	300	5.9	6.2	42	1.6	51	65	209	7	7		<0.005	0.65	0.15	1
020	Tensaw R.	TE-2	911023	1140	25	23	7.5	2000	9.1	7.2	55	1.2	678	264	1431	7	16		0.059	1.14	0.032	6
020	Tensaw R.	TE-2	911114	1140	20	16	7.6	440	13.8	8.9	50	1.7	151	94	342	9	8		0.145	0.22	0.057	1
020	Tensaw R.	TE-2	911212	1230	20	13	6.7	90	94.0	8.2	31	<1.0	<5	38	98	87	17		0.094	0.33	0.567	96
020	Tensaw R.	TE-2	920107	1200	17	12	7.2	180	17.3	10.0	44	2.4	7	81	115	12	14		0.237	0.35	0.04	34
020	Tensaw R.	TE-2	920220	1110	17	14	7.2	112	66.0	8.5	33	1.8	6	44	113	87	18		0.156	0.81	0.151	164
020	Tensaw R.	TE-2	920317	1100	21	15	7.0	127	19.0	8.9	36	2.6	6	43	94	12	14		0.214	0.33	0.058	52
020	Tensaw R.	TE-2	920415	1245	28	22	8.7	151	8.3	11.0	39	2.6	10	47	113	9			0.044	0.72	0.03	2
020	Tensaw R.	TE-2	920514	0905	20	23	7.4	244	7.4	7.5	42	1.0	155	95	383	10	12		<0.001	0.41	0.054	2
020	Tensaw R.	TE-2	920616	0940	28	28	7.2	162	21.0	5.8	37	<1.0	12	46	106	8	13		0.233	0.71	0.06	8
020	Tensaw R.	TE-2	920709	0930	30	32	7.4	715	8.6	6.4	47	1.6	152	88	376	5	13		0.13	0.81	<0.02	2

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_20 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
020	Tensaw R.	TE-2	920819	0920	23	30	7.1	339	18.4	5.6	53		48	66	186	16	9		0.076	0.86	0.046	5
020	Tensaw R.	TE-2	920909	0925	27	28	7.2	188	21.0	6.1	52	1.3	12	58	120	15	8		0.235	0.66	0.038	13
020	Tensaw R.	TE-2	930114	0900	7	13	6.9	128	31.0	9.1	36	<1.0	6	48	117	30	15	<0.05	0.138	0.44	0.081	156
020	Tensaw R.	TE-2	930209	0900	13	11	7.0	117	19.0	9.7	31	1.1	5	43	88	9	13		0.195	0.25	0.055	92
020	Tensaw R.	TE-2	930304	1135	15	12	6.9	126	21.0	10.1	32	1.0	6	37	82	17	18		0.187	0.42	0.053	77
020	Tensaw R.	TE-2	930407	1045	18	16	6.9	63	25.0	8.0	36	1.0	4	43	85	24	17		0.105	0.71	0.061	120
020	Tensaw R.	TE-2	930505	0845	21	21	6.9	149	14.7	7.9	38	<1.0	9	42	98	9	7		0.183	0.31	0.103	7
020	Tensaw R.	TE-2	930609	1010	29	29	7.8	178	8.9	7.7	40	4.1	19	49	107	13	11		0.03	1.02	0.181	2
020	Tensaw R.	TE-2	930706	1225	35	33	8.0	249	13.2	7.3	50	1.8	28	53	145	13	9		0.089	0.52	0.043	6
020	Tensaw R.	TE-2	930811	0935	31	31	7.3	266	19.4	5.7	49	<1.0	28	63	141	17	12		0.087	3.55	0.063	8
020	Tensaw R.	TE-2	930922	0930	24	30	7.2	1042	6.3	5.0	57	<1.0	258	125	538	4	16		0.064	0.08	0.033	<20
020	Tensaw R.	TE-2	931013	0846	17	24	7.3	2270	5.0	6.2	58	<1.0	622	224.5	1185	3	7		0.017	0.591	0.035	2
020	Tensaw R.	TE-2	931118	0905	14	18	6.9	179	47.0	7.4	37	<4.0	16	50	112	37	17		0.101	0.52	0.093	134
020	Tensaw R.	TE-2	931213	0940	15	14	7.3	230	16.9	9.0	70	<1.0	23	56.3	151	16	5		0.218	1.18	0.059	13
020	Tensaw R.	TE-2	940124	1010	17	7	7.0	206	48.0	11.4	47	2.0	13	61	125	59	41		0.227	0.186	0.086	131
020	Tensaw R.	TE-2	940217	1000	19	11	6.8	136	75.0	8.8	35	1.2	9	44	105	89	16		0.106	0.73	0.131	524
020	Tensaw R.	TE-2	940329	0925	14	17	6.8	127	43.0	7.6	38	1.3	8	47	92	44	12		0.207	0.53	0.096	176
020	Tensaw R.	TE-2	940419	1215	28	20	6.9	124	22.0	7.5	33	1.5	7	42	104	30	16		0.265	0.07	0.054	46
020	Tensaw R.	TE-2	940511	1015	28	25	7.1	134	8.0	7.5	37	1.3	10.7	41	95	4	12		0.099	0.51	0.04	<1
020	Tensaw R.	TE-2	940615	0940	30	30	7.3	197	18.6	6.2	43	1.3	20	48	120	12	13		0.123	1.2	0.056	3
020	Tensaw R.	TE-2	940721	1200	33	29	6.8	135	21.0	5.8	38	<1.0	8.4	44	108	10	25		0.105	0.56	0.077	14
020	Tensaw R.	TE-2	940823	0840	25	29	7.3	191	10.0	6.9	50	1.5	18	50	109	7	25	<0.01	0.011	0.55	0.036	5
020	Tensaw R.	TE-2	940922	1120	31	28	7.3	350	12.6	6.6	51	<1.0	70	70	199	8	12		0.1	0.26	0.058	3
020	Tensaw R.	TE-2	941024	1000	26	23	7.0	190	20.0	7.9	51	<1.0	11.3	47	105	18	9		0.163	0.53	0.05	20
020	Tensaw R.	TE-2	941122	0945	19	20	7.1	418	19.8	7.5	49	2.4	89.2	73	231	18	12		0.146	0.39	0.072	55
020	Tensaw R.	TE-2	941207	1020	14	16	6.9	172	42.0		42	1.0	14.9	51.6	118	49	11		0.321	0.41	0.122	144
020	Tensaw R.	TE-2	950112	1110	20	11	7.0	161	25.0	10.7	40	<1.0	11	46.7	101	18	15		0.315	0.36	0.066	85
020	Tensaw R.	TE-2	950221	0955	18	11	6.8	140	71.0	9.9	40	1.5	9	47.9	104	108	13		0.232	0.64	0.106	273
020	Tensaw R.	TE-2	950322	0940	22	17	6.7	103	31.0	8.0	35	2.0	5	36.4	78	20	19		0.142	0.44	0.076	47
020	Tensaw R.	TE-2	950425	0930	18	22	6.9	141	57.0	6.7	39	3.2	12	44	117	55	15		0.243	0.94	0.124	122
020	Tensaw R.	TE-2	950504	0930	23	20	6.5	142	41.0	6.1	36	1.3	9	43	99	47	16		0.205	0.94	0.103	77
020	Tensaw R.	TE-2	950608	1035					32.0		38	1.0	20		151	15	16	<0.01	0.141	0.58	0.053	
020	Tensaw R.	TE-2	950720	1133	32	31	7.0		10.0	5.2	45	2.3	360	158	791	10	15	<0.01	<0.005	0.53	<0.005	<2
020	Tensaw R.	TE-2	950831	1135	32	32	7.3	1630	4.6	6.6	54	1.3	369	1718	867	1	18	<0.01	<0.005	0.58	<0.005	2
020	Tensaw R.	TE-2	950927	1300	28	28	7.4	4070	6.0	5.8	66		1104	399	2250	11	24	0.043	0.099	0.9	<0.005	4
020	Tensaw R.	TE-2	951121	1200	19	15	6.8	136	23.0	8.3	33		8	42	93	58	16	0.024	0.218	1.1	0.069	60
020	Tensaw R.	TE-2	951220	1110	7	13	6.9	116	49.0	9.4	31	1.4	9	39	108	87	24	<0.01	0.175	0.75	0.13	>400
020	Tensaw R.	TE-2	960104	1235	14	10	6.9	117	2.4	10.2	30	1.6	8	34	100	15	15	<0.01	0.15	0.52	0.054	100
020	Tensaw R.	TE-2	960221						34.0		26	1.7	5	31	76	16	17	<0.01	0.227	0.41	0.065	24
020	Tensaw R.	TE-2	960313	1155	19	12	7.1	112	59.0	8.8	3.6	1.1	5	41	100	46	16	<0.01	0.202	0.69	0.132	8
020	Tensaw R.	TE-2	960403	1135	21	15	7.2	101	38.0	8.4	34	1.1	5	38	81	29	14	<0.01	0.212	0.27	0.076	61
020	Tensaw R.	TE-2	960522	1035	30	27	7.0	178		7.6	48	2.1	13	50	98	4	16	<0.01	<0.005	0.4	<0.005	2
020	Tensaw R.	TE-2	960611	1130	29	28	7.8	182	12.1	7.3	47	3.0	14	50	111	10	9	<0.01	<0.005	0.83	0.045	<1
020	Tensaw R.	TE-2	960717	0940	24	31	7.3	455	12.8	6.4	52	1.4	75	79	258	9	15	<0.01	0.079	0.5	0.023	99
020	Tensaw R.	TE-2	960808	1315	33	32	7.5	274	9.7	7.4	49	1.1	14	67	138	5	15	<0.01	0.176	0.81	0.009	3
020	Tensaw R.	TE-2	960904	1225	31	30	7.1	190	36.0	5.7	44	1.1	13.7	52	140	16	15	<0.01	0.18	0.37	<0.005	13
020	Tensaw R.	TE-2	961028	1005	27	23	7.2	312	14.0	8.2	61	1.8	23	64	149	13	14	<0.01	0.169	<0.1	0.045	18
020	Tensaw R.	TE-2	961114	1000	18	18	7.1	222	25.0	8.8	52	<1.0	14.9	58	123	18	7.7	0.03	0.229	0.64	0.028	5
020	Tensaw R.	TE-2	961203	1125	19	15	7.5	248	16.8	9.1	55	1.7	13	60	126	29	17	<0.01	0.219	0.27	0.06	
020	Tensaw R.	TE-2	970127	1025	17	10	7.1	150	38.0	11.4	37	1.2	8.3	42	99	31	14	<0.01	0.585	0.96	0.033	114
020	Tensaw R.	TE-2	970205	1130	15	12	6.9	146	47.0	9.1	38	<1.0	6.5	56	112	66	15.4	<0.01	0.263	0.86	0.063	143
020	Tensaw R.	TE-2	970310	1225	24	17	7.1	149	43.0	7.5	37	<1.0	4.9	40	91	32	15	<0.01	0.239	0.31	0.088	90

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (^oC)	T-H_20 (^oC)	pH (su)	Cond. (umhos @25^{o}C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
020	Tensaw R.	TE-2	970402	1220	22	20	7.3	154	14.3	8.8	36	<1.0	8	43	91	11	12	<0.01	0.263	0.13	0.046	8
020	Tensaw R.	TE-2	970529	1205	27	25	7.1	151	24.0	7.1	36	1.2	9	49	94	18	20	<0.01	0.202	1.7	0.051	20
020	Tensaw R.	TE-2	970626	1135	27	26	6.8	159	29.0	5.3	38	<1.0	4.9	45	90	31	10	<0.01	0.25	0.43	0.087	59
020	Tensaw R.	TE-2	970807	1230	30	31	7.3	2010		6.4	36	<3.0	17	50	110	9	14	<0.01	0.138	0.53	0.146	<2
020	Tensaw R.	TE-2	970925	1320	23	29	7.2	3100	6.9	5.9	53	<1.0	389	183	961	7	11	<0.01	0.085	0.29	0.025	28
020	Tensaw R.	TE-2	971120	1000	19	15	7.0	200	15.1	9.1	50	<1.0	13	52	124	14	26	<0.01	0.05	0.5	0.04	14
020	Tensaw R.	TE-2	971209	1055	14	13	6.9	150	18.0	8.8	40	1.1	7.91	53	96	12	19	<0.01	0.22	0.73	0.073	42
020	Tensaw R.	TE-2	980128	1000	13	10	7.1	120	36.0	8.8	37	2.6	5.06	49	83	26	21	0.06	0.236	0.5	0.088	50
020	Tensaw R.	TE-2	980312	0945	3	12	6.8	103	37.0	8.7	30	<2.0	4.7	41	74	36	17	<0.01	0.183	0.3	0.082	92
020	Tensaw R.	TE-2	980611	0945	30	30	7.3	174	17.5	6.6	42	1.4	11	45	101	11	13	<0.01	0.091	0.42	0.05	18
020	Tensaw R.	TE-2	980813	1000	29	31	7.4	342	6.8	5.9	53	2.9	43	69	158	6	<5	<0.01	<0.005	1.26	0.03	60
020	Tensaw R.	TE-2	981026	1310	27	23	7.2	1540	11.1	6.5	52	<1.0	339	170	796	2	23	0.01	0.039	3.79	0.066	14
020	Tensaw R.	TE-2	990615	1220	29	30	7.4	600	16.5	6.1	54	2.2	125	94	360	16	16	0.01	0.059	0.6	0.051	44
020	Tensaw R.	TE-2	990804	1025	30	33	7.8	370	9.4	6.7	50	1.7	68	71	172	6	14	<0.01	0.027	0.38	0.039	
020	Tensaw R.	TE-2	991014	1025	25	25	7.3	1730	15.2	6.0	52	1.0	410	215	928	15	14	0.02	0.039	0.46	0.069	56
020	Tensaw R.	TE-2	000629	0920	29	30	7.4	2020	8.5	5.7	58	<1.0	555	69	1080	13		<0.01	0.08	0.5	0.01	24
020	Tensaw R.	TE-2	000809	1120	32	31	7.9	1448	4.2	7.0	19	1.5	350	172	793	12	18	<0.01	<0.005	0.7	0.049	26
020	Tensaw R.	TE-2	001002	1200	30	27	7.6	4470	3.7	6.8	16	1.7	1370	445	2500	7	16	<0.01	0.018	0.41	0.039	12
020	Tensaw R.	TE-2	010208	1150	24	11	7.2	190	20.0	10.9	11	1.6	10	72	131	23	20	0.04	0.326	0.54	0.086	14
020	Tensaw R.	TE-2	010330	1140	20	13	7.0	146	23.0	8.6	9	<1.0	4	60	84	18	11	0.01	0.193	0.74	0.058	
020	Tensaw R.	TE-2	010411	1120	24	19	7.0	119	30.0	6.5	10	<1.0	4	48	73	24	9	0.07	0.104	0.55	0.083	87
020	Tensaw R.	TE-2	010614	1215	28	26	7.0	140	35.0	6.4	10	<1.0	11	56	110	30	17	0.04	0.427	0.55	0.104	30
020	Tensaw R.	TE-2	010820	1125	29	30	7.6	268	8.0	6.6	13	<1.0	13	61	133	10	16	0.02	0.061	0.41	0.061	10
040	Mobile R.	MO-1A	900111	1430	21	11	6.6	130	46.0	9.1	34	1.0	4	63	104	140	23		0.226	0.27	0.087	125
040	Mobile R.	MO-1A	900208	0940	15	14	5.8	115	33.0	9.0	29	1.6	4	45	96	47	10		0.24	0.42	0.074	146
040	Mobile R.	MO-1A	900314	1140	25	18	5.8	120	45.0	9.8	31	1.3	1	50	78	42	17		0.218	0.36	0.042	
040	Mobile R.	MO-1A	900424	1030	26	23	6.9	140	15.1	7.4	33	1.2	6	46	99	5	5		0.209	0.14	0.053	8
040	Mobile R.	MO-1A	900515	1155	29	23	7.1	117		7.2	24	1.2	7	38	80	69	17		0.086	0.29	0.037	>600
040	Mobile R.	MO-1A	900612	1215	31	31	6.8	150	17.8	6.5	35	1.2	11	40	108	6	9		0.204	0.12	0.063	8
040	Mobile R.	MO-1A	900710	1300	32	32	7.3	2450	12.0	4.3	47	<1.0	808	244	1392	7	12		0.11	1.338	0.055	6
040	Mobile R.	MO-1A	900821	0943	31	32	7.3	750	7.5	4.1	48	<1.0	200	110	482	4	5		<0.005	0.43	0.013	2
040	Mobile R.	MO-1A	900918	1155	34	31	7.4	1200	6.3	4.9	52	1.3	796	154	682	2	16		<0.005	0.35	0.059	4
040	Mobile R.	MO-1A	901016	1245	31	27	7.6	3100	8.8	5.8	57	<1.0	1000	325	1836	9	16		0.085	0.86	0.071	8
040	Mobile R.	MO-1A	901115	1230	27	19	7.6	340	16.6	7.9	59	1.8	123	78	183	5	16		0.13	0.53	0.063	4
040	Mobile R.	MO-1A	901211	1335	20	14	7.6	221	16.6	9.3	55		36	66	177	8	26		0.227	0.62	0.055	16
040	Mobile R.	MO-1A	910116	1145	15	12	7.0	120	40.0	9.5	34	<1.0	11	70	107	55	13		0.259	0.58	0.124	126
040	Mobile R.	MO-1A	910221	1130	17	14	7.2	200	31.0	9.8	36	<1.0	13	55	91	45	9		0.238	0.18	0.096	88
040	Mobile R.	MO-1A	910314	1130	17	13	6.8	110	37.0	7.7	26	<1.0	8.4	48	86	37	14		0.145	0.59	0.091	72
040	Mobile R.	MO-1A	910416	1120	29	21	7.1	130	43.0	7.4	19	<1.0	8	51	72	48	16		0.209	0.28	0.124	21
040	Mobile R.	MO-1A	910515	1115	29	22	6.9	80	37.0	5.8	30	<1.0	4	39	78	25	14		0.179	0.7	0.087	128
040	Mobile R.	MO-1A	910620	1035	28	28	7.0	145	44.0	5.5	42	1.0	21	50	82	19	11		0.225	0.69	0.109	13
040	Mobile R.	MO-1A	910709	1145	30	29	6.8	140	44.0	7.2	35	1.0	14	51	114	40	9		0.172	0.73	0.102	30
040	Mobile R.	MO-1A	910813	1110	32	31	7.2	190	14.1	6.0	35	<1.0	19	55	91	6	11		0.105	1.14	0.052	7
040	Mobile R.	MO-1A	910917	1105	32	31	7.6	600	10.9	5.9	45	1.0	82	78	267	9	9		0.05	0.59	0.07	1
040	Mobile R.	MO-1A	911023	1050	27	24	7.4	3700	12.6	6.6	56	1.0	1099	437	2375	11	23		0.083	0.25	0.037	14
040	Mobile R.	MO-1A	911114	1055	20	16	7.6	900	18.0	8.9	51	1.4	162	92	434	12	10		0.175	0.74	0.063	15
040	Mobile R.	MO-1A	911212	1140	20	13	6.6	90	126.0	8.3	29	<1.0	<5	42	106	167	19		0.089	0.55	0.631	138
040	Mobile R.	MO-1A	920107	1115	16	12	6.9	190	25.0	10.1	44	2.4	9	79	124	31	12		0.26	0.74	0.064	41
040	Mobile R.	MO-1A	920220	1045	16	13	7.2	108	116.0	8.9	34	2.1	8	55	118	189	24		0.168	0.99	0.256	360
040	Mobile R.	MO-1A	920317	1025	22	16	6.7	140	37.0	9.2	33	2.7	10	54	103	45	19		0.217	0.68	0.012	44
040	Mobile R.	MO-1A	920415	1205	23	21	7.9	182	12.9	11.2	40	1.7	14	45	130	15			0.162	0.77	0.039	6
040	Mobile R.	MO-1A	920514	0945	24	24	7.2	1431	8.8	6.8	45	<1.0	388	175	825	11	15		0.078	0.66	0.055	2

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_20 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
040	Mobile R.	MO-1A	920616	1015	30	28	7.2	188	66.0	6.2	39	1.4	17	46	136	87	13		0.274	0.8	0.116	27
040	Mobile R.	MO-1A	920709	1010	30	32	7.4	557	10.9	6.9	46	1.4	60	64	224	4	15		0.24	0.9	0.06	4
040	Mobile R.	MO-1A	920819	1005	24	30	7.2	977	18.9	5.4	53		251	136	518	14	13		0.092	0.77	0.099	14
040	Mobile R.	MO-1A	920909	1020	30	28	7.3	197	52.0	6.3	48	<1.0	14	58	133	67	14		0.27	0.46	0.106	50
040	Mobile R.	MO-1A	930114	0935	9	12	7.0	147	47.0	9.7	36	<1.0	9	50	122	64	25		0.117	0.34	0.112	8
040	Mobile R.	MO-1A	930209	0940	14	11	7.0	136	25.0	9.9	30	1.2	6	61	99	22	20		0.192	0.47	0.079	64
040	Mobile R.	MO-1A	930304	1100	14	12	7.0	145	27.0	10.7	33	<1.0	9	47	96	31	12		0.208	0.86	0.082	40
040	Mobile R.	MO-1A	930407	1015	18	16	6.8	136	38.0	7.8	34	<1.0	7	49	100	41	24		0.142	0.74	0.101	64
040	Mobile R.	MO-1A	930505	0910	21	21	7.0	168	32.0	8.2	36	<1.0	12	46	113	40	11		0.214	0.37	0.147	12
040	Mobile R.	MO-1A	930609	1100	31	29	7.2	198	13.3	7.4	43	1.6	23	49	123	14	5		0.259	0.76	0.051	2
040	Mobile R.	MO-1A	930706	1135	32	33	7.6	235	14.6	6.9	50	1.6	23	54	146	15	31		0.145	0.54	0.066	3
040	Mobile R.	MO-1A	930811	1005	30	32	7.2	291	31.0	5.9	49	<1.0	31	72	153	32	16	0.038	0.02	3.07	0.071	19
040	Mobile R.	MO-1A	930922	1005	27	31	7.2	1980	9.0	5.7	59	<1.0	435	253	1321	14	21		0.076	0.232	0.055	<20
040	Mobile R.	MO-1A	931013	0933	20	26	7.2	3420	6.4	5.8	62	<1.0	978	341.7	1846	6	10		0.014	0.585	0.057	5
040	Mobile R.	MO-1A	931118	0940	14	19	6.9	196	70.0	7.5	36	<4.0	19	51.14	130	79	18		0.102	0.82	0.148	>120
040	Mobile R.	MO-1A	931213	1015	16	14	7.3	260	19.2	9.8	73	<1.0	28	59.9	160	21	2		0.227	0.7	0.062	13
040	Mobile R.	MO-1A	940124	1045	17	7	7.1	221	62.0	11.7	44	2.0	14	63	137	93	18		0.255	0.183	0.127	147
040	Mobile R.	MO-1A	940217	0930	17	10	6.8	139	135.0	9.4	34	1.4	13	47	114	163	21		0.146	1.4	0.2	770
040	Mobile R.	MO-1A	940329	0955	15	17	6.9	139	70.0	8.0	38	2.1	10	43.2	100	95	21		0.213	0.63	0.123	332
040	Mobile R.	MO-1A	940419	1130	28	20	6.8	127	40.0	7.7	30	1.4	7	43	109	82	20		0.76	0.19	0.09	200
040	Mobile R.	MO-1A	940511	1050	31	25	6.9	162	15.8	7.8	37	<1.0	15.2	45	112	15	10		0.188	0.56	0.055	1
040	Mobile R.	MO-1A	940615	1015	34	30	7.2	212	22.0	6.6	42	<1.0	21	52	132	19	11		0.172	1.3	0.061	6
040	Mobile R.	MO-1A	940721	1040	32	28	6.8	170	28.0	5.9	42	<1.0	11.8	53	117	19	18		0.166	0.56	0.081	28
040	Mobile R.	MO-1A	940816	0925	26	30	7.4	1710	4.2	7.2	14	1.4	556	208	996	5	24	<0.01	0.041	0.74	0.036	4
040	Mobile R.	MO-1A	940922	1155	30	29	7.3	485	18.7	6.4	49	<1.0	87	73	249	16	15		0.19	0.27	0.044	6
040	Mobile R.	MO-1A	941024	1035	27	23	7.1	220	46.0	8.3	50	<1.0	15.4	52	124	60	15	0.204	0.204	0.58	0.098	22
040	Mobile R.	MO-1A	941122	1030	19	19	7.1	310	34.0	8.1	48	1.1	41.6	59	154	41	45		0.136	0.39	0.103	24
040	Mobile R.	MO-1A	941207	1110	16	16	7.0	197	64.0	9.2	43	1.2	18.6	57.6	133	115	14		0.373	0.47	0.182	>80
040	Mobile R.	MO-1A	950112	1030	22	11	7.0	177	43.0	10.8	40	1.1	13	48.5	111	47	19		0.358	0.5	0.101	162
040	Mobile R.	MO-1A	950221	1040	18	11	6.9	158	127.0	10.3	42	1.6	12	53.1	107	219	18		0.249	1	0.195	600
040	Mobile R.	MO-1A	950322	1015	22	17	6.6	115	46.0	7.6	29	1.0	6	38.5	99	32	18		0.128	0.39	0.094	49
040	Mobile R.	MO-1A	950425	1000	19	22	7.1	160	114.0	6.8	43	1.2	15	52	123	173	21		0.261	1	0.283	288
040	Mobile R.	MO-1A	950504	1005	23	20	6.6	151	51.0	5.9	35	1.4	9	45	110	62	18		0.219	0.98	0.108	55
040	Mobile R.	MO-1A	950608	1010					38.0		38	1.9	16		156	15	18	<0.01	0.155	0.91	0.0072	
040	Mobile R.	MO-1A	950720	1110	32	32	7.2		5.0	5.3	49	1.0	231	124	577	4	13	<0.01	0.04	1	0.017	2
040	Mobile R.	MO-1A	950831	1055	34	33	7.2	3400	5.4	5.9	69	<1.0	625	2520	1350	2	19	0.044	0.022	0.62	0.021	6
040	Mobile R.	MO-1A	950927	1230	28	29	7.5	5560	8.0	5.3	70		1403	516	2920	8	26	0.05	0.085	0.64	0.028	3
040	Mobile R.	MO-1A	951121	1125	18	15	6.9	164	30.0	8.6	34		11	46	115	43	15	<0.01	0.289	0.61	0.078	
040	Mobile R.	MO-1A	951220	1130	8	13	7.0	138	78.0	10.0	31	1.5	11	48	115	117	19	<0.01	0.226	0.78	0.129	>320
040	Mobile R.	MO-1A	960104	1200	12	10	6.8	136	19.0	10.7	29	1.9	9	37	112	36	17	<0.01	0.177	0.5	0.071	120
040	Mobile R.	MO-1A	960221						37.0		29	1.6	7	37	94	33	17	<0.01	0.221	0.35	0.074	20
040	Mobile R.	MO-1A	960313	1125	20	12	6.9	143	73.0	9.0	4	1.4	7	48	122	74	16	<0.01	0.243	0.7	0.145	18
040	Mobile R.	MO-1A	960403	1100	22	15	7.1	123	49.0	8.3	33	1.0	7	42	101	43	18	<0.01	0.225	0.33	0.092	75
040	Mobile R.	MO-1A	960522	1000	31	29	7.0	207		7.3	46	1.5	16	53	119	7	10	<0.01	0.008	<0.1	0.011	10
040	Mobile R.	MO-1A	960611	1040	30	28	7.5	192	18.4	7.3	42	1.2	15	55	116	10	10	<0.01	0.026	0.45	0.055	4
040	Mobile R.	MO-1A	960717	1010	25	31	7.2	285	19.0	6.4	49	1.4	30	65	160	12	15	<0.01	0.143	0.63	0.03	41
040	Mobile R.	MO-1A	960808	0925	31	31	7.3	278	14.0	6.8	46	1.1	23	63	160	10	11	<0.01	0.174	2.3	0.085	7
040	Mobile R.	MO-1A	960904	1215	31	28	6.8	182	66.0	5.6	34	1.5	15	45	146	33	11	0.05	0.149	0.21	0.031	12
040	Mobile R.	MO-1A	961028	1050	27	23	7.3	281	21.0	7.7	61	1.3	20	71	155	28	14	<0.01	0.186	<0.1	0.071	4
040	Mobile R.	MO-1A	961114	1035	18	18	7.2	262	25.0	8.8	50	1.0	19.6	58	152	44	11	0.04	0.211	0.29	0.026	11
040	Mobile R.	MO-1A	961203	1045	15	15	7.6	255	2.1	9.4	50	1.0	16	62	130	121	18	<0.01	0.228	0.36	0.131	
040	Mobile R.	MO-1A	970127	1100	19	9	7.1	163	56.0	11.7	35	1.2	10	46	114	63	17	<0.01	0.666	2.6	0.056	>120

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
040	Mobile R.	MO-1A	970205	1100	15	11	7.0	164	64.0	9.5	36	<1.0	8.4	67	116	63	14.7	<0.01	0.3	0.83	0.078	90
040	Mobile R.	MO-1A	970310	1145	27	17	7.2	171	54.0	7.4	36	<1.0	7.5	47	119	56	27	<0.01	0.282	0.44	0.122	120
040	Mobile R.	MO-1A	970402	1145	25	20	7.2	181	25.0	8.5	37	<1.0	13	48	112	31	13	<0.01	0.269	0.26	0.08	40
040	Mobile R.	MO-1A	970529	1140	26	26	7.0	161	37.0	7.3	36	1.0	11	45	100	38	14	<0.01	0.224	1.4	0.086	20
040	Mobile R.	MO-1A	970626	1115	28	26	6.7	165	47.0	5.6	36	<1.0	6.3	44	103	45	12	<0.01	0.287	0.88	0.125	55
040	Mobile R.	MO-1A	970724	0835	28	24	5.9	71	11.3	5.8	8	1.4	4.79	14	56	6	0.03	0.153	0.1	1	0.03	41
040	Mobile R.	MO-1A	970805	1135	31	30	6.8	2089	24.0	6.6	35	1.0		50	107	10	14	<0.01	0.222	0.47	0.069	2
040	Mobile R.	MO-1A	970925	1255	24	31	7.0	2440	9.5	5.7	58	<1.0	422	199	1050	10	11	0.05	0.097	0.32	0.032	20
040	Mobile R.	MO-1A	971120	1045	22	15	7.3	210	21.0	9.6	48	1.0	16	54	127	24	28	<0.01	0.181	0.45	0.063	26
040	Mobile R.	MO-1A	971209	1130	18	13	6.9	160	27.0	9.2	41	1.2	9.96	45	105	31	20	<0.01	0.227	0.51	0.103	46
040	Mobile R.	MO-1A	980128	1045	13	9	7.0	120	50.0	9.5	32	1.7	6.41	46	102	33	21	<0.01	0.234	0.46	0.105	64
040	Mobile R.	MO-1A	980312	1015	5	12	6.8	121	49.0	8.7	31	<2.0	6.86	47	91	51	21	<0.01	0.202	0.46	0.101	212
040	Mobile R.	MO-1A	980611	1030	30	30	7.5	139	23.0	6.4	38	<1.0	11	47	109	13	14	<0.01	0.123	0.3	0.069	4
040	Mobile R.	MO-1A	980813	1105	30	32	7.4	364	14.2	6.2	53	2.2	47	77	166	24	<5	<0.01	<0.005	0.51	0.076	30
040	Mobile R.	MO-1A	981026	1230	28	25	7.2	3700	16.8	6.1	55	<1.0	560	253	1420	7	22	0.04	0.046	0.76	0.077	30
040	Mobile R.	MO-1A	990615	1155	31	31	7.5	290	18.2	6.8	57	2.2	47.5	69	185	15	13	0.02	0.08	0.6	0.06	64
040	Mobile R.	MO-1A	990815	1210	33	35	7.7	340	13.3	6.7	59	1.8	58	69	196	10	17	<0.01	0.107	0.77	0.035	28
040	Mobile R.	MO-1A	991014	1130	25	26	7.5	316	35.0	6.5	48	<1.0	31	68	182	23	15	0.02	0.167	0.47	0.091	64
040	Mobile R.	MO-1A	000628	1050	31	32	7.6	1700	9.1	6.6	58	2.2	429	182	852	10	17	0.03	0.14	0.48	0.06	32
040	Mobile R.	MO-1A	000809	1020	31	32	7.7	5410	4.5	5.8	28	1.3	1710	545	3220	10	23	0.05	0.019	0.58	0.067	6
040	Mobile R.	MO-1A	001002	1125	28	29	7.6	8890	4.0	6.0	21		2160	733	3850	12		0.04	0.022	0.4	0.052	18
040	Mobile R.	MO-1A	010208	1050	20	11	7.2	200	32.0	11.0	9	2.1	11	65	138	41	20	0.08	0.374	0.64	0.108	16
040	Mobile R.	MO-1A	010330	1050	22	14	7.0	185	25.0	8.8	7	<1.0	5	50	94	24	10	0.02	0.295	0.67	0.069	
040	Mobile R.	MO-1A	010411	1035	24	19	7.0	151	53.0	6.8	6	<1.0	5	50	99	58	10	0.08	0.408	0.8	0.107	95
040	Mobile R.	MO-1A	010614	1115	29	26	7.0	150	83.0	6.5	11	<1.0	13	63	130	135	20	0.04	0.545	0.65	0.177	44
040	Mobile R.	MO-1A	010820	1055	29	31	7.5	325	16.1	6.9	16	<1.0	21	59	153	19	16	0.32	0.1	0.43	0.076	26
040	Tensaw R.	TE-1	900111	1440	18	11	6.6	130	30.0	9.0	34	1.0	3	61	97	93	21		0.192	<0.1	0.072	136
040	Tensaw R.	TE-1	900208	0930	14	14	5.7	100	25.0	8.6	30	1.2	3	39	83	24	13		0.214	0.26	0.054	106
040	Tensaw R.	TE-1	900314	1200	25	19	5.8	100	31.0	8.2	30	<1.0	1	40	66	11	11		0.119	0.23	0.036	124
040	Tensaw R.	TE-1	900424	1250	30	24	7.3	120	11.6	8.9	34	1.6	4	46	79	2	<5		0.122	<0.05	0.053	2
040	Tensaw R.	TE-1	900515	1220	29	23	7.1	103		7.2	26	1.1	5	32	81	32	11		0.03	0.23	0.028	104
040	Tensaw R.	TE-1	900612	1255	35	31	8.2	140	16.9	6.3	36	2.7	8	44	96	6	10		0.159	0.35	0.055	3
040	Tensaw R.	TE-1	900710	1319	35	31	7.3	210	7.9	5.4	43	1.2	28	48	125	7	13		0.094	3.442	0.041	2
040	Tensaw R.	TE-1	900821	0954	30	31	7.3	200	6.3	4.8	46	<1.0	18	54	167	2	7		<0.005	0.31	0.017	
040	Tensaw R.	TE-1	900918	1235	34	31	7.4	220	4.8	5.6	49	2.3	74	52	214	2	25		<0.005	0.44	<0.005	2
040	Tensaw R.	TE-1	901016	1317	32	25	7.9	700	6.9	8.0	54	1.8	159	98	454	6	14		<0.005	0.55	0.069	2
040	Tensaw R.	TE-1	901115	1245	25	19	7.6	170	12.9	8.4	58	1.6	41	62	172	9	12		0.092	0.53	0.065	3
040	Tensaw R.	TE-1	901211	1400	20	13	7.6	195	16.3	9.2	57		22	64	110	7	12		0.235	0.17	0.057	8
040	Tensaw R.	TE-1	910116	1225	15	12	7.3	135	29.0	9.4	35	<1.0	10	112	116	23	12		0.249	0.7	0.082	60
040	Tensaw R.	TE-1	910221	1150	17	13	7.1	200	15.6	9.7	34	<1.0	11	53	84	13	6		0.226	<0.05	0.065	50
040	Tensaw R.	TE-1	910314	1145	17	14	6.7	100	33.0	7.7	27	<1.0	5	50	79	22	22		0.132	0.4	0.129	76
040	Tensaw R.	TE-1	910416	1140	27	21	6.9	100	22.0	7.0	23	1.1	7	45	60	18	23		0.155	0.31	0.033	29
040	Tensaw R.	TE-1	910515	1130	29	23	6.9	80	30.0	5.8	35	1.4	3	43	72	22	6		0.177	0.46	0.079	96
040	Tensaw R.	TE-1	910620	1050	28	28	7.0	140	36.0	5.1	42	2.2	17	50	74	21	15		0.194	0.63	0.121	37
040	Tensaw R.	TE-1	910709	1205	28	28	6.8	125	20.0	6.9	34	1.5	11	45	88	12	13		0.133	0.83	0.062	12
040	Tensaw R.	TE-1	910813	1140	33	31	7.4	160	12.9	6.4	33	1.0	14	55	74	5	11		0.065	1.43	0.048	13
040	Tensaw R.	TE-1	910917	1130	32	31	7.8	600	8.4	6.5	42	1.5	11	51	119	9	13		0.013	0.5	0.052	1
040	Tensaw R.	TE-1	911023	1120	26	23	7.5	1000	11.1	7.1	51	1.2	185	120	510	6	11		0.054	0.51	0.037	18
040	Tensaw R.	TE-1	911114	1120	20	15	7.5	220	16.6	9.2	50	1.4	28	59	210	12	12		0.143	0.48	0.059	4
040	Tensaw R.	TE-1	911212	1210	18	13	6.6	90	89.0	8.2	31	<1.0	<5	38	98	81	19		0.093	0.54	0.575	126
040	Tensaw R.	TE-1	920107	1135	16	11	7.2	165	23.0	9.9	45	2.1	7	77	120	25	17		0.242	0.91	0.045	39
040	Tensaw R.	TE-1	920220	1055	16	13	7.2	115	71.0	8.3	33	1.9	6	51	108	95	18		0.158	0.65	0.159	152

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_20 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
040	Tensaw R.	TE-1	920317	1040	23	15	6.8	125	20.0	9.1	36	2.3	6	58	104	15	13		0.208	0.24	0.055	46
040	Tensaw R.	TE-1	920415	1225	23	21	8.8	151	6.8	13.5	40	3.3	13	56	103	6			0.011	0.51	0.032	1
040	Tensaw R.	TE-1	920514	0930	20	24	7.4	192	9.8	8.2	42	2.0	15	56	128	12	18		<0.001	0.59	0.059	
040	Tensaw R.	TE-1	920616	1000	29	28	7.2	157	25.0	6.1	46	<1.0	12	42	109	13	9		0.241	0.65	0.069	22
040	Tensaw R.	TE-1	920709	0950	30	31	7.5	235	10.0	7.1	45	2.6	25	49	156	7	14		0.12	0.94	0.05	
040	Tensaw R.	TE-1	920819	0945	25	30	7.3	207	17.8	5.7	52		13	56	119	15	10		0.067	1.13	0.051	2
040	Tensaw R.	TE-1	920909	0950	27	28	7.3	185	21.0	6.2	51	<1.0	12	56	123	14	12		0.23	0.52	0.038	24
040	Tensaw R.	TE-1	930114	0920	7	13	7.0	128	32.0	9.4	35	<1.0	6	40	112	36	26		0.132	0.61	0.035	177
040	Tensaw R.	TE-1	930209	0920	13	11	7.0	117	21.0	9.9	32	1.2	6	43	87	14	15		0.189	<0.05	0.067	100
040	Tensaw R.	TE-1	930304	1120	15	12	7.0	145	19.0	10.4	33	<1.0	7	45	87	15	16		0.2	0.93	0.053	56
040	Tensaw R.	TE-1	930407	1025	17	16	6.9	119	25.0	8.0	36	1.2	6	43	86	23	12		0.107	0.41	0.067	100
040	Tensaw R.	TE-1	930505	0900	21	21	6.9	147	14.2	7.9	38	<1.0	9	44	97	7	9		0.167	0.31	0.055	3
040	Tensaw R.	TE-1	930609	1035	31	28	7.3	172	10.0	7.9	44	2.3	18	49	104	10	4		0.108	0.62	0.047	
040	Tensaw R.	TE-1	930706	1210	35	33	7.9	210	13.6	6.7	50	1.8	17	52	140	17	20		0.067	0.67	0.047	4
040	Tensaw R.	TE-1	930811	0950	32	31	7.3	237	14.4	5.7	48	<1.0	23	61	116	12	11		0.04	2.85	0.051	5
040	Tensaw R.	TE-1	930922	0955	26	30	7.2	272	8.1	6.1	54	<1.0	30	63	156	15	19		0.056	0.136	0.044	<20
040	Tensaw R.	TE-1	931013	0900	20	25	7.3	912	5.3	6.4	57	<1.0	212	115.1	482	2	13		0.014	0.502	0.03	1
040	Tensaw R.	TE-1	931118	0925	14	18	6.9	178	58.0	7.4	36	<4.0	16	46.73	122	60	17		0.134	0.56	0.129	>120
040	Tensaw R.	TE-1	931213	1000	16	14	7.4	238	18.9	9.9	72	<1.0	25	59.5	150	22	7		0.229	0.888	0.067	15
040	Tensaw R.	TE-1	940124	1030	15	7	7.0	207	54.0	11.5	46	2.0	13	61	126	77	17		0.221	0.168	0.108	119
040	Tensaw R.	TE-1	940217	0945	18	11	6.9	135	76.0	8.9	34	<1.0	8	43	97	78	13		0.111	0.62	0.131	500
040	Tensaw R.	TE-1	940329	0940	13	17	6.8	129	45.0	7.5	39	1.1	8	49	97	55	16		0.205	0.52	0.12	144
040	Tensaw R.	TE-1	940419	1150	28	20	6.9	124	36.0	7.4	36	1.0	6	42.1	106	42	12		0.219	0.21	0.061	104
040	Tensaw R.	TE-1	940511	1030	28	25	7.1	130	8.3	8.6	37	1.2	9.63	50	96	6	13		0.107	0.59	0.034	2
040	Tensaw R.	TE-1	940615	1000	33	30	7.3	182	18.4	6.6	43	<1.0	16	48	118	12	10		0.097	1.7	0.046	
040	Tensaw R.	TE-1	940721	1100	32	28	6.7	137	22.0	5.8	39	<1.0	8.1	45	100	10	21		0.108	0.55	0.079	9
040	Tensaw R.	TE-1	940823	0900	25	29	7.3	183	14.6	7.1	50	1.3	15	56	127	10	25	<0.01	0.018	0.91	0.039	7
040	Tensaw R.	TE-1	940922	1140	31	28	7.2	210	15.7	6.4	51	<1.0	24	60	132	12	12		0.15	0.39	0.061	3
040	Tensaw R.	TE-1	941024	1019	26	22	7.1	190	26.0	8.4	50	<1.0	11.3	47	108	30	11		0.182	0.4	0.064	16
040	Tensaw R.	TE-1	941122	1005	19	19	7.1	195	20.0	8.0	48	1.2	18.6	53	119	18	13		0.132	0.56	0.071	73
040	Tensaw R.	TE-1	941207	1035	15	16	6.9	173	51.0	8.8	42	1.4	15.7	56.9	122	77	12		0.319	0.31	0.131	154
040	Tensaw R.	TE-1	950112	1055	21	11	7.0	164	27.0	10.6	40	<1.0	11	47.4	101	20	15		0.315	0.48	0.081	121
040	Tensaw R.	TE-1	950221	1020	18	11	6.8	143	80.0	9.9	41	1.8	10	49.5	102	154	17		0.214	0.87	0.133	345
040	Tensaw R.	TE-1	950322	1000	22	17	6.7	104	37.0	8.0	30	1.6	5	36.2	90	12	17		0.143	0.32	0.066	37
040	Tensaw R.	TE-1	950425	0945	18	22	6.9	146	55.0	6.7	41	1.8	12	46	122	53	14		0.254	0.84	0.13	123
040	Tensaw R.	TE-1	950504	0950	23	20	6.6	143	42.0	6.1	37	1.0	9	46	103	45	16		0.21	1	0.107	84
040	Tensaw R.	TE-1	950608	1020					35.0		37	1.5	13		145	10	14	<0.01	0.113	0.55	0.061	
040	Tensaw R.	TE-1	950720	1122	33	32	7.7		10.0	7.5	54	2.1	49	58	177	4	14	<0.01	0.005	0.46	<0.005	<2
040	Tensaw R.	TE-1	950831	1115	33	32	7.3	663	4.8	6.3	54	1.7	129	869	342	2	12	<0.01	<0.005	0.64	<0.005	2
040	Tensaw R.	TE-1	950927	1245	28	28	7.4	2050	8.2	5.6	65		436	215	1120	7	18	<0.01	0.107	0.9	<0.005	5
040	Tensaw R.	TE-1	951121	1145	18	15	6.8	135	23.0	8.3	36		7	41	91	38	15	<0.01	0.215	0.5	0.065	77
040	Tensaw R.	TE-1	951220	1055	7	13	6.9	118	63.0	9.4	32	1.4	9	42	105	91	18	<0.01	0.171	0.72	0.118	>400
040	Tensaw R.	TE-1	960104	1220	10	10	6.8	116	26.0	10.2	28	2.1	8	34	103	21	16	<0.01	0.147	0.56	0.056	100
040	Tensaw R.	TE-1	960221						36.0		27	1.8	6	32	79	20	12	<0.01	0.212	0.33	0.073	20
040	Tensaw R.	TE-1	960313	1140	19	12	7.0	113	56.0	8.9	3.5	1.3	5	42	100	50	17	<0.01	0.205	0.7	0.131	12
040	Tensaw R.	TE-1	960403	1115	24	15	7.2	103	38.0	8.3	33	<1.0	5	38	82	22	18	<0.01	0.215		0.068	46
040	Tensaw R.	TE-1	960522	1020	30	27	7.0	170		7.4	47	1.5	11	50	95	3	12	<0.01	<0.005	<0.1	<0.005	2
040	Tensaw R.	TE-1	960611	1100	29	28	7.5	176	14.0	7.7	41	2.3	12	49	109	7	12	<0.01	0.012	0.48	0.051	1
040	Tensaw R.	TE-1	960717	1000	25	30	7.3	218	14.3	6.4	51	1.6	17	56	131	9	14	0.02	0.118	0.58	0.026	51
040	Tensaw R.	TE-1	960808	1300	33	32	7.5	245	8.5	7.9	46	1.2	<10	59	7	127	19	<0.01	0.147	0.73	0.006	4
040	Tensaw R.	TE-1	960930	1100	26	26	7.4	221	18.0	6.9	56	1.4	13.6	59	140	18	7	0.02	0.151	0.62	0.006	14
040	Tensaw R.	TE-1	961028	1020	25	22	7.3	251	22.0	7.8	62	1.0	15	73	143	25	12	<0.01	0.155	<0.1	0.056	32

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
040	Tensaw R.	TE-1	970205	1120	15	12	7.0	149	46.0	9.1	37	<1.0	6.3	50	103	49	15.4	<0.01	0.266	1.3	0.049	90
040	Tensaw R.	TE-1	970310	1205	25	17	7.2	153	46.0	7.6	34	<1.0	5.2	40	91	26	15	<0.01	0.233	0.68	0.089	211
040	Tensaw R.	TE-1	970402	1205	26	20	7.2	152	12.8	8.8	36	<1.0	9	43	88	13	13	<0.01	0.255	0.29	0.043	8
040	Tensaw R.	TE-1	970529	1155	22	25	7.0	151	25.0	6.9	38	1.5	9	44	93	22	14	<0.01	0.193	1.6	0.065	50
040	Tensaw R.	TE-1	970626	1125	27	26	6.8	160	35.0	5.4	36	<1.0	4.5	49	93	42	10	0.01	0.249	0.61	0.11	284
040	Tensaw R.	TE-1	970807	1210	30	30	7.2	183		6.9	38	<3.0	11	45	102	14	14	<0.01	0.146	0.44	0.055	<2
040	Tensaw R.	TE-1	970925	1310	24	29	7.2	1880	15.1	6.0	51	<1.0	67	68	224	19	11	<0.01	0.103	0.39	0.049	10
040	Tensaw R.	TE-1	971120	1025	22	15	7.3	200	16.0	9.4	49	1.0	14	60	117	15	23	<0.01	0.177	0.52	0.044	20
040	Tensaw R.	TE-1	971209	1110	15	13	6.9	150	19.0	8.9	40	<1.0	7.82	44	97	13	23	<0.01	0.213	0.39	0.081	49
040	Tensaw R.	TE-1	980128	1020	13	10	7.0	122	38.0	8.9	35	2.3	5.01	46	89	27	20	<0.01	0.066	0.65	0.092	54
040	Tensaw R.	TE-1	980312	1000	3	11	6.9	103	36.0	8.7	31	<2.0	4.78	39	75	29	18	<0.01	0.182	0.3	0.086	104
040	Tensaw R.	TE-1	980611	1015	30	30	7.7	162	17.9	6.8	40	1.2	9	45	93	12	14	<0.01	0.04	0.36	0.054	14
040	Tensaw R.	TE-1	980813	1030	31	31	7.3	300	8.9	5.7	53	1.8	16	76	118	7	<5	<0.01	<0.005	0.33	0.041	15
040	Tensaw R.	TE-1	981026	1250	29	23	7.2	540	14.1	6.5	51	<1.0	86	85	301	5	22	<0.01	0.037	0.74	0.067	25
040	Tensaw R.	TE-1	990615	1210	31	30	7.5	220	16.7	6.8	56	2.2	35.1	62	144	16	14	0.01	0.046	0.57	0.055	28
040	Tensaw R.	TE-1	990804	1045	30	33	7.8	180	13.3	7.0	52	2.6	13	53	75	9	15	<0.01	0.051	0.38	0.048	6
040	Tensaw R.	TE-1	991014	1100	25	25	7.4	940	16.4	6.0	51	1.1	220	117	498	16	13	0.03	0.165	0.51	0.067	40
040	Tensaw R.	TE-1	000629	1000	32	30	7.4	300	10.0	6.2	57	1.6	437	212	162	11		<0.01	0.081	0.5	0.061	4
040	Tensaw R.	TE-1	000809	1105	32	32	7.8	554	4.9	6.2	25	1.9	120	83	295	10	16	<0.01	<0.005	0.54	0.048	28
040	Tensaw R.	TE-1	001002	1145	29	27	7.7	3030	4.3	6.8	17	2.0	770	280	1510	13	15	0.01	0.014	0.54	0.041	30
040	Tensaw R.	TE-1	010208	1130	22	10	7.2	190	22.0	10.9	11	1.8	10	64	131	23	19	0.06	0.314	0.54	0.085	8
040	Tensaw R.	TE-1	010330	1105	20	13	7.0	153	23.0	8.6	7	<1.0	4	50	74	19	12	0.02	0.204	<0.18	0.067	
040	Tensaw R.	TE-1	010411	1050	24	19	7.0	120	31.0	6.5	9	<1.0	4	45	84	24	10	0.09	0.192	0.59	0.09	62
040	Tensaw R.	TE-1	010614	1145	28	26	6.9	130	44.0	6.2	10	<1.0	10	56	110	52	16	0.04	0.412	0.46	0.119	40
040	Tensaw R.	TE-1	010820	1110	29	30	7.7	273	9.9	7.0	15	<1.0	11	60	124	11	16	0.03	0.086	0.35	0.059	8
050	Chickasaw R.	CS-1	900111	1345	23	14	5.8	100	7.5	8.4	11	2.7	13	36	67	1	14		0.123	0.53	0.087	450
050	Chickasaw R.	CS-1	900208	1030	15	15	5.5	65	6.9	8.3	7	1.0	10	23	53	7	18		0.137	0.52	0.04	238
050	Chickasaw R.	CS-1	900314	1055	28	22	5.9	50	5.1	7.7	7	<1.0	3	14	39	3	10		0.077	0.32	<0.005	58
050	Chickasaw R.	CS-1	900424	1150	29	22	5.6	30	25.0	7.2	4	1.0	2	12	48	9	14		0.02	0.25	0.056	>600
050	Chickasaw R.	CS-1	900515	1110	35	20	5.4	30		6.7	2	<1.0	2	10	50	11	21		<0.005	0.34	0.034	470
050	Chickasaw R.	CS-1	900612	1130	31	29	6.3	50	13.4	5.8	6	<1.0	8	11	50	2	16		0.14	0.98	0.035	455
050	Chickasaw R.	CS-1	900710	1214	35	31	6.5	1900	3.6	4.8	12	1.5	821	216	1345	9	24.9		0.088	0.64	0.023	80
050	Chickasaw R.	CS-1	900807	1143	34	28	6.3	700	7.0	5.8	7	1.0	45	40	130	12	12		0.25	0.71	0.05	
050	Chickasaw R.	CS-1	900821	0901	30	30	6.8	6000	3.2	2.8	20	<1.0	2430	730	3975	4	7		<0.005	0.22	<0.005	104
050	Chickasaw R.	CS-1	900918	1100	30	29	6.7	2400	3.5	1.3	14	<1.0	1730	248	1628	9	17		<0.005	0.34	<0.005	740
050	Chickasaw R.	CS-1	901016	1154	30	22	6.7	7000	3.3	4.1	22	<1.0	2200	670	3844	5	19		0.187	0.29	0.057	1160
050	Chickasaw R.	CS-1	901115	1200	24	16	6.5	2250	4.1	3.7	14	1.5	1300	364	3828	2	20		0.102	0.31	0.033	144
050	Chickasaw R.	CS-1	901211	1250	19	12	6.3	1080	3.1	6.5	12		439	144	893	1	16		0.331	0.06	0.015	10
050	Chickasaw R.	CS-1	910116	1100	14	12	6.1	132	19.1	8.2	8	<1.0	38	46	91	9	50		0.101	0.42	0.035	350
050	Chickasaw R.	CS-1	910221	1050	19	16	6.2	210	16.8	8.2	5	<1.0	39	20	87	6	21		0.072	0.2	0.192	2020
050	Chickasaw R.	CS-1	910314	1050	17	15	6.1	65	5.2	8.2	7	<1.0	19	20	52	1	<5		0.111	0.19	<0.005	36
050	Chickasaw R.	CS-1	910416	1040	28	23	6.1	100	21.0	5.3	5	1.1	17	20	32	14	19		0.059	0.33	0.009	1200
050	Chickasaw R.	CS-1	910515	1015	28	24	5.9	50	29.0	4.5	10	1.3	8	13	60	10	24		0.037	1.06	0.055	720
050	Chickasaw R.	CS-1	910620	0955	31	26	6.1	50	23.0	5.9	8	<1.0	17	20	23	8	23		0.072	0.84	0.029	200
050	Chickasaw R.	CS-1	910709	1105	27	25	5.9	45	19.4	6.9	5	1.2	14	8	52	6	26		<0.005	0.64	0.4	1040
050	Chickasaw R.	CS-1	910813	1020	29	27	6.1	200	8.4	3.4	6	<1.0	50	35	89	3	16		0.07	1.59	0.031	122
050	Chickasaw R.	CS-1	910917	1020	29	27	6.6	2000	4.9	5.7	10	1.2	683	208		4	16			0.79	1.65	290
050	Chickasaw R.	CS-1	911023	1010	26	21	6.9	4100	5.1	4.1	17	<1.0	1347	476	2602	6	17		0.178	0.28	0.031	600
050	Chickasaw R.	CS-1	911114	1015	20	12	7.1	2400	3.5	5.9	12	<1.0	709	255	1473	7	7		0.238	0.48	0.008	29
050	Chickasaw R.	CS-1	911212	1045	19	14	6.2	260	6.5	8.3	6	<1.0	6	19		1	13		0.069	0.22	0.012	78
050	Chickasaw R.	CS-1	920116	1335	8	10	5.4	96	12.9	9.2	4	1.2	17	29	71	3	20		0.076	0.21	0.009	163
050	Chickasaw R.	CS-1	920220	1010	15	15	5.9	55	15.2	7.9	4	1.9	6	51	63	4	18		0.05	0.89	0.02	72

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
050	Chickasaw R.	CS-1	920317	0945	21	15	5.6	80	8.0	8.5	7	2.8	18	76	61	<1	13		0.155	0.37	0.016	3040
050	Chickasaw R.	CS-1	920415	1130	28	23	6.7	198	4.9	6.5	9	<1.0	48	24	139	2			0.126	0.55	0.006	16
050	Chickasaw R.	CS-1	920514	1045	29	23	6.7	2070	3.8	7.4	10	1.2	568	213	1135	9	9		0.205	0.39	0.05	21
050	Chickasaw R.	CS-1	920616	1120	30	26	6.3	674	37.0	4.4	14	1.0	177	65	393	18	12		0.122	0.76	0.026	2440
050	Chickasaw R.	CS-1	920709	1125	33	31	6.9	2480	4.3	4.7	14	3.2	683	222	1328	5	14		0.12	0.74	<0.02	80
050	Chickasaw R.	CS-1	920819	1045	22	26	6.6	1391	10.3	4.5	15		372	142	750	6	14		0.129	0.75	0.006	290
050	Chickasaw R.	CS-1	920909	1135	30	28	6.4	489	5.6	4.6	11	1.1	125	48	264	3	15		0.157	0.36	<0.005	126
050	Chickasaw R.	CS-1	930114	1025	8	15	5.9	67	6.9	8.2	6	<1.0	12	16	66	4	16		0.033	0.16	0.01	1000
050	Chickasaw R.	CS-1	930209	1035	18	12	5.9	51	5.6	9.9	4	<1.0	10	33	73	1	17		0.128	0.52	0.006	68
050	Chickasaw R.	CS-1	930304	1015	14	14	5.8	51	12.4	8.5	6	<1.0	8	25	40	8	18		0.052	0.38	0.009	1240
050	Chickasaw R.	CS-1	930407	0940	18	16	5.8	52	8.9	8.4	6	1.1	8	14	40	6	26		0.067	0.31	0.006	100
050	Chickasaw R.	CS-1	930505	0950	23	21	5.8	57	6.8	6.6	8	<1.0	9	12	76	3	19		0.066	0.69	0.006	140
050	Chickasaw R.	CS-1	930609	1235	32	28	6.0	110	5.6	6.2	7	1.8	25	15	81	7	7		0.089	0.54	0.029	76
050	Chickasaw R.	CS-1	930706	1035	30	29	6.2	579	6.0	4.9	15	<1.0	150	51	327	7	11		0.131	0.29	0.026	87
050	Chickasaw R.	CS-1	930824	1250		27	6.6	1750	8.7	1.3			5380		10090		70		0.03	0.4	0.022	92
050	Chickasaw R.	CS-1	930922	1055	29	27	6.1	2890	5.0	3.0	15	<1.0	376	258	1544	4	38		0.016	0.696	0.014	76
050	Chickasaw R.	CS-1	931013	1006	19	20	6.6	4700	3.0	1.3	16	<1.0	1352	440.7	2490	4	12		0.057	0.428	0.018	>240
050	Chickasaw R.	CS-1	931118	1015	16	19	5.6	175	8.1	6.4	5	<4.0	42	32.61	115	5	27		<0.005	0.28	0.009	765
050	Chickasaw R.	CS-1	931213	1045	16	12	6.7	3260	3.4	7.4	32	<1.0	693	267.7	1538	5	<5		0.146	0.532	0.013	252
050	Chickasaw R.	CS-1	940124	1115	22	8	6.1	186	2.7	11.1	6	1.0	36	22	98	1	19		0.2	0.143	<0.005	10
050	Chickasaw R.	CS-1	940217	0845	15	12	6.0	100	4.0	9.7	7.4	1.2	22	19	78	18	9		0.005	0.34	<0.005	54
050	Chickasaw R.	CS-1	940324	1025	30	20	6.0	93	4.2	7.3	10	3.2	21	13.4	152	3	9		0.136	0.42	0.007	61
050	Chickasaw R.	CS-1	940419	1045	26	20	5.9	63	8.2	6.9	10	1.3	11	12	70	2	18		0.774	0.06	0.008	170
050	Chickasaw R.	CS-1	940511	1120	31	25	6.1	296	4.8	6.2	10	1.2	82.6	42	215	<1	11		0.088	0.21	0.015	69
050	Chickasaw R.	CS-1	940615	1100	33	28	6.0	131	9.4	5.3	8.5	<1.0	28	17	103	5	18		0.079	0.71	0.02	156
050	Chickasaw R.	CS-1	940721	0955	31	27	6.2	160	19.5	5.3	15	1.3	33.3	28	116	82	27		0.087	0.56	0.066	1240
050	Chickasaw R.	CS-1	940830	0920	28	28	6.1	1880	1.0	5.2	14	1.4	384	163	954	4	25		0.116	<0.1	0.018	110
050	Chickasaw R.	CS-1	940929	0935	26	23	6.4	1720	3.7	8.3	13	1.2		151	872	8	14		0.139	0.23	0.02	66
050	Chickasaw R.	CS-1	941024	1110	27	22	5.9	1300	6.4	5.0	16	<1.0	257	90	526	<1	16		0.101	0.27	0.024	330
050	Chickasaw R.	CS-1	941122	1132	20	18	6.3	3350	2.8	3.9	17	1.5	1140	294	1710	10	16		0.032	0.25	0.016	166
050	Chickasaw R.	CS-1	941207	1140	25	18	5.5	102	9.4	7.0	6	1.0	29.3	18.4	87	3	21		0.13	0.3	0.023	530
050	Chickasaw R.	CS-1	950112	0950	21	12	6.0	820	3.3	9.4	11	<1.0	240	74.6	415	4	12		0.282	0.24	<0.005	375
050	Chickasaw R.	CS-1	950221	1120	19	15	5.4	59	6.5	8.7	7	<1.0	11	10.4	54	6	9		0.086	0.57	<0.005	120
050	Chickasaw R.	CS-1	950322	1110	23	19	5.7	69	5.3	7.2	8	1.2	11	14.6	53	1	15		0.077	0.23	0.01	77
050	Chickasaw R.	CS-1	950425	1030	20	19	5.8	41	14.3	6.7	7	1.2	9	9	58	5	23		0.078	0.66	0.021	233
050	Chickasaw R.	CS-1	950504	1100	27	22	6.0	97	4.6	6.5	6	1.0	16	14	62	10	13		0.128	0.87	0.019	53
050	Chickasaw R.	CS-1	950608	0930					7.0		15	<1.0	47		153	2	17	<0.01	0.129	0.51	0.018	
050	Chickasaw R.	CS-1	950720	1040	35	28	7.1		12.0	1.4	16	1.4	290	116	696	5	14	<0.01	0.077	0.49	<0.005	388
050	Chickasaw R.	CS-1	950831	1010	33	28	6.5	2590	3.8	6.1	14	<1.0	699	2318	1390	3	24	0.038	0.066	0.44	<0.005	116
050	Chickasaw R.	CS-1	950927	1150	30	24	6.6	4890	4.4	0.6	20		1215	427	2580	7	25	0.036	0.101	1.7	<0.005	250
050	Chickasaw R.	CS-1	951121	1040	18	16	6.1	161	5.2	7.2	13		35	22	96	11	8	<0.01	0.12	0.39	0.006	338
050	Chickasaw R.	CS-1	951220	1210	9	15	5.2	37	34.0	7.9	5	1.3	6	14	72	41	32	<0.01	0.018	0.89	0.013	1080
050	Chickasaw R.	CS-1	960104	1120	10	11	5.6	47	13.8	9.1	4	1.8	7	12	67	2	22	<0.01	0.022	0.37	<0.005	275
050	Chickasaw R.	CS-1	960221						24.0		9	1.9	7	14	54	8	14	<0.01	0.138	0.3	0.01	450
050	Chickasaw R.	CS-1	960313	1030	20	11	6.7	62	3.9	10.2	<1	1.1	10	10	48	4	6	<0.01	0.177	0.28	0.007	4
050	Chickasaw R.	CS-1	960403	1020	22	16	7.0	43	8.7	8.2	6	<1.0	9	6	46	5	17	<0.01	0.058	0.17	0.005	122
050	Chickasaw R.	CS-1	960522	0930	31	25	6.2	116		7.0	8	1.7	26	17	80	3	13	<0.01	0.009	<0.1	<0.005	46
050	Chickasaw R.	CS-1	960611	0950	30	24	7.6	59	10.1	6.7	10	1.4	9	25	50	5	19	0.025	<0.005	0.43	0.025	364
050	Chickasaw R.	CS-1	960717	1150	27	25	6.0	162	14.3	7.8	8	1.3	33	22	108	11	21	0.01	0.057	0.69	<0.005	311
050	Chickasaw R.	CS-1	960807	1105	30	27	6.2	102	10.0	7.3	8	1.0	<10	14	79	5	19	<0.01	0.085	0.72	<0.005	240
050	Chickasaw R.	CS-1	960904	1110	30	26	6.2	286	10.4	6.9	10	<1.0	62.3	32	175	6	19	0.02	0.071	0.33	<0.005	311
050	Chickasaw R.	CS-1	961028	1145	26	23	6.4	3080	2.8	6.3	16	<1.0	900	292	1650	5	10	<0.01	0.049	<0.1	<0.005	143

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
050	Chickasaw R.	CS-1	961114	1130	19	14	6.4	2080	4.2	8.2	14	<1.0	422	166	831	<1	9.2	0.12	0.071	0.52	<0.005	>800
050	Chickasaw R.	CS-1	961203	1000	14	13	7.0	179	16.4	8.0	5	1.7	30	20	92	4	23	<0.01	0.074	0.21	0.018	
050	Chickasaw R.	CS-1	970127	1405	19	13	6.6	74	15.7	8.9	5	<1.0	8.4	10	55	6	18	<0.01	0.106	0.28	<0.005	>2400
050	Chickasaw R.	CS-1	970205	1025	15	15	6.1	84	25.0	8.0	7	<1.0	9.2	22	72	14	10.4	<0.01	0.094	0.62	<0.005	3050
050	Chickasaw R.	CS-1	970305	1350	29	20	6.2	100	9.3	7.4	8	<1.0	13	13	58	8	16	0.01	0.096	0.26	0.025	<200
050	Chickasaw R.	CS-1	970402	1105	25	20	7.0	103	4.7	7.2	8	<1.0	24	14	83	8	13	0.01	0.133	0.62	0.019	37
050	Chickasaw R.	CS-1	970529	1105	26	22	6.4	52	66.0	6.4	9	2.5	6	12	60	39	29	0.02	0.131	1.9	0.1	>1600
050	Chickasaw R.	CS-1	970626	1030	28	24	6.0	79	23.0	6.3	8	<1.0	5.7	15	60	11	24	<0.01	0.087	0.17	0.029	1950
050	Chickasaw R.	CS-1	970723	1240	38	24	6.7	61	11.8	5.9	6	1.2	4.7	15	71	5	21	<0.01	0.042	0.39	0.022	1600
050	Chickasaw R.	CS-1	970807	1130	31	28	6.3	240		5.7	8	<2.0	47	25	122	4	19	<0.01	0.084	0.25	0.115	120
050	Chickasaw R.	CS-1	970902	1315	39	28	6.7	3640	4.4	4.2	1	<1.0	349	126	748	1	11	0.02	0.165	0.65	0.013	880
050	Chickasaw R.	CS-1	970930	1040	30	25	7.0	2280	4.7	4.1	17	<1.0	272	95	520	4	7	<0.01	0.174	0.24	<0.005	108
050	Chickasaw R.	CS-1	971120	1150	24	13	7.2	880	6.8	9.2	11	<1.0	248	88	477	3	18	0.01	<0.005	0.29	0.014	98
050	Chickasaw R.	CS-1	971209	1220	15	10	7.0	80	4.4	10.2	7	<1.0	12.8	17	56	1	18	<0.01	0.164	0.26	0.023	65
050	Chickasaw R.	CS-1	980128	1130	13	9	6.2	50	10.3	9.4	6	<1.0	4.75	16	49	3	14	<0.01	0.103	0.24	0.017	251
050	Chickasaw R.	CS-1	980310	0835	8	13	5.3	30	15.2	8.7	5	<2.0	4	12	45	9	24	<0.01	0.044	0.25	0.02	415
050	Chickasaw R.	CS-1	980611	1130	31	28	6.7	1198	4.9	5.5	11	<1.0	272	106	647	3	21	<0.01	<0.005	0.39	0.015	201
050	Chickasaw R.	CS-1	980812	1210	38	29	6.4	867	12.6	5.1	13	<1.0	226	90	448	<1	<5	<0.01	0.096	0.46	0.009	220
050	Chickasaw R.	CS-1	981026	1110	26	18	6.8	5260	4.2	6.6	15	<1.0	586	222	1340	2	18	<0.01	0.026	0.46	0.032	160
050	Chickasaw R.	CS-1	990615	1050	30	26	6.3	990	8.1	4.3	10	2.0	263	89	526	3	18	0.04	0.066	0.5	0.033	940
050	Chickasaw R.	CS-1	990824	1115	34	30	6.5	2150	7.6	3.8	16	1.2	580	204	1200	9	16	<0.01	0.229	0.36	0.023	280
050	Chickasaw R.	CS-1	991014	1400	26	25	6.5	950	5.4	4.8	9	1.3	248	98	523	<5	21	0.06	0.107	0.48	0.037	>400
050	Chickasaw R.	CS-1	000625	1005	31	28	6.6	3120	7.8	4.5	23	1.7	892	283	1570	6	16	0.03	0.189	0.19	0.013	1500
050	Chickasaw R.	CS-1	000809	0935		29	6.8	2660	4.0	5.1	11	2.2		264	1630	11	19	<0.01	0.073	0.58	0.059	240
050	Chickasaw R.	CS-1	001002	1040	27	24	6.9	8320	2.7	2.6	6	2.0	2400	830	4380	14	26	0.03	0.116	0.35	0.04	270
050	Chickasaw R.	CS-1	010614	1015	31	25	5.7	70	8.7	5.1	2	<1.0	18	29	93	8	43	0.04	0.052	0.52	0.046	170
050	Chickasaw R.	CS-1	010820	1010	27	25	6.3	248	9.6	6.0	4	<1.0	27	22	120	8	36	0.18	0.079	0.53	0.049	1200
050	Chickasaw R.	CS-2	900111	1300	25	13	6.5	700	19.2	8.1	18	2.3	155	78	400	15	22		0.088	0.48	0.059	104
050	Chickasaw R.	CS-2	900208	1005	15	15	5.8	360	14.7	7.4	18	1.0	80	39	214	14	16		0.12	0.47	0.054	92
050	Chickasaw R.	CS-2	900314	1030	25	19	6.6	300	31.0	8.0	35	1.8	24	50	181	19	24		0.186	0.77	0.171	74
050	Chickasaw R.	CS-2	900424	1115	29	23	6.7	800	31.0	6.7	14	1.7	194	78	429	24	12		0.114	0.14	0.051	>600
050	Chickasaw R.	CS-2	900515	1030	29	25	7.0	347		6.3	30	1.9	26	40	137	27	20		0.115	0.86	0.122	92
050	Chickasaw R.	CS-2	900612	1045	31	30	6.1	2300	5.7	5.0	16	1.9	704	212	1278	6	14		0.039	1.06	0.048	152
050	Chickasaw R.	CS-2	900710	1125	34	31	7.2	7800	6.7	3.5	58	1.1	3880	1120	6506	17	48.7		0.073	0.99	0.091	40
050	Chickasaw R.	CS-2	900821	0833	28	31	7.2	9000	13.3	3.2	59	1.5	3700	1240	6140	8	37		<0.005	1.01	0.202	124
050	Chickasaw R.	CS-2	900918	1030	30	30	7.0	10500	8.1	4.5	66	1.9	7090	1260	6848	11	59		<0.005	0.29	0.079	24
050	Chickasaw R.	CS-2	901016	1120	30	25	7.6	12000	10.4	4.9	68	1.4	3970	1280	7146	14	41		0.033	0.51	0.096	11
050	Chickasaw R.	CS-2	901115	1135	26	19	7.4	5900	15.5	6.0	69	2.5	3430	960	5170	4	42		0.074	0.64	0.151	>600
050	Chickasaw R.	CS-2	901211	1215	20	16	7.3	3400	27.0	7.3	71		1520	530	3142	18	56		0.208	0.77	0.251	>600
050	Chickasaw R.	CS-2	910116	1030	14	13	6.4	1450	17.9	7.4	13	<1.0	433	168	881	12	24		0.086	0.67	0.036	250
050	Chickasaw R.	CS-2	910221	1020	18	15	7.0	3000	10.6	8.9	27	<1.0	871	290	1550	2	15		0.172	<0.05	0.063	22
050	Chickasaw R.	CS-2	910314	1020	16	16	6.6	270	24.0	7.5	19	<1.0	66	44	166	11	14		0.19	0.54	0.059	117
050	Chickasaw R.	CS-2	910416	1005	24	25	6.8	480	15.1	6.6	15	1.4	160	69	283	14	12		0.074	0.73	0.066	87
050	Chickasaw R.	CS-2	910515	1040	26	23	6.7	119	39.0	5.3	30	1.1	13	38	111	22	19		0.155	0.93	0.135	>1200
050	Chickasaw R.	CS-2	910620	0920	28	29	6.9	1050	46.0	4.0	50	>4.3	390	133	660	30	53		0.16	2.34	0.355	136
050	Chickasaw R.	CS-2	910709	1040	27	28	6.8	1100	26.0	5.8	35	2.4	370	118	634	10	37		0.13	1.31	0.23	60
050	Chickasaw R.	CS-2	910813	0955	30	30	6.7	7000	5.5	3.8	23	1.0	2100	710	3924	8	24		0.042	1.07	0.043	180
050	Chickasaw R.	CS-2	910917	0940	29	30	7.2	8500	3.3	4.6	38	2.2	3540	1365		7	37		0.013	0.64	0.059	66
050	Chickasaw R.	CS-2	911023	0950	25	24	7.4	12000	9.0	5.5	60	1.9	4786	1728	8556	26	55		0.047	0.95	0.075	288
050	Chickasaw R.	CS-2	911114	0945	19	16	7.4	10000	11.3	7.4	70	2.4	4410	1568	8752	27	64		0.104	1.18	0.166	143
050	Chickasaw R.	CS-2	911212	1010	20	15	6.7	600	64.0	7.4	36	<1.0	98	90		38	29		0.107	0.6	0.599	59
050	Chickasaw R.	CS-2	920107	1025	14	12	7.1	2100	12.2	8.9	46	2.6	692	265	1275	11	35		0.23	0.61	0.139	51

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H$_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
050	Chickasaw R.	CS-2	920220	0945	15	16	6.4	500	29.0	7.4	8	1.5	114	53	307	12	24		0.034	0.81	0.041	247
050	Chickasaw R.	CS-2	920317	0920	20	16	6.8	880	20.0	8.2	34	2.5	234	114	511	13	22		0.205	0.64	0.157	80
050	Chickasaw R.	CS-2	920415	1025	26	22	7.4	1970	14.3	9.0	45	2.9	498	203	1136	13			0.126	1.15	0.2	28
050	Chickasaw R.	CS-2	920514	1115	28	25	7.3	12730	10.4	5.7	58	3.5	3130	1280	6416	20	47		0.027	1.14	0.239	46
050	Chickasaw R.	CS-2	920616	1045	30	29	7.1	1087	32.0	5.2	56	2.8	242	117	583	18	31		0.215	2.23	0.254	94
050	Chickasaw R.	CS-2	920709	1045	32	33	7.1	8880	16.9	4.1	58	4.3	2864	949	5272	21	61		0.15	1.4	0.6	66
050	Chickasaw R.	CS-2	920819	1120	24	30	7.1	7460	12.7	4.9	59		2190	795	4382	16	26		0.061	0.94	0.095	410
050	Chickasaw R.	CS-2	920909	1050	31	30	7.1	1054	29.0	5.3	56	2.6	239	122	545	25	32		0.196	0.71	0.155	28
050	Chickasaw R.	CS-2	930114	1000	9	14	6.6	1180	13.1	8.1	19	<1.0	296	108	650	9	25		0.077	0.49	0.021	400
050	Chickasaw R.	CS-2	930209	1005	15	12	7.0	397	21.0	9.2	36	1.8	71	26	234	13	26		0.185	0.83	0.132	1880
050	Chickasaw R.	CS-2	930304	0955	14	14	6.5	920	13.2	8.8	16	<1.0	230	104	468	12	22	0.1	0.124	4.45	0.027	349
050	Chickasaw R.	CS-2	930407	0920	17	17	6.9	257	36.0	7.4	38	2.0	32	49	158	29	33		0.133	1.13	0.183	84
050	Chickasaw R.	CS-2	930505	1020	24	24	6.9	897	19.2	7.1	45	1.7	188	104	478	19	33		0.183	0.8	0.191	16
050	Chickasaw R.	CS-2	930609	1210	32	29	7.2	2920	10.8	6.9	45	1.9	770	305	1660	15	17		0.1	0.6	0.067	6
050	Chickasaw R.	CS-2	930706	0955	32	32	7.0	2640	19.2	5.2	65	2.3	700	258	1480	18	26		0.154	0.68	0.238	58
050	Chickasaw R.	CS-2	950608	0915					35.0		39	1.3	477		997	14	18	0.078	0.139	0.88	0.084	
050	Chickasaw R.	CS-2	950720	1020	32	30	6.9		4.0	4.3	39	2.0	3986		7690	9	47	<0.01	0.046	0.4	<0.005	50
050	Chickasaw R.	CS-2	950831	1025	35	32	7.2	16410	7.6	4.8	73	1.8	4716		9090	12	71	0.133	0.01	0.78	0.1	5
050	Chickasaw R.	CS-2	950927	1120	30	28	7.6	18120	9.6	4.7	86		5329		782	16	97	0.315	0.031	1.3	0.078	31
050	Chickasaw R.	CS-2	951121	1055	18	15	6.6	948	12.0	7.8	22		242		506	17	11	0.054	0.186	1.4	0.02	54
050	Chickasaw R.	CS-2	951220	1150	8	15	5.9	189	40.0	7.8	8	1.7	46		153	25	33	0.012	0.029	0.8	0.023	>400
050	Chickasaw R.	CS-2	960104	1055	10	12	6.0	440	22.0	8.6	6	1.9	113	41	61	5	19	<0.01	0.063	0.52	0.006	880
050	Chickasaw R.	CS-2	960221						13.7		10	1.8	30	21	99	7	14	0.018	0.162	0.36	0.024	55
050	Chickasaw R.	CS-2	960313	1005	20	14	7.1	321	71.0	8.7	4.4	2.6	43	64	218	54	31	0.239	0.225	1.5	0.236	64
050	Chickasaw R.	CS-2	960403	0955	20	17	7.3	231	22.0	7.7	13	1.3	49	28	140	10	41	<0.01	0.077	0.32	0.032	82
050	Chickasaw R.	CS-2	960522	0845	29	28	6.8	3110		7.0	31	2.2	739	287	1637	5	30	<0.01	<0.005	0.39	<0.005	47
050	Chickasaw R.	CS-2	960611	0940	30	28	7.2	1560	15.7	6.6	47	2.4	254	150	749	12	22	0.188	0.007	0.92	0.106	10
050	Chickasaw R.	CS-2	960717	1220	27	31	7.0	5200	12.1	6.2	63	2.9	1430	528	3030	12	51	0.54	0.064	1.6	0.115	85
050	Chickasaw R.	CS-2	960807	1015	31	29	6.9	6010	12.2	5.7	45	2.8	1680	498	2920	10	39	0.09	0.068	1	0.093	285
050	Chickasaw R.	CS-2	960904	1045	30	30	7.0	2940	27.0	5.5	58	3.6	680	303	1670	19	39	0.39	0.091	0.86	0.21	35
050	Chickasaw R.	CS-2	961028	1120	26	24	7.2	6760	13.9	6.5	69	1.1	1950	712	3610	13	22	<0.01	0.114	<0.1	0.042	92
050	Chickasaw R.	CS-2	961114	1100	19	18	7.3	5300	20.0	7.8	58	<1.0	1140	441	2290	17	18	0.17	0.164	0.31	0.055	22
050	Chickasaw R.	CS-2	961203	0940	14	16	7.3	2810	16.9	7.9	58	<1.0	411	209	931	19	28	0.08	0.148	0.25	0.093	
050	Chickasaw R.	CS-2	970127	1140	19	13	6.4	353	24.0	8.6	9	1.0	81	43	214	8	25	0.01	0.192	0.76	<0.005	>600
050	Chickasaw R.	CS-2	970205	1005	14	13	6.9	557	23.0	8.5	23	<1.0	107	75	293	12	13.6	0.04	0.197	0.38	0.017	560
050	Chickasaw R.	CS-2	970310	1100	27	19	6.9	465	18.7	7.0	24	<1.0	87	48	251	5	18	0.06	0.152	0.43	0.032	20
050	Chickasaw R.	CS-2	970402	1040	24	20	7.3	2420	13.2	7.8	43	1.1	663	248	1270	19	30	0.1	0.175	0.63	0.111	35
050	Chickasaw R.	CS-2	970529	1035	27	26	6.8	1060	18.5	6.1	33	2.4	258	121	592	19	32	0.14	0.117	2.3	0.106	800
050	Chickasaw R.	CS-2	970626	1010	26	26	6.3	455	15.8	4.9	19	1.0	90	50	240	11	22	0.06	0.136	<0.1	0.061	415
050	Chickasaw R.	CS-2	970723	1240	38	24	6.7	61	11.8	5.9	6	1.2	4.7	15	71	5	21	<0.01	0.042	0.39	0.022	1600
050	Chickasaw R.	CS-2	970807	1100	32	29	6.8	6220		5.3	36	<3.0	1450	516	2760	7	38	0.11	0.12	0.44	0.155	66
050	Chickasaw R.	CS-2	970930	1100	30	29	7.2	6970	17.4	4.8	66	1.3	1360	487	2720	17	20	0.03	0.152	0.16	0.091	6
050	Chickasaw R.	CS-2	971120	1120	21	16	7.4	4470	14.4	8.4	56	1.1	930	375	2060	15	40	0.03	0.114	0.55	0.062	32
050	Chickasaw R.	CS-2	971209	1200	15	14	6.8	1770	14.0	8.1	37	1.5	413	168	914	8	37	0.02	0.2	0.48	0.064	40
050	Chickasaw R.	CS-2	980128	1100	13	10	6.6	161	16.0	9.4	16	1.6	28.5	27	106	6	16	0.01	0.169	0.34	0.04	368
050	Chickasaw R.	CS-2	980312	1105	6	12	6.5	166	20.0	8.7	13	<2.0	22	25	104	9	23	0.01	0.068	0.39	0.026	240
050	Chickasaw R.	CS-2	980611	1100	31	31	7.4	1710	23.0	5.3	48	4.0	391	171	925	22	45	0.09	0.088	1.1	0.187	20
050	Chickasaw R.	CS-2	980812	1125	34	33	7.3	5540	11.4	6.1	65	2.8	1510	600	3160	9	5	0.119	0.008	0.9	0.114	110
050	Chickasaw R.	CS-2	981026	1050	26	24	7.5	40080	9.7	5.6	64	1.4	2920	1180	7190	2	33	0.16	0.041	1.18	0.111	80
050	Chickasaw R.	CS-2	990615	1030	29	30	7.2	5600	10.1	4.8	60	1.8	1660	627	3660	11	26	0.14	0.074	0.68	0.076	580
050	Chickasaw R.	CS-2	990824	1050	33	32	7.2	10890	8.3	4.7	71	1.5	3250	1160	6510	15	47	0.31	0.076	0.94	0.093	190
050	Chickasaw R.	CS-2	991014	1330	27	27	7.4	5720	15.7	5.2	56	2.4	1480	595	3120	18	20	0.19	0.062	0.8	0.097	>400

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_2O (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
050	Chickasaw R.	CS-2	000628	0935	30	30	7.6	10080	7.7	5.3	71	3.1	3430	1120	5810	18	41	0.17	0.16	0.64	0.128	36
050	Chickasaw R.	CS-2	000809	0910	30	31	7.8	12200	5.4	5.4	30	2.4	3760	1330	7100	19	45	<0.01	<0.005	0.8	0.102	20
050	Chickasaw R.	CS-2	001002	1020	27	26	7.7	19160	4.8	6.3	30	2.0	6920	2200	11300	27	33	0.11	0.03	0.5	0.117	48
050	Chickasaw R.	CS-2	010614	0945	30	27	7.1	210	43.0	6.0	9	<1.0	30	65	140	38	20	0.28	0.504	0.76	0.141	24
050	Chickasaw R.	CS-2	010820	0945	25	27	6.6	3870	4.8	4.2	9	<1.0	1180	350	2100	8	36	0.29	0.717	0.56	0.058	190
050	Hog Bayou	HB-1	900111	1400	24	15	6.2	700	19.7	7.0	23	1.0	123	87	393	18	36		0.116	0.68	0.042	107
050	Hog Bayou	HB-1	900208	1020	15	16	5.8	550	14.4	6.7	19	1.3	94	60	303	11	14		0.122	0.79	0.056	160
050	Hog Bayou	HB-1	900314	1040	27	23	6.6	370	12.1	7.4	24	1.6	28	42	216	2	26		0.127	0.38	0.028	3900
050	Hog Bayou	HB-1	900424	1130	28	24	6.5	900	19.2	6.4	15	2.2	205	92	518	17	14		0.133	0.35	0.07	2600
050	Hog Bayou	HB-1	900515	1050	31	24	6.5	796		6.1	14	1.7	181	68	411	17	22		0.039	0.34	0.029	1120
050	Hog Bayou	HB-1	900612	1100	31	30	6.4	240	5.4	4.9	21	1.5	727	224	1395	3	14		<0.005	0.81	0.049	67
050	Hog Bayou	HB-1	900710	1143	35	31	7.0	9700	4.2	4.9	42	1.6	4090	1170	7082	14	30		0.027	1.363	0.036	60
050	Hog Bayou	HB-1	900821	0841	28	31	7.2	12500	6.5	4.2	67	1.3	5230	1600	8942	14	20		<0.005	0.78	0.101	200
050	Hog Bayou	HB-1	900918	1040	30	30	7.2	13000	4.5	4.0	60	2.6	8140	1520	8604	7	42		<0.005	0.11	<0.005	8
050	Hog Bayou	HB-1	901016	1137	30	25	7.8	20000	8.6	6.8	79	4.2	6640	2330	12920	22	60		0.09	0.75	0.113	12
050	Hog Bayou	HB-1	901115	1145	25	19	7.4	9100	9.9	5.2	66	2.2	7620	1560	8698	6	58		0.05	0.54	0.127	>600
050	Hog Bayou	HB-1	901211	1229	19	13	7.5	4180	8.1	7.4	39		1990	718	3974	6	32		0.181	0.34	0.038	
050	Hog Bayou	HB-1	910116	1045	14	14	5.9	1100	7.3	7.1	10	<1.0	268	156	662	11	11		0.198	0.43	0.017	48
050	Hog Bayou	HB-1	910221	1035	19	15	6.8	2050	6.2	8.9	16	<1.0	752	249	1270	7	8		0.135	0.15	0.219	25
050	Hog Bayou	HB-1	910314	1030	17	16	6.7	800	13.8	7.5	15	<1.0	157	80	424	8	15		0.074	0.49	0.019	68
050	Hog Bayou	HB-1	910416	1020	28	25	6.9	440	13.7	6.5	14	1.8	141	57	249	11	11		0.032	0.63	0.05	>600
050	Hog Bayou	HB-1	910515	1000	28	26	6.4	175	22.0	4.3	4	2.2	30	36	132	16	18		0.061	1.6	0.065	1140
050	Hog Bayou	HB-1	910620	0935	31	28	6.3	1100	14.8	2.0	28	2.0	420	147	694	8	19		0.153	1	0.05	420
050	Hog Bayou	HB-1	910709	1045	27	27	6.4	1220	11.0	5.3	18	1.7	370	129	726	5	19		<0.005	0.77	0.51	380
050	Hog Bayou	HB-1	910812	1035	30	30	6.6	6000	6.1	4.4	26	1.0	2020	706	8514	8	24		0.054	0.95	0.037	120
050	Hog Bayou	HB-1	910917	0950	28	31	7.3	8000	4.6	5.3	42	2.3	3710	1238	7504	11	40		0.045	0.65	0.189	34
050	Hog Bayou	HB-1	911023	0955	25	24	7.3	15000	6.2	5.7	70	2.7	5956	1942	10966	26	82		0.125	0.94	0.048	440
050	Hog Bayou	HB-1	911114	1000	18	14	7.7	11000	4.7	8.1	66	4.2	5260	1843	9914	32	40		0.042	1.01	0.07	42
050	Hog Bayou	HB-1	911212	1030	19	15	6.8	900	50.0	7.3	35	<1.0	326	576	777	32	20			0.92	0.561	58
050	Hog Bayou	HB-1	920107	1040	16	12	7.1	3500	11.1	9.1	42	2.7	989	365	2027	14	25		0.199	1.79	0.13	28
050	Hog Bayou	HB-1	920220	0955	15	16	6.5	1000	27.0	7.4	10	1.7	253	105	577	19	19		0.064	0.99	0.046	360
050	Hog Bayou	HB-1	920317	0930	21	16	6.5	1100	11.7	8.0	20	2.3	300	113	612	<1	16		0.13	0.52	0.046	308
050	Hog Bayou	HB-1	920415	1115	26	23	7.8	3630	7.8	9.1	42	2.0	960	338	2065	7			0.105	0.91	0.064	40
050	Hog Bayou	HB-1	920514	1100	29	25	7.4	12470	5.0	6.0	52	3.2	3840	1377	7360	19	47		<0.001	0.7	0.059	14
050	Hog Bayou	HB-1	920616	1100	30	29	7.1	3600	16.4	5.2	45	1.4	949	333	1913	13	19		0.199	0.76	0.068	>120
050	Hog Bayou	HB-1	920709	1105	32	33	7.0	8950	4.9	4.0	42	2.1	2726	921	5052	10	43		<0.005	0.96	<0.02	9
050	Hog Bayou	HB-1	920819	1110	23	29	7.1	8510	6.6	6.3	50		2260	786	4818	14	28		<0.005	1.04	0.041	118
050	Hog Bayou	HB-1	920909	1110	29	31	7.5	3500	11.7	5.6	56	3.2	937	335	1916	11	27		0.084	0.66	0.084	26
050	Hog Bayou	HB-1	930114	1010	7	15	6.4	1143	7.6	8.0	19	<1.0	296	113	616	4	17		0.152	0.38	0.027	171
050	Hog Bayou	HB-1	930209	1015	15	13	6.2	825	8.8	8.4	14	1.1	150	80	443	7	8		0.151	0.41	0.021	68
050	Hog Bayou	HB-1	930304	1005	14	15	6.0	1232	9.1	8.4	13	<1.0	269	100	626	8	10		0.146	0.48	0.01	28
050	Hog Bayou	HB-1	930407	0930	17	18	6.5	732	16.1	6.6	24	1.1	128	61	392	13	26		0.129	0.79	0.021	76
050	Hog Bayou	HB-1	930505	1005	24	23	6.3	824	9.2	6.5	15	1.7	192	72	453	5	15		0.063	0.25	0.072	236
050	Hog Bayou	HB-1	930609	1220	32	30	7.2	2930	5.6	7.9	35	4.2	770	256	1670	12	20		<0.005	0.66	<0.005	51
050	Hog Bayou	HB-1	930706	1015	32	33	6.8	5220	4.9	6.4	39	<1.0	1420	449	3070	14	14		0.115	0.07	0.058	32
050	Hog Bayou	HB-1	950608	0920					19.0		42	1.6	1083		2180	14	22	0.064	0.123	0.45	0.074	
050	Hog Bayou	HB-1	950720	1025	33	31	6.8		5.0	3.3	45	1.9	4149		8100	1	45	<0.01	<0.005	0.7	<0.005	26
050	Hog Bayou	HB-1	950831	0955	33	31	6.8	18870	2.9	7.5	72	1.9	6095		11500	8	161	0.017	<0.005	1.4	0.005	17
050	Hog Bayou	HB-1	950927	1130	27	26	7.5	21210	5.6	1.9	57		6388		13200	15	71	<0.01	0.006	0.6	<0.005	28
050	Hog Bayou	HB-1	951121	1020	18	17	6.1	1326	7.6	8.1	16		293		697	15	12	0.106	0.161	0.55	0.008	35
050	Hog Bayou	HB-1	951220	1200	9	15	6.3	465	59.0	8.0	15	2.1	95		297	31	26	0.018	0.066	0.79	0.059	>400
050	Hog Bayou	HB-1	960104	1105	12	11	6.1	426	20.0	9.1	10	2.5	89		264	2	24	0.05	0.097	0.46	0.007	660

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
050	Hog Bayou	HB-1	960221						10.8		14	1.7	107	63	316	7	9	0.079	0.152	0.38	0.01	<10
050	Hog Bayou	HB-1	960313	1020	20	14	6.7	1074	6.1	9.5	1.3	1.1	234	94	588	6	10	0.034	0.143	0.5	0.006	8
050	Hog Bayou	HB-1	960403	1005	21	18	6.9	569	19.3	7.7	20	1.6	89	65	313	14	20	0.159	0.16	0.4	0.027	96
050	Hog Bayou	HB-1	960522	0900	29	29	6.6	3000		7.8	27	1.8	718	272	1667	<1	26	<0.01	<0.005	0.26	<0.005	6
050	Hog Bayou	HB-1	960611	1010	30	27	6.7	1830	5.2	7.9	20	1.7	364	177	960	3	16	<0.01	<0.005	0.47	0.02	50
050	Hog Bayou	HB-1	960717	1130	26	29	6.7	4900	6.8	6.2	28	1.9	1350	450	2840	6	42	0.01	0.082	0.52	<0.005	366
050	Hog Bayou	HB-1	960807	1050	30	29	6.6	3570	7.8	5.4	27	2.3	1100	332	2040	12	28	0.01	0.039	0.76	0.041	89
050	Hog Bayou	HB-1	960904	1055	30	28	6.9	4530	13.0	5.9	42	2.4	1190	449	2630	16	28	0.06	0.032	0.3	<0.005	276
050	Hog Bayou	HB-1	961028	1130	26	25	7.2	1252	5.0	7.3	60	2.9	3920	1270	6760	11	35	<0.01	0.062	<0.1	0.031	104
050	Hog Bayou	HB-1	961114	1110	19	18	7.0	6090	13.0	7.5	57	1.1	1250	493	2590	8	17	0.2	0.129	0.5	0.029	6
050	Hog Bayou	HB-1	961203	0950	13	15	7.1	3310	17.2	7.0	24	<1.0	698	245	1330	13	20	<0.01	0.067	0.25	0.033	
050	Hog Bayou	HB-1	970127	1155	19	14	6.4	348	22.0	8.5	10	1.4	72	35	191	8	16	0.06	0.202	<0.1	<0.005	>240
050	Hog Bayou	HB-1	970205	1015	15	15	6.4	775	8.7	6.4	16	<1.0	156	89	5	398	9.7	0.13	0.237	0.39	<0.005	335
050	Hog Bayou	HB-1	970310	1110	27	21	6.4	656	11.3	7.3	16	<1.0	116	57	325	5	13	0.12	0.241	0.53	0.011	20
050	Hog Bayou	HB-1	970402	1045	25	20	7.0	1630	7.3	7.8	22	<1.0	300	135	817	11	15	0.1	0.162	0.62	0.029	20
050	Hog Bayou	HB-1	970529	1040	27	26	6.6	949	8.0	7.2	18	2.0	203	97	524	11	25	<0.01	0.065	2.3	0.033	830
050	Hog Bayou	HB-1	970626	1020	26	28	6.3	654	8.5	4.9	23	1.5	111	53	330	6	19	0.09	0.189	0.11	0.027	179
050	Hog Bayou	HB-1	970807	1110	31	28	6.4	6780		2.9	18	<2.0	1120	368	2040	4	29	0.04	0.073	0.29	0.024	138
050	Hog Bayou	HB-1	970930	1050	30	29	7.3	10440	7.3	7.4	63	1.6	2770	949	5540	11	24	0.02	0.095	0.38	0.047	8
050	Hog Bayou	HB-1	971120	1135	24	15	7.1	6100	6.4	7.5	26	<1.0	1490	554	3190	9	31	0.08	0.085	0.4	0.015	52
050	Hog Bayou	HB-1	971209	1210	15	14	6.6	1640	12.4	7.8	20	<1.0	377	137	824	8	18	0.1	0.136	0.74	0.026	72
050	Hog Bayou	HB-1	980128	1115	13	12	6.6	507	25.0	8.5	24	1.6	74.6	49	286	15	20	0.12	0.195	0.63	0.053	284
050	Hog Bayou	HB-1	980312	1115	8	13	6.6	505	18.0	8.7	23	<2.0	63	48	288	12	23	0.1	0.149	0.39	0.032	146
050	Hog Bayou	HB-1	980611	1110	31	31	7.4	4320	7.4	5.6	33	1.6	1060	396	2350	8	33	<0.01	0.073	0.74	0.041	103
050	Hog Bayou	HB-1	980812	1145	34	34	7.1	9520	3.7	6.1	49	1.2	2850	990	5830	4	11	0.01	0.335	0.68	0.025	50
050	Hog Bayou	HB-1	981026	1125	28	22	7.0	12140	6.2	5.4	45	1.7	2860	1120	7100	2	>45	<0.01	0.041	0.9	0.053	160
050	Hog Bayou	HB-1	990615	1035	29	29	7.0	5290	7.0	7.0	32	2.2	1550	533	3380	8	26	0.01	0.112	0.54	0.032	200
050	Hog Bayou	HB-1	990824	1100	35	33	7.5	11360	5.4	4.6	61	2.5	2810	1250	6850	14	45	<0.01	0.037	0.68	0.038	120
050	Hog Bayou	HB-1	991014	1245	25	27	7.0	6110	6.5	3.0	28	2.4	1590	603	3460	13	23	<0.01	0.164	0.61	0.043	>400
050	Hog Bayou	HB-1	000628	0950	30	30	7.9	12900	7.3	7.2	68	4.5	4220	1420	7670	16	51	<0.01	0.032	0.69	0.07	36
050	Hog Bayou	HB-1	000809	0920	31	31	7.9	13500	9.6	5.2	26	4.4	3870	1440	8080	23	55	<0.01	<0.005	0.79	0.061	8
050	Hog Bayou	HB-1	001002	1025	27	26	7.8	21840	5.0	6.5	27	5.0	7680	2450	13000	29	76	0.28	0.134	1.1	0.09	20
050	Hog Bayou	HB-1	010614	1000	30	28	7.0	1150	11.9	6.1	10	1.7	310	133	700	12	22	0.03	0.065	0.46	0.049	100
050	Hog Bayou	HB-1	010820	0955	26	28	6.7	3610	5.5	4.0	8	1.1	1050	294	1940	8	31	0.09	0.063	0.64	0.063	150
060	Mobile R.	MO-2	900111	1300	21	12	6.8	400	46.0	9.1	35	1.0	58	81	241	77	22		0.252	0.29	0.069	125
060	Mobile R.	MO-2	900208	1105	15	15	5.8	160	33.0		29	1.8	14	43	114	40	14		0.188	0.54	0.075	60
060	Mobile R.	MO-2	900314	1000	23	18	6.5	200	32.0	8.6	31	1.0	14	48	118	12	11		0.212	0.35	0.038	72
060	Mobile R.	MO-2	900424	1230	31	23	7.2	2850	14.3	8.4	34	1.7	800	290	1600	4	12		0.118	0.35	0.062	240
060	Mobile R.	MO-2	900515	0945	25	23	6.8	927		6.9	26	1.2	181	90	420	22	13		0.11	0.36	0.019	340
060	Mobile R.	MO-2	900612	1000	30	29	6.5	8000	10.9	4.5	44	1.1	2610	830	4778	11	17		0.204	0.44	0.079	80
060	Mobile R.	MO-2	900710	1054	32	30	6.9	12000	6.1	3.6	61	1.2	4800	1440	8548	17	83		0.088	1.818	0.068	36
060	Mobile R.	MO-2	900821	0803	28	31	7.4	16000	5.2	3.5	69	<1.0	358	2067	11730	13	34		<0.005	0.6	0.069	214
060	Mobile R.	MO-2	900918	0950	29	30	7.6	18500	5.9	3.7	79	2.1	10700	2300	12490	11	87		<0.005	1.09	0.083	180
060	Mobile R.	MO-2	901016	1040	26	25	7.8	20000	7.1	4.4	78	1.3	6620	2400	12680	19	54		0.029	0.67	0.08	129
060	Mobile R.	MO-2	901115	1100	24	19	7.7	9800	10.2	6.5	72	1.9	8070	1700	4530	3	42		0.11	0.66	0.067	>600
060	Mobile R.	MO-2	901211	1130	20	15	7.4	6300	13.9	8.0	68		3120	1070	4696	7	34		0.21	0.67	0.068	>600
060	Mobile R.	MO-2	910107	0945	12	12	7.2	3700	13.3	9.3	47	3.4	1110	437	2260	12	19		0.249	0.82	0.09	44
060	Mobile R.	MO-2	910116	0940	14	12	7.1	4000	23.0	8.6	36	<1.0	1320	480	2458	13	20		0.258	0.59	0.075	184
060	Mobile R.	MO-2	910221	0945	16	14	7.3	3100	13.4	8.9	38	1.2	839	318	1666	10	16		0.239	<0.05	0.053	40
060	Mobile R.	MO-2	910314	0925	15	15	6.6	130	35.0	7.5	27	<1.0	23.2	48	102	18	20		0.137	0.25	0.094	68
060	Mobile R.	MO-2	910416	0920	25	22	7.2	430	26.0	7.1	20	1.3	130	80	269	23	10		0.194	0.47	0.08	67
060	Mobile R.	MO-2	910515	0910	27	22	6.9	85	38.0	5.5	27	1.3	5	41	77	22	8		0.164	0.71	0.093	206

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_2O (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
060	Mobile R.	MO-2	910620	0835	26	28	7.0	1500	28.0	4.5	44	1.7	670	200	1014	11	21		0.225	0.9	0.102	60
060	Mobile R.	MO-2	910709	0945	27	28	7.0	1800	21.0	6.2	35	1.4	580	204	1069	13	17		0.13	0.65	0.075	251
060	Mobile R.	MO-2	910813	0905	27	31	7.3	8700	11.4	3.9	56	1.0	2740	1000	4650	10	30		0.059	1.17	0.106	90
060	Mobile R.	MO-2	910917	0850	27	30	7.5	8000	6.8	3.9	56	1.7	3750	1238	7690	4	45		0.016	0.41	0.077	95
060	Mobile R.	MO-2	911023	0905	25	24	7.4	17000	7.1	5.0	78	1.7	7232	2428	13292	23	69		0.068	1.04	0.072	128
060	Mobile R.	MO-2	911114	0915	14	16	7.5	12000	9.1	7.4	75	1.7	6060	2215	12020	36	71		0.095	0.6	0.126	129
060	Mobile R.	MO-2	911212	0925	16	13	6.5	1050	89.0	8.2	33	<1.0	377	230	824	73	18		0.097	0.78	0.573	112
060	Mobile R.	MO-2	920220	0910	14	13	7.6	70	61.0	8.9	37	1.8	156	99	430	57	20		0.169	0.74	0.116	116
060	Mobile R.	MO-2	920317	0825	18	16	8.9	1280	20.0	8.8	36	2.7	346	165	727	4	16		0.246	0.56	0.082	48
060	Mobile R.	MO-2	920415	0955	25	21	7.6	2720	9.7	9.8	42	1.3	690	45	1562	7			0.122	0.52	0.065	52
060	Mobile R.	MO-2	920514	1145	27	25	7.5	11000	6.3	5.9	55	3.6	3430	1222	6212	16	41		0.074	0.59	0.074	200
060	Mobile R.	MO-2	920616	1200	30	29	7.2	1800	29.0	5.9	47	<1.0	495	290	1041	21	15		0.207	0.83	0.077	160
060	Mobile R.	MO-2	920709	1205	32	32	7.8	10190	7.8	5.0	59	2.6	3054	978	5698	15	38		0.18	1	0.07	84
060	Mobile R.	MO-2	920819	1155	23	30	7.3	8890	12.3	4.4	61		2640	960	4998	12	32		0.061	0.3	0.015	330
060	Mobile R.	MO-2	920909	1235	30	29	7.4	2000	25.0	5.8	56	1.3	510	215	1054	18	15		0.262	0.35	0.058	38
060	Mobile R.	MO-2	930114	1055	8	13	7.0	1090	24.0	9.5	37	<1.0	262	120	611	20	18		0.171	0.41	0.071	136
060	Mobile R.	MO-2	930209	1115	20	11	7.0	1075	18.8	9.7	33	1.1	229	124	530	9	13		0.207	0.42	0.059	1280
060	Mobile R.	MO-2	930304	0930	13	12	6.9	2150	17.6	9.8	32	1.3	529	243	1071	13	18		0.197	0.42	0.052	792
060	Mobile R.	MO-2	930407	0855	17	16	6.8	620	28.0	7.7	35	1.1	125	80	327	23	26		0.139	0.6	0.062	64
060	Mobile R.	MO-2	930505	1105	26	22	7.0	2000	17.8	7.6	40	<1.0	465	198	1040	15	11		0.185	0.15	0.12	56
060	Mobile R.	MO-2	930609	1300	30	30	7.3	4740	9.6	7.4	50	2.0	1370	452	2690	14	26		0.097	0.58	0.057	124
060	Mobile R.	MO-2	930706	0915	29	31	7.1	4280	14.9	5.6	55	<1.0	1160	389	2410	19	22		0.193	0.37	0.072	42
060	Mobile R.	MO-2	950608	0855					31.0		43	1.0	952		1795	23	20	0.054	0.126	0.67	0.067	
060	Mobile R.	MO-2	950720	1000	31	30	6.7		5.0	3.0	71	1.8	5257		255	2	73	0.05	0.07	0.74	0.06	10
060	Mobile R.	MO-2	950831	0920	31	31	7.4	24560	4.3	4.1	82	2.3	8406		15000	5	88	0.124	0.038	0.97	0.07	86
060	Mobile R.	MO-2	950927	1045	27	28	7.7	25910	5.0	4.7	89		8082		21500	8	174	0.122	0.019	0.5	0.023	220
060	Mobile R.	MO-2	951121	0940	16	15	6.9	1260	26.0	8.3	36		215		399	31	5	<0.01	0.205	0.49	0.061	86
060	Mobile R.	MO-2	951220	1230	9	14	6.7	739	36.0	9.2	25	1.4	215		464	40	14	0.028	0.173	0.78	0.078	>800
060	Mobile R.	MO-2	960104	1020	8	10	6.9	663	20.0	10.0	29	2.5	164	80	383	11	21	0.033	0.149	0.56	0.055	115
060	Mobile R.	MO-2	960221						29.0		29	1.5	301	143	721	14	20	0.044	0.161	0.41	0.061	16
060	Mobile R.	MO-2	960313	0935	19	12	7.1	255	66.0	8.8	3.6	1.4	63	65	225	44	11	<0.01	0.238	0.76	0.136	10
060	Mobile R.	MO-2	960403	0925	19	15	7.4	267	45.0	8.1	34	2.0	15	43	115	29	22	<0.01	0.237	0.46	0.09	63
060	Mobile R.	MO-2	960522	0830	28	28	7.0	4440			51	1.3	1035	172	2501	6	16	0.021	0.005	0.29	0.027	139
060	Mobile R.	MO-2	960611	0930		28	7.0	3800	12.0	6.3	48	2.0	724	312	1687	7	17	0.131	0.009	0.6	0.077	45
060	Mobile R.	MO-2	960717	1235	27	30	7.4	7710	8.9	5.4	60	2.5	2300	800	4550	8	60	0.08	0.071	0.76	0.056	>800
060	Mobile R.	MO-2	960807	0900	29	30	7.2	6760	8.4	5.9	56	1.1	2176	681	3600	14	36	0.08	0.141	0.82	0.037	270
060	Mobile R.	MO-2	960904	1010	29	29	7.1	3800	33.0	5.4	51	1.4	813	338	1940	18	36	0.12	0.115	0.4	0.059	190
060	Mobile R.	MO-2	961028	1225	27	24	7.3	8030	12.0	6.5	70	<1.0	2310	815	4320	11	19	<0.01	0.115	<0.1	0.029	65
060	Mobile R.	MO-2	961114	1220	19	19	7.4	6840	19.0	8.0	58	<1.0	1360	554	2870	15	18	0.11	0.159	0.55	0.03	12
060	Mobile R.	MO-2	961203	0925	12	15	7.7	2610	2.1	8.9	55	<1.0	456	221	1090	16	20	<0.01	0.161	0.4	0.059	
060	Mobile R.	MO-2	970127	1215	16	9	7.2	693	33.0	11.3	38	<1.0	203	107	420	21	17	0.04	0.587	0.15	0.036	180
060	Mobile R.	MO-2	970205	0935	15	11	7.1	851	68.0	8.8	36	<1.0	203	119	447	54	16.2	0.03	0.274	0.82	0.084	240
060	Mobile R.	MO-2	970310	1040	23	18	7.4	204	59.0	7.1	36	<1.0	14	49	122	41	19	0.04	0.262	0.84	0.125	50
060	Mobile R.	MO-2	970402	1005	23	20	7.3	4440	13.5	7.7	43	<1.0	1158	436	2370	13	18	0.04	0.175	0.28	0.067	47
060	Mobile R.	MO-2	970529	1000	26	25	6.9	1510	39.0	6.4	37	2.4	318	152	758	23	20	0.06	0.17	1.9	0.072	>800
060	Mobile R.	MO-2	970626	0935	26	26	6.8	423	38.0	5.4	35	1.0	77	69	232	23	14	0.03	0.261	0.51	0.107	135
060	Mobile R.	MO-2	970805	1305	32	29	6.9	5160	18.0	5.5	40	1.2		5	2950	9	31	0.03	0.211	0.51	0.068	77
060	Mobile R.	MO-2	970930	1120	31	29	7.4	10760	13.4	4.4	69	1.1	2650	900	5220	13	22	0.02	0.122	0.42	0.072	8
060	Mobile R.	MO-2	971120	1230	22	16	7.3	7340	11.1	8.3	59	<1.0	2010	712	3990	15	38	0.03	0.049	0.34	0.043	24
060	Mobile R.	MO-2	971209	1255	15	14	6.8	1500	17.0	8.7	42	<1.0	293	68	712	7	24	0.05	0.245	0.48	0.07	34
060	Mobile R.	MO-2	980128	1215	13	10	7.1	168	49.0	8.8	32	2.0	16.8	42	119	34	28	<0.01	0.215	0.46	0.112	78
060	Mobile R.	MO-2	980312	1045	5	12	6.8	231	43.0	8.6		<2.0	23	45	122	39	26	<0.01	0.19	0.36	0.099	110

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
060	Mobile R.	MO-2	980611	1205	31	30	7.6	4230	16.6	6.0	45	<1.0	1060	395	2220	13	21	0.06	0.098	0.45	0.064	47
060	Mobile R.	MO-2	980812	0945	31	32	7.4	10020	4.9	4.5	67	1.3	1740	1080	5980	7	>86	0.055	<0.005	0.73	0.048	360
060	Mobile R.	MO-2	981026	1015	24	24	7.3	17710	5.7	5.6	70	<1.0	6040	1970	12100	6		0.05	<0.005	1	0.072	60
060	Mobile R.	MO-2	990615	1005	28	30	7.3	8430	9.3	4.1	65	2.4	2640	945	5490	15	41	0.14	0.085	0.63	0.081	280
060	Mobile R.	MO-2	990824	0920	31	32	7.4	14860	5.8	4.5	75	2.2	1540	1600	9040	15	58	0.19	0.125	0.83	0.074	210
060	Mobile R.	MO-2	991014	1430	27	26	7.5	7350	15.3	4.7	59	1.4	2030	774	4100	17	23	0.1	0.159	0.57	0.085	>400
060	Mobile R.	MO-2	000628	0845	30	29	7.7	3090	5.5	4.9	75	2.3	5210	1780	9330	28	54	0.13	0.089	0.63	0.096	260
060	Mobile R.	MO-2	000809	0830	30	30	7.8	18160	3.5	4.9	28	1.6	7350	2090	11600	20	90	0.06	0.03	0.63	0.087	120
060	Mobile R.	MO-2	001002	0945	25	26	7.8	24010	4.1	6.2	27	2.3	8960	2880	3600	24	93	0.08	0.069	0.49	0.122	45
060	Mobile R.	MO-2	010208	0915	19	11	7.3	3060	18.0	10.2	11	1.5	548	338	1720	21	18	0.07	0.349	0.57	0.076	10
060	Mobile R.	MO-2	010330	0945	20	14	7.3	269	22.0	8.5	9	<1.0	13	56	110	19	8	0.03	0.287	<0.18	0.061	
060	Mobile R.	MO-2	010411	0945	23	19	7.4	300	43.0	6.6	9	<1.0	54	63	175	34	13	0.2	0.374	0.64	0.091	120
060	Mobile R.	MO-2	010614	0855	29	26	7.1	500	44.0	6.3	11	<1.0	140	92	300	37	17	0.04	0.446	0.39	0.118	20
060	Mobile R.	MO-2	010820	0910	25	29	7.4	6800	7.7	5.1	15	<1.0	1940	709	3620	10	21	<0.01	0.008	0.42	0.073	150
060	Three Mile Cr.	TM-1	900111	1320	25	12	6.5	270	18.0	3.5	61	6.0	15	71	168	13	34		1.32	3	0.604	800
060	Three Mile Cr.	TM-1	900208	1050	15	17	5.9	270	11.4	2.2	62	11.0	26	62	162	15	33		1.74	2.43	0.652	>12000
060	Three Mile Cr.	TM-1	900314	1015	26	23	6.7	300	24.0	2.3	56	7.6	26	76	191	26	42		2.43	1.44	0.679	2000
060	Three Mile Cr.	TM-1	900424	1100	28	25	7.1	220	20.0	0.5	50	9.8	20	54	143	14	33		0.304	1.57	0.417	21000
060	Three Mile Cr.	TM-1	900515	1010	30	24	6.7	213		1.7	48	4.0	16	52	132	16	21		0.708	1.32	0.204	32000
060	Three Mile Cr.	TM-1	900612	1025	30	28	6.6	200	7.0	3.1	62	5.0	555	208	1097	8	22		1.03	3.02	0.34	5000
060	Three Mile Cr.	TM-1	900710	1110	33	31	7.0	4000	4.3	2.4	64	2.7	1690	490	2722	12	38		2.512	2.575	0.674	860
060	Three Mile Cr.	TM-1	900821	0820	28	30	7.0	5000	9.2	0.5	68	6.4	2040	675	3616	12	40		0.391	2.59	0.739	>60000
060	Three Mile Cr.	TM-1	900918	1010	30	28	6.8	2800	7.1	1.0	58	4.0	2240	330	1663	4	20		0.861	1.06	0.77	8400
060	Three Mile Cr.	TM-1	901016	1100	28	23	6.9	4400	33.0	2.9	54	3.7	1320	470	2501	28	33		4.14	1.93	0.756	10300
060	Three Mile Cr.	TM-1	901115	1115	27	19	6.9	1990	13.2	3.5	47	2.9	1470	308	1718	7	43		4.201	1.73	0.734	700
060	Three Mile Cr.	TM-1	901211	1150	20	14	6.4	1200	12.4	4.8	45		495	206	1071	6	17		4.16	1.14	0.788	5400
060	Three Mile Cr.	TM-1	910116	1005	14	14	6.7	295	36.0	4.4	48	4.2	65	64	206	25	29		1.016	1.24	0.367	200
060	Three Mile Cr.	TM-1	910221	1005	18	17	6.9	450	28.0	2.1	69	7.2	81	102	241	18	27		1.01	1.92	0.416	2600
060	Three Mile Cr.	TM-1	910314	1000	18	18	6.7	285	14.0	1.0	51	5.4	48	74	176	12	36		2.65	1.68	0.651	>12000
060	Three Mile Cr.	TM-1	910416	0950	26	24	6.9	300	22.0	2.8	31	3.3	75	72	179	22	27		1.036	0.82	0.402	2400
060	Three Mile Cr.	TM-1	910515	0930	28	25	6.7	150	34.0	3.8	47	2.5	13	56	126	23	15		0.708	1.56	0.22	4800
060	Three Mile Cr.	TM-1	910620	0900	28	26	6.7	180	34.0	2.4	43	2.8	36	50	91	14	24		1.41	1.06	0.34	5350
060	Three Mile Cr.	TM-1	910709	1020	28	27	6.8	1000	20.0	3.8	47	1.8	330	135	613	16	19		0.673	1.16	0.262	5066
060	Three Mile Cr.	TM-1	910813	0945	31	30	6.7	1650	14.5	2.2	42	3.7	418	198	910	9	30		4.333	2.17	1.066	3700
060	Three Mile Cr.	TM-1	910917	0925	30	29	6.9	2800	10.5	3.1	44	4.3	1060	411	2456	12	27		4.313	1.47	0.802	12170
060	Three Mile Cr.	TM-1	911023	0935	26	24	6.9	4900	22.0	2.7	45	2.6	1879	719	3916	23	36		3.285	1.62	0.796	1530
060	Three Mile Cr.	TM-1	911114	0930	17	15	6.7	2700	57.0	4.7	35	4.2	1130	417	2243	46	30		4.864	1.34	1.564	7600
060	Three Mile Cr.	TM-1	911212	0945	17	17	6.4	370	39.0	4.7	42	2.8	24	81	324	32	28		4.036	1.84	1.036	1350
060	Three Mile Cr.	TM-1	920107	1000	14	13	6.6	1100	22.0	6.6	40	5.2	<5	160	610	24	23		3.135	0.86	0.725	920
060	Three Mile Cr.	TM-1	920220	0930	15	16	7.0	270	66.0	6.2	39	5.5	24	71	155	44	31		1.723	1.42	0.435	1600
060	Three Mile Cr.	TM-1	920317	0910	21	18	7.0	292	32.0	4.7	53	7.0	38	74	188	25	27		4.102	1.57	0.743	5467
060	Three Mile Cr.	TM-1	920415	1010	25	24	6.8	1590	16.3	8.3	44	4.5	393	166	943	10			4.784	1.64	0.661	>12000
060	Three Mile Cr.	TM-1	920514	1130	25	25	7.5	7500	10.8	4.9	51	4.2	2130	766	3704	17	34		1.809	0.74	0.245	1120
060	Three Mile Cr.	TM-1	920616	1145	30	28	7.1	1770	30.0	4.0	46	1.2	444	179	918	24	14		0.461	1.12	0.132	1650
060	Three Mile Cr.	TM-1	920709	1150	33	31	7.0	5990	10.0	4.4	54	4.7	1739	633	3202	16	29		3.35	1.5	0.46	600
060	Three Mile Cr.	TM-1	920819	1140	23	28	6.8	785	21.0	2.8	38		189	107	455	17	23		0.267	1.45	0.358	10400
060	Three Mile Cr.	TM-1	920909	1200	30	31	7.2	1850	11.5	3.4	57	3.1	479	192	1036	13	22	0.08	2.39	1.04	0.322	700
060	Three Mile Cr.	TM-1	930114	1045	8	16	6.6	256	18.0	4.7	45	4.3	33	60	170	13	27		2.039	1.15	0.323	5067
060	Three Mile Cr.	TM-1	930209	1055	20	16	6.8	284	13.5	7.4	43	>8.0	26	55	167	8	41		4.255	2.07	0.688	5067
060	Three Mile Cr.	TM-1	930304	0945	14	16	6.6	243	18.9	5.1	50	3.5	28	54	13	10	32		0.878	1.26	0.221	5400
060	Three Mile Cr.	TM-1	930407	0910	17	18	6.7	470	17.5	4.0	37	3.0	79	82	264	17	26		1.93	1.17	0.296	560
060	Three Mile Cr.	TM-1	930505	1030	25	24	6.8	727	10.6	5.2	55	2.9	111	92	325	10	21		1.69	1.1	0.281	2370

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_2O (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile-Tensaw River (0316-0204)																						
060	Three Mile Cr.	TM-1	930610	1410	35	32	8.8	1890	11.5	8.2	55	7.7	500	190	1030	24	31		1.75	0.96	0.393	1860
060	Three Mile Cr.	TM-1	930706	0940	28	31	6.9	3810	8.5	5.6	55	3.1	1050	370	2260	17	22		0.202	0.93	0.356	1250
060	Three Mile Cr.	TM-1	950608	0910					24.0		42	1.7	857		1530	9	21	0.024	0.562	1.2	0.159	
060	Three Mile Cr.	TM-1	950720	1015	31	30	6.8		8.0	1.9	45	2.6	920		1840	8	31	0.175	0.81	1.2	0.341	1360
060	Three Mile Cr.	TM-1	950831	0940	32	30	6.6	8310	6.3	6.5	59	4.2	2240		4220	8	41	0.518	4.19	2	0.86	2150
060	Three Mile Cr.	TM-1	950927	1105	28	26	6.9	9240	7.0	1.7	57		2526		5100	7	32	0.268	2.06	1.8	0.447	80
060	Three Mile Cr.	TM-1	951121	1005	19	18	6.5	340	8.0	5.8	44		53		193	10	17	0.233	2.78	0.58	0.347	770
060	Three Mile Cr.	TM-1	951220	1255	10	14	6.6	295	23.0	7.1	43	3.6	50		200	18	27	0.227	0.78	2.1	0.231	>3200
060	Three Mile Cr.	TM-1	960104	1120	11	12	6.5	221	13.0	7.6	34	4.3	27		148	8	27	0.506	1.89	1.5	0.245	660
060	Three Mile Cr.	TM-1	960221						13.7		39	3.6	17	49	123	9	21	0.625	1.8	1.3	0.336	460
060	Three Mile Cr.	TM-1	960313	0955	22	15	6.8	497	9.3	7.4	5	3.9	75	74	263	7	27	0.849	3.35	2.3	0.523	101
060	Three Mile Cr.	TM-1	960403	0945	20	17	7.1	209	26.0	6.1	41	3.5	17	52	126	12	23	0.753	2.32	1.8	0.338	880
060	Three Mile Cr.	TM-1	960516	1345	30	28	7.8	3080	10.2	10.9	43	5.0	741	304	1685	15		<0.01	0.469	1.5	0.252	441
060	Three Mile Cr.	TM-1	960717	1045	25	28	6.7	3070	8.4	3.5	55	2.8	426	226	1080	6	29	0.38	0.737	1.8	0.277	>3200
060	Three Mile Cr.	TM-1	960807	1030	31	29	6.9	3210	9.1	4.0	61	2.0	936	319	1800	12	27	0.26	0.93	1.5	0.27	1950
060	Three Mile Cr.	TM-1	960904	1025	29	28	6.7	1520	7.0	3.3	60	3.1	314	174	842	7	27	0.33	2.8	1.2	0.501	4700
060	Three Mile Cr.	TM-1	961028	1215	27	25	6.8	4750	4.5	6.2	52	2.9	1180	455	2420	7	19	<0.01	1.74	<0.1	0.282	1080
060	Three Mile Cr.	TM-1	961105	1340	22	21	6.9	2760	6.5		57	4.1	730	275	1403	6	32	0.13	4.2	<0.1	0.816	1160
060	Three Mile Cr.	TM-1	961204	1305	17	16	6.9	3350	22.0	4.8	49	1.9	367	167	818	7	27	0.24	2.61	0.6	0.401	900
060	Three Mile Cr.	TM-1	970127	1340	20	15	6.9	303	13.8		47	3.4	35	60	166	8	27	0.75	7.78	1.7	0.444	800
060	Three Mile Cr.	TM-1	970205	0955	14	17	6.7	293	33.0	5.0	53	2.3	40	66	167	20	21	0.49	1.53	1.8	0.277	7500
060	Three Mile Cr.	TM-1	970305	1330	25	21	6.7	480	18.6	3.5	58	2.5	75	79	237	21	26	0.59	2.11	1.9	0.446	>500
060	Three Mile Cr.	TM-1	970402	1025	24	20	6.9	700	7.7	5.4	53	3.0	183	112	420	18	24	0.94	3.01	0.99	0.55	310
060	Three Mile Cr.	TM-1	970529	1020	24	22	6.7	115	90.0	5.8	26	3.7	11	38	92	131	55	0.18	0.455	4.1	0.461	>1600
060	Three Mile Cr.	TM-1	970626	0950	26	27	6.6	218	23.0	3.8	47	3.6	15	52	115	16	19	0.28	1.18	0.84	0.297	>8000
060	Three Mile Cr.	TM-1	970723	1215	36	27	7.0	195	22.0	2.0	48	3.6	10	57	117	9	18	0.25	0.912	0.94	0.25	19500
060	Three Mile Cr.	TM-1	970821	0920	30	29	6.4	423		2.2	58	3.7	59	86	209	11	19	0.42	2.42	1.3	0.413	43500
060	Three Mile Cr.	TM-1	970902	1300	37	30	6.6	3970	5.9	0.3	5	2.3	1130	406	2370	6	16	0.14	3.17	0.98	0.439	2080
060	Three Mile Cr.	TM-1	970930	1105	31	27	6.9	5210	4.3	6.0	54	2.4	617	267	1420	7	30	0.3	3.66	1.1	0.691	1800
060	Three Mile Cr.	TM-1	971120	1210	22	16	6.9	2280	9.3	5.8	50	2.0	415	44	1030	8	30	0.28	1.85	1.2	0.421	200
060	Three Mile Cr.	TM-1	971209	1240	15	15	6.7	360	7.5	5.2	50	3.2	40.3	64	177	4	29	0.71	3.28	1.3	0.472	467
060	Three Mile Cr.	TM-1	980128	1200	14	12	6.8	214	21.0	6.8	52	6.6	16.6	63	132	15	21	0.51	1.64	1.4	0.328	6500
060	Three Mile Cr.	TM-1	980310	0815	7	14	6.2	177	70.0	7.1	47	3.9	16.6	59	125	43	44	0.19	1.1	1	0.246	>8000
060	Three Mile Cr.	TM-1	980611	1150	31	30	7.7	3120	15.2	5.8	47	1.8	820	300	1730	14	28	<0.01	0.333	0.64	0.131	110
060	Three Mile Cr.	TM-1	980812	1100	32	30	6.8	4030	6.3	3.8	50	5.0	1240	440	2450	6	12	0.124	2.52	0.69	0.622	1200
060	Three Mile Cr.	TM-1	981026	1030	25	22	7.1	3670	5.3	7.5	58	1.4	1100	380	2050	4	25	0.17	0.877	2.06	0.394	1800
060	Three Mile Cr.	TM-1	990615	1310	31	31	7.2	5700	7.8	4.0	68	3.2	1840	658	3930	12	29	0.08	0.756	0.79	0.191	450
060	Three Mile Cr.	TM-1	990824	1035	35	31	6.9	5560	5.9	3.9	55	3.8	1720	540	3010	13	32	0.21	2.37	1.3	0.51	420
060	Three Mile Cr.	TM-1	991020	1000	16	21	6.9	4210	6.8	2.5	45	5.0	990	355	1980	<5	23	<0.01	4.5	1.9	0.856	>800
060	Three Mile Cr.	TM-1	000628	0915	31	29	7.1	940	6.9	3.7	47	2.2	600	215	1090	7	22	0.21	1.6	0.99	0.426	>1600
060	Three Mile Cr.	TM-1	000809	0855	29	30	7.6	8030	6.1	5.8	16	6.4	1990	674	3820	22	37	0.13	2.54	1.81	0.716	960
060	Three Mile Cr.	TM-1	001002	1005	27	26	7.1	11850	4.7	3.0	21	4.6	4090	1430	7480	22	58	0.05	3.65	1.1	0.871	1800
060	Three Mile Cr.	TM-1	010614	0915	31	27	6.7	330	11.9	2.0	12	2.5	61	75	200	12	33	0.34	1.86	1	0.434	3000
060	Three Mile Cr.	TM-1	010820	0930	24	27	6.9	1025	9.0	2.9	17	1.7	220	120	493	8	31	0.08	0.099	0.93	0.318	2800
Mobile Bay (0316-0205)																						
020	Dog R.	DR-1	900104	1400	19	16	7.3	135	27.5	4.7	27	3.5	21	44	101				0.173	3.8	0.23	1480
020	Dog R.	DR-1	900207	1455	20	18	6.4	180	13.6	8.0	48	5.6	19	66	165	42			0.175	0.98	0.105	160
020	Dog R.	DR-1	900306	1335	21	20	6.2	155	18.1	7.9	39	4.8	5	52	105	28			0.138	0.71	0.082	140
020	Dog R.	DR-1	900403	1430	24	22	7.1	170	18.3	6.5	41	3.8	15	60	116	18			0.122	0.93	0.089	1417
020	Dog R.	DR-1	900501	0935	26	27	6.8	210	12.0	4.7	40	2.8	28	57	142	8			0.092	0.72	0.063	92
020	Dog R.	DR-1	900606	0950	32	31	7.0	130	13.5	3.3	33	5.2	14	44	84	13			0.114	1.03	0.103	780
020	Dog R.	DR-1	900717	0900	27	29	6.9	750	12.5	3.2	39	2.3	121	76	269	13			0.144	0.262	<0.005	122

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_2O (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile Bay (0316-0205)																						
020	Dog R.	DR-1	900808	0849	25	28	6.9	1900	15.5	4.0	37	2.1	460	214	1244	20			0.07	0.622	0.097	220
020	Dog R.	DR-1	900911	0910	30	31	7.2	6500	9.5	6.2	48	3.4	4980	780	4426	13			<0.005	1.06	0.083	36
020	Dog R.	DR-1	901009	0955	25	27	7.5	10500	8.6	6.8	52	2.7	3770	1120	6734	15			<0.005	0.73	0.084	64
020	Dog R.	DR-1	901114	0925	19	18	7.4	5900	6.7	8.5	56	3.2	6450	1620	8300	1			<0.005	0.89	0.055	780
020	Dog R.	DR-1	901206	0915	12	11	7.2	6100	13.1	7.5	46	3.1	3030	1040	5900	7			0.253	0.76	0.079	>600
020	Dog R.	DR-1	910117	0845	10	14	6.2	410	37.0	5.5	40	1.3	107	98	231	24			0.338	0.8	0.15	1020
020	Dog R.	DR-1	910213	0905	18	15	7.0	403	18.7	7.1	44	2.5	83	96	173	11			0.195	0.99	0.097	85
020	Dog R.	DR-1	910312	0850	16	17	7.0	240	19.8	6.7	40	2.7	31	56	130	12			0.15	0.9	0.12	96
020	Dog R.	DR-1	910403	0900	23	20	7.8		18.3	9.9	31	3.8	89	83	199	14			<0.005	0.62	0.122	51
020	Dog R.	DR-1	910514	1300	30	29	6.8	85	31.0	2.7	30	3.6	6	39	62	13			0.192	1.02	0.16	1200
020	Dog R.	DR-1	910604	0905	30	30	6.6	1100	8.2	2.5	44	4.0	16	54	107	6			<0.005	1.01	0.11	67
020	Dog R.	DR-1	910716	0845	28	29	6.5	120	15.4	3.7	32	2.3	15	49	58	8			<0.005	1.14	0.085	>1200
020	Dog R.	DR-1	910808	1030	31	30	7.0	425	7.9	4.7	35	2.5	88	67	152	6			<0.005	1.11	0.087	<4
020	Dog R.	DR-1	910918	0900	27	30	7.3	1150	7.1	4.8	40	2.4	295	141	627	6			<0.005	0.86	0.07	12
020	Dog R.	DR-1	911029	0900	27	25	7.0	7000	7.4	8.0	52	4.5	3020	1050	5410	14			0.029	1.05	0.044	62
020	Dog R.	DR-1	911113	0905	15	13	6.9	7500	5.6	11.3	51		3440	1170	6672	15			<0.005	1.31	0.049	270
020	Dog R.	DR-1	911211	1240	22	17	7.2	3800	8.0	12.6	48	4.6	1510	498	3225	11			0.062	0.66	0.501	590
020	Dog R.	DR-1	920108	1230	17	14	7.1	4100	7.2	10.4	50	6.9	1280	490	2552	12			0.094	1.43	0.051	214
020	Dog R.	DR-1	920204	0940	14	15	6.9	535	17.0	6.1	35	3.3	149	80	295	9			0.251	1.15	0.113	126
020	Dog R.	DR-1	920311	0840	10	16	7.0	160	23.0	5.2	42	3.2	11	67	99	18			0.112	0.88	0.121	>2400
020	Dog R.	DR-1	920408	1430	24	22	7.5	532	9.6	9.3	51	3.5	113	93	280	12			0.143	0.88	0.054	257
020	Dog R.	DR-1	920512	1340	24	25	7.5	1580	8.3	8.6	46	4.0	395	171	791	10			<0.001	1.24	0.079	57
020	Dog R.	DR-1	920615	1315	26	28	6.9	590	13.1	3.8	43	3.6	144	88	333	11			0.03	1.39	0.084	1440
020	Dog R.	DR-1	920707	1340	32	32	7.6	870	6.5	9.0	39	7.0	231	108	459	15			<0.005	1.02	0.11	<200
020	Dog R.	DR-1	920811	1200	29	30	6.8	482	5.0	3.3	41	2.1	110	74	266	1			0.053	1.09	0.093	73
020	Dog R.	DR-1	920908	0910	27	30	7.0	2400	5.8	5.0	53	4.0	628	250	1255	7			<0.005	0.61	0.056	134
020	Dog R.	DR-1	930112	1240	24	16	6.7	163	26.0	5.2	36	1.6	12	54	102	16			0.085	0.84	0.081	>600
020	Dog R.	DR-1	930211	1200	24	15	6.8	139	26.0	7.6	38	3.2	9	46	87	20			0.167	0.32	0.112	>2400
020	Dog R.	DR-1	930303	1245	19	16	6.7	151	20.0	6.3	43	2.8	11	64	159	13			0.134	0.58	0.112	4200
020	Dog R.	DR-1	930406	1335	22	20	6.6	149	11.3	4.9	38	1.9	11	47	100	8			0.158	1.01	0.097	107
020	Dog R.	DR-1	930503	0840	22	21	6.6	134	10.4	4.2	35	1.5	11	43	81	8			0.089	0.83	0.143	1420
020	Dog R.	DR-1	930608	1210	31	30	6.9	596	9.3	6.7	43	4.1	150	89	347	10			<0.005	0.52	0.071	220
020	Dog R.	DR-1	930708	1135	32	32	6.8	568	5.0	5.9	45	2.2	130	77	379	8			<0.005	0.6	0.114	115
020	Dog R.	DR-1	950606	0945					4.8		39	4.0			123	2		<0.01	<0.005	0.77	0.071	<10
020	Dog R.	DR-1	950711	1355	33	30	7.1	1027	6.5	5.4	37	5.1			310	5		<0.01	<0.005	0.89	0.041	60
020	Dog R.	DR-1	950829	1340	34	32	7.1	1460	5.4	8.0	41	3.5			762	7		0.011	<0.005	0.89	0.043	68
020	Dog R.	DR-1	950926	1345	30	27	7.7	8530	8.2	9.5	60	7.0			59	16		<0.01	0.012	0.95	0.025	12
020	Dog R.	DR-1	951017	1205	24	22	7.5	5430	7.6	10.2	44	4.6			3000	12		<0.01	<0.005	0.8	0.033	86
020	Dog R.	DR-1	951107	1240	24	18	6.3	234	14.0	6.3	27		49		151	9		0.103	0.177	1.7	0.069	>1000
020	Dog R.	DR-1	951211	1115	8	10	7.3	797	8.7	9.4	42	1.7	183		400	14		0.158	0.01	0.71	0.062	128
020	Dog R.	DR-1	960110	1150	14	11	6.7	224	14.3	7.7	38	1.0	38	52	159	10		0.392	0.177	2.3	0.096	48
020	Dog R.	DR-1	960205	1330	6	7	6.6	91	29.0	10.6	20	2.4	9	28	76	12		0.215	0.239	0.77	0.135	>320
020	Dog R.	DR-1	960305	1312	21	17	7.7	167	10.4	10.6	40	4.6	16	49	100	11		<0.01	0.025	1.1	0.09	241
020	Dog R.	DR-1	960402	1355	23	20	6.9	97	23.0	5.2	29	<1.0	7	40	74	14		0.224	0.246	1.4	0.143	>800
020	Dog R.	DR-1	960516	1425	30	29	7.2	197	10.3	7.5	33	4.2	31	42	113	9		<0.01	<0.005	0.86	0.062	40
020	Dog R.	DR-1	960613	1400	29	29	6.7	541	6.0	5.3	48	3.3	87	77	275	5		<0.01	<0.005	1.3	0.082	68
020	Dog R.	DR-1	960708	0930	24	30	7.0	712	10.5	5.6	39	2.2	166	89	405	13		<0.01	<0.005	1	0.078	>600
020	Dog R.	DR-1	960820	1000	27	30	6.9	197	7.7	6.5	33	4.8	45	44	139	8		<0.01	<0.005	0.83	0.032	103
020	Dog R.	DR-1	960912	1310	34	30	7.0	583	7.9	7.7	43	4.6	135	81	346	8		<0.01	<0.005	1.5	<0.005	41
020	Dog R.	DR-1	961007	1000	18	21	7.0	2220	9.5	5.9	46	2.8	575	233	1170	8		0.04	<0.005	0.46	0.019	114
020	Dog R.	DR-1	961105	0915	19	19	7.1	9850	7.4	8.8	59	4.8	2725	1040	5318	11		<0.01	<0.005	<0.1	0.017	233
020	Dog R.	DR-1	961204	1240	17	16	6.9	6700	10.6	7.2	47	2.0	2183	637	3370	9		0.13	0.033	0.39	0.037	250

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_20 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile Bay (0316-0205)																						
020	Dog R.	DR-1	970102	1005	19	19	6.6	1032	15.4	5.7	35	1.5	282	115	499	10		0.13	0.109	0.37	0.075	930
020	Dog R.	DR-1	970203	1015	20	14	7.0	588	13.2	6.8	48		86	82	263	7		0.09	0.215	1.1	0.042	290
020	Dog R.	DR-1	970305	0945	21	21	7.2	278	11.3	8.3	44	2.8	39	56	141	9		<0.01	0.215	0.6	0.083	90
020	Dog R.	DR-1	970401	1255	22	21	7.5	223	12.0	5.6	39	1.4	28	55	111	17		0.29	0.084	1.2	0.079	176
020	Dog R.	DR-1	970429	1440	21	20	6.6	1211	7.8	2.9	35	<1.0	211	118	408	9		0.3	0.127	2.43	0.078	345
020	Dog R.	DR-1	970623	0845	28	28	6.7	125	11.4	6.4	33	3.3	10	37	108	13		<0.01	0.036	0.86	0.091	224
020	Dog R.	DR-1	970723	0830	31	26	6.5	122	21.0	3.0	34	2.1	5.21	41	81	10		<0.01	0.285	0.6	0.127	6200
020	Dog R.	DR-1	970819	1400	36	32	6.7	414	9.3	6.1	37	4.7	67.5	60	186	8		0.02	<0.005	0.43	0.079	160
020	Dog R.	DR-1	970910	0940	30	29	6.8	3240	5.8	8.5	42	9.0	910	315	1770	13		<0.01	<0.005	1.3	0.094	80
020	Dog R.	DR-1	971015	0945	14	21	6.8	4000	11.0	4.3	45	2.2	1180	400	2250	8		0.05	0.094	0.74	0.024	>1600
020	Dog R.	DR-1	971124	1330	17	17	7.6	1800	17.2	7.9	39	2.2	397	187	950	10		0.14	0.147	0.69	0.073	9000
020	Dog R.	DR-1	971202	0945	14	18	6.6	940	13.0	3.0	39	<1.0	235	105	468	6		0.22	0.114	1.3	0.099	3100
020	Dog R.	DR-1	980115	1045	20	16	6.5	90	41.0	8.6	30	<1.0	4.37	36	68	27		0.06	0.176	0.55	0.103	5400
020	Dog R.	DR-1	980226	1330		17	6.8	298	11.9	7.5	42	2.0	51	65	158	8		0.01	0.138	0.48	0.068	80
020	Dog R.	DR-1	980310	1305	9	16	6.4	19	29.0	8.0	24	<2.0	6	43	64	17		0.12	0.193	0.55	0.1	3500
020	Dog R.	DR-1	980615	1345	32	31	7.1	647	7.1	5.9	40	1.6	146	86	331	5		<0.01	<0.005	0.78	0.086	40
020	Dog R.	DR-1	980810	1450	36	33	7.4	485	4.1	7.0	38	3.4	108	79	255	<1		<0.01	<0.005	0.63	0.055	550
020	Dog R.	DR-1	981008	1335	24	26	7.0	171	13.6	5.4	45	3.3	9.5	57	91	12		0.14	<0.005	1.56	0.133	3100
020	Dog R.	DR-1	990609	1440	35	33	8.4	669	7.2		36	6.8	145	829	348	8		0.01	<0.005	0.79	0.068	10
020	Dog R.	DR-1	990811	1240	35	31	7.0	755	6.5	3.1	44	2.2	192	98	398	8		0.08	0.064	0.89	0.077	1600
020	Dog R.	DR-1	991020	1400	17	23	7.3	6700	7.4	7.7	54	4.3	1930	722	3700	13		0.01	0.01	0.88	0.084	210
020	Dog R.	DR-1	000627	1435	30	29	7.0	710	30.0	5.4	29	3.3	252	83	371	25		0.05	0.18	0.69	0.121	>8000
020	Dog R.	DR-1	000801	1315	29	30	7.4	5840	8.0	6.5	61	3.4	1790	608	3390	13		<0.01	<0.005	0.8	0.097	550
020	Dog R.	DR-1	001003	1230	29	22	7.5	96	8.3	7.2	22	4.4	3950	1370	1370	24		0.01	0.025	0.8	0.111	1200
020	Dog R.	DR-1	010605	1345	30	30	7.9	750	8.6	8.2	10	4.9		101	428	8		<0.02	<0.005	0.7	0.169	520
020	Dog R.	DR-1	010807	1300	32	30	7.1	1113	10.0	6.0	10	3.3	270	146	570	18		0.2	0.059	0.91	0.107	110
030	Fowl R.	FR-1	900104	1250	19	15	7.5	4455	7.0	10.3	23	2.0	2260	450	2700	6			0.346	<0.1	0.026	61
030	Fowl R.	FR-1	900207	1345	18	17	6.4	1650	29.0	9.3	26	1.6	439	173	1004	44			0.161	0.42	0.058	84
030	Fowl R.	FR-1	900306	1225	22	19	7.8	495	56.0	9.4	24	1.6	101	62	295				0.105	0.34	0.055	51
030	Fowl R.	FR-1	900403	1325	23	22	7.9	800	32.0	10.0	28	2.8	215	100	492	28			<0.005	0.82	0.04	37
030	Fowl R.	FR-1	900501	1315	29	28	7.1	8000	7.2	6.9	31	1.7	2610	920	5352	8			0.022	0.27	0.005	27
030	Fowl R.	FR-1	900606	1050	33	31	7.8	10000	6.6	6.3	45	1.6	3380	1100	5923	9			<0.005	0.19	0.041	7
030	Fowl R.	FR-1	900717	1100	27	27	7.7	15900	11.1	5.9	51	2.4	5810	1833	10420	37			<0.005	0.696	<0.005	5
030	Fowl R.	FR-1	900808	1210	30	30	7.9	30000	11.1	6.2	62	3.5	6200	2500	14070	37			<0.005	0.39	0.054	14
030	Fowl R.	FR-1	900911	1520	35	24	6.2	47	4.4	7.8	5	<1.0	24	12	101	2			1.165	<0.05	<0.005	120
030	Fowl R.	FR-1	901009	1340	29	29	7.8	22000	11.0	6.0	62	2.9	8510	2600	15170	37			<0.005	0.6	0.078	8
030	Fowl R.	FR-1	901114	1245	24	19	8.2	15300	8.3	9.8	74	1.6	8660	3000	16040	7			<0.005	0.42	0.037	17
030	Fowl R.	FR-1	901206	1300	15	14	7.8	16000	3.6	10.4	60	2.2	7500	2460	14160	3			0.17	0.24	0.028	26
030	Fowl R.	FR-1	910117	1155	13	14	6.6	5500	11.2	8.0	22	1.4	1810	690	3320	8			0.208	0.59	0.036	93
030	Fowl R.	FR-1	910213	1205	22	15	8.0	7500	10.5	11.0	31	4.9	2290	898	3914	7			0.075	0.69	0.06	25
030	Fowl R.	FR-1	910312	1210	23	17	7.5	1900	48.0	9.2	29	1.4	471	180	1003	24			0.076	0.58	0.11	78
030	Fowl R.	FR-1	910403	1235	24	20	8.6	6500	29.0	10.0	25	2.9	1874	653	3718	32			<0.005	0.46		17
030	Fowl R.	FR-1	910514	0950	28	27	7.3	1100	25.0	6.8	23	2.9	380	141	748	10			0.029	0.83	0.07	62
030	Fowl R.	FR-1	910604	1250	33	31	7.8	1200	19.6	6.6	28	3.3	310	132	2943	14			<0.005	0.61	0.04	26
030	Fowl R.	FR-1	910716	1140	30	30	6.9	6000	9.8	6.0	27	3.5	1940	684	3963	9			<0.005	1.1	0.049	70
030	Fowl R.	FR-1	910814	1220	31	30	7.6	9000	9.8	7.5	34	3.8	3620	1085	7230	21			<0.005	1.34	0.064	>120
030	Fowl R.	FR-1	910924	1220	31	28	6.9	11000	11.0	2.7	42	6.0	4370	1410	8374	17				1.26	0.082	19
030	Fowl R.	FR-1	911016	0940	22	22	6.9	13000	7.3	6.5	55	3.4	5743	2060	10690	26			<0.005	1.33	0.044	16
030	Fowl R.	FR-1	911113	1215	17	14	8.0	14000	2.7	12.2	58		7660	2450	13840	26			0.008	0.44	0.02	2
030	Fowl R.	FR-1	911211	0930	15	16	7.5	7000	9.9	10.1	51	2.1	2810	911	5456	20			0.081	0.3	0.502	67
030	Fowl R.	FR-1	920108	0920	16	14	8.0	10000	8.2	11.3	47	7.7	3490	1200	6408	14			0.057	2.49	0.105	6
030	Fowl R.	FR-1	920204	1240	14	14	7.2	5060	16.2	9.3	31	2.3	1300	485	2711	10			0.149	0.57	0.061	23

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (^oC)	T-H_2O (^oC)	pH (su)	Cond. (umhos @25^oC)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile Bay (0316-0205)																						
030	Fowl R.	FR-1	920311	1145	8	14	7.8	3750	28.0	8.7	35	3.5	1130	384	2228	33			0.005	0.82	0.083	17
030	Fowl R.	FR-1	920408	0945	17	18	7.3	8020	13.1	8.2	58	2.6	2281	854	4326	13			<0.001	0.48	0.042	99
030	Fowl R.	FR-1	920512	0910	25	24	7.5	14030	8.8	7.3	39	2.7	4430	1610	8004	16			<0.001	1.04	0.058	7
030	Fowl R.	FR-1	920615	1040	27	27	6.5	7610	8.0	6.2	56	1.1	5717	1958	10192	26			<0.005	0.48	0.021	22
030	Fowl R.	FR-1	920707	0945	31	31	7.8	15100	6.6	7.3	41	2.4	5247	1632	8850	17			<0.005	0.6	<0.02	4
030	Fowl R.	FR-1	920811	1105	26	29	7.4	14900	14.6	5.2	52	2.2	4890	1607	8532	27			<0.005	0.39	0.052	162
030	Fowl R.	FR-1	920908	1230	29	31	7.7	15950	15.6	5.6	67	2.1	5100	1673	9390	39			<0.005	0.25	0.026	7
030	Fowl R.	FR-1	930112	1145	20	16	6.8	2600	10.8	8.3	21	<1.0	717	235	1354	9			0.204	0.49	<0.005	>120
030	Fowl R.	FR-1	930211	0940	19	15	7.4	5350	17.2	9.2	32	1.7	1522	525	2846	14			0.124	<0.05	0.033	920
030	Fowl R.	FR-1	930303	0945	18	15	6.9	3730	11.0	9.2	24	<1.0	945	314	1967	10			0.189	0.43	0.022	180
030	Fowl R.	FR-1	930406	0840	13	16	7.1	4180	10.5	8.6	28	2.4	1130	362	2230	11			0.035	0.48	0.048	6
030	Fowl R.	FR-1	930503	0935	22	21	6.9	5680	7.6	7.5	28	1.0	1670	561	3250	10			0.061	0.46	0.008	100
030	Fowl R.	FR-1	930608	0920	32	29	7.0	12420	7.8	5.7	47	13.4	13800	1310	1730	15			<0.005	0.43	0.034	23
030	Fowl R.	FR-1	930708	0950	30	30	7.1	14950	13.2	5.1	56	<1.0	4740	1590	8630	35			<0.005	0.66	0.043	12
030	Fowl R.	FR-1	950606	1045					5.8		23	1.0			2090	3		<0.01	<0.005	0.87	0.024	29
030	Fowl R.	FR-1	950711	1215	34	29	7.8	18950	7.7	5.7	66	2.0			11200	13		<0.01	<0.005	0.52	<0.005	61
030	Fowl R.	FR-1	950829	1235	35	32	7.3	14310	10.4	7.3	52	2.1			8190	23		0.032	<0.005	0.9	0.104	14
030	Fowl R.	FR-1	950926	1301	29	25	7.6	18970	14.3	7.6	59	3.3			11900	24		<0.01	0.011	0.48	<0.005	<1
030	Fowl R.	FR-1	951017	1115	24	21	8.2	9020	13.1	8.7	59	1.5			5280	31		<0.01	<0.005	0.5	0.055	9
030	Fowl R.	FR-1	951107	0925	25	17	7.1	4650	11.6	8.4	22		1247		2459	11		<0.01	0.061	0.27	0.014	204
030	Fowl R.	FR-1	951211	1025	5	9	7.3	8640	4.9	10.7	32		2463		4770	10		<0.01	0.165	0.42	0.005	46
030	Fowl R.	FR-1	960110	1100	12	10	6.6	5450	6.6	10.5	28	<1.0	1394		2940	5		0.034	0.103	0.64	0.012	4
030	Fowl R.	FR-1	960205	1235	3	6	6.2	735	37.0	12.0	7	1.9	182	66	366	13		0.036	0.087	0.69	0.052	>160
030	Fowl R.	FR-1	960305	1155	23	18	7.9		14.9	11.0	29	4.9	1233	471	2644	13		<0.01	0.05	1.3	0.062	22
030	Fowl R.	FR-1	960402	1300	21	17	7.0	165	40.0	7.7	7	1.0	39	18	118	11		0.021	0.088	0.37	0.065	151
030	Fowl R.	FR-1	960516	1015	27	26	7.5	6360	13.2	7.5	39	1.1	1383	599	3524	8		<0.01	<0.005	0.26	<0.005	18
030	Fowl R.	FR-1	960617	1300	32	31	7.5	9690	8.0	7.2	52	2.1	2158	866	4808	6		<0.01	<0.005	0.28	0.074	44
030	Fowl R.	FR-1	960708	1025	24	29	7.3	14490	8.9	6.3	50	1.9	4189	1583	8086	58		<0.01	<0.005	0.58	0.029	224
030	Fowl R.	FR-1	960820	1140	28	31	7.8	11910	10.9	7.4	55	3.0	3660	144	7996	<1		<0.01	<0.005	0.67	<0.005	15
030	Fowl R.	FR-1	960912	1225	32	30	8.0	15030	14.3	7.8	53	4.3	4570	1000	8860	39		<0.01	<0.005	1.1	<0.005	9
030	Fowl R.	FR-1	961007	1045	19	19	7.7	11870	19.5	8.4	67	1.6	2960	1200	7100	24		0.05	0.08	0.25	0.008	41
030	Fowl R.	FR-1	961105	1225	22	18	8.0	22290	6.8	9.0	81	3.4	6626	2450	12152	12		<0.01	<0.005	<0.1	0.015	4
030	Fowl R.	FR-1	961204	1145	16	15	7.5	16860	6.8	9.6	55	1.5	5850	1640	8770	12		<0.01	0.036	0.11	<0.005	13
030	Fowl R.	FR-1	970121	1010	13	9	7.7	9750	5.9	11.8	40	1.9	2845	834	4712	17		<0.01	0.203	<0.1	<0.005	8
030	Fowl R.	FR-1	970203	1110	22	14	7.3	7500	12.0	8.9	23	1.7	979	343	1850	12		0.03	0.115	1.1	0.017	126
030	Fowl R.	FR-1	970305	1035	25	20	6.8	2650	21.0	6.9	22	1.0	641	209	1237	16		0.04	0.121	0.53	0.061	40
030	Fowl R.	FR-1	970401	1205	23	17	7.6	9000	22.0	9.2	45	<1.0	2500	922	5170	30		<0.01	0.087	1.7	0.058	12
030	Fowl R.	FR-1	970429	1345	20	19	7.5	16160	10.3	7.4	51	1.1	5498	1660	8404	18		0.01	0.021	0.015	0.026	12
030	Fowl R.	FR-1	970623	1235	31	30	8.4	3690	13.6	8.2	40	1.8	1000	364	2110	16		<0.01	0.017	0.18	0.061	27
030	Fowl R.	FR-1	970723	0915	32	26	6.0	204	16.0	4.7	5	2.1	44	22	126	4		0.02	0.048	0.4	0.043	380
030	Fowl R.	FR-1	970819	1310	37	32	7.3	15980	10.0	6.1	53	2.1	5490	1800	10000	11		0.03	0.011	0.53	0.038	169
030	Fowl R.	FR-1	970910	1235	35	30	7.3	16030	5.6	6.9	56	1.8	5300	1880	10000	8		<0.01	<0.005	0.53	0.018	68
030	Fowl R.	FR-1	971015	1228	15	21	7.9	21820	16.7	6.7	71	2.6	7090	2340	12950	20		<0.01	<0.005	0.71	0.01	100
030	Fowl R.	FR-1	971124	1250	17	16	6.7	9870	5.6	8.4	39	1.7	2820	977	5500	15		0.04	0.013	0.42	0.014	147
030	Fowl R.	FR-1	971202	1045	15	17	6.8	4000	8.7	5.8	19	<1.0	1040	369	2100	5		0.03	0.119	0.51	0.033	590
030	Fowl R.	FR-1	980115	1140	20	14	6.3	180	19.0	7.9	7	<1.0	45.8	22	119	11		0.06	0.186	0.71	0.036	840
030	Fowl R.	FR-1	980225	1240	20	18	7.2	3270	84.0	8.6	32	<2.0	843	298	1650	74		<0.01	0.063	0.66	0.131	20
030	Fowl R.	FR-1	980310	1220	9	15	5.6	31	35.0	7.3	7	<2.0	18.7	15	78	17		<0.01	0.049	0.4	0.057	505
030	Fowl R.	FR-1	980615	1030	31	29	7.4	18470	10.6	6.4	55	1.5	5610	1880	10600	15		<0.01	0.008	0.55	0.038	41
030	Fowl R.	FR-1	980810	1345	34	32	8.1	15690	11.3	6.0	67	1.5	3440	1740	9920	10		<0.01	<0.005	0.47	0.045	9
030	Fowl R.	FR-1	981008	1240	23	26	6.6	6320	11.0	4.6	28	1.7	1190	620	3660	5		0.07	<0.005	4.98	0.038	40
030	Fowl R.	FR-1	990609	1235	33	30	7.8	14640	13.9	6.9	59	3.8	4090	14800	8520	22		<0.01	<0.005	0.69	0.03	10

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile Bay (0316-0205)																						
030	Fowl R.	FR-1	990811	1145	32	30	7.5	18600	10.5	2.9	65	5.7	254	2090	11000	14		<0.01	0.029	1	0.066	120
030	Fowl R.	FR-1	991020	1245		23	7.5	16360	11.5	6.2	54	3.7	4230	1830	9510	20		<0.01	0.013	0.78	0.056	6
030	Fowl R.	FR-1	000627	1330	31	30	7.5	23580	13.5	6.1	69	2.4	7420	2480	12900	25		<0.01	0.005	0.62	0.055	240
030	Fowl R.	FR-1	000801	1055	29	29	7.6	31030	18.2	4.3	94	3.4	6370	3730	18600	47		0.01	0.056	0.81	0.078	20
030	Fowl R.	FR-1	001003	1130	31	27	7.2	26750	11.0	7.1	22	3.2	10300	3300	15100	41		0.01	0.08	0.59	0.079	8
030	Fowl R.	FR-1	010605	1250	30	28	7.8	15990	19.3	7.3	16	<1.0		2080	9920	35		<0.02	0.017	0.54	0.064	16
030	Fowl R.	FR-1	010807	1200	30	29	7.2	12260	8.8	3.9	11	2.0	3310	1340	7110	20		0.04	0.209	0.66	0.055	72
030	Theodore Industrial Canal	TC-1	900104	1315	18	14	7.7	6000	16.3	9.7	37	1.0	3070	842	3672	12			0.501	0.16	0.086	188
030	Theodore Industrial Canal	TC-1	900207	1410	20	16	6.4	2400	31.0	9.0	33	1.3	654	388	1586	49			1.64	0.66	0.099	>240
030	Theodore Industrial Canal	TC-1	900306	1315	25	18	6.2	1500	48.0	9.7	26	2.2	385	300	884	53			1.84	0.56	0.079	325
030	Theodore Industrial Canal	TC-1	900403	1345	23	22	7.7	2800	13.1	7.3	37	2.4	875	432	1746	11			1.16	1.07	0.078	24
030	Theodore Industrial Canal	TC-1	900501	1345	31	29	8.4	10000	14.4	10.7	53	4.6	2950	1300	6162	30			1.53	0.36	0.093	260
030	Theodore Industrial Canal	TC-1	900606	1030	30	30	8.4	9000	5.5	6.3	41	2.6	2910	940	5100	10			<0.005	0.51	0.018	>600
030	Theodore Industrial Canal	TC-1	900717	1030	27	28	8.5	7200	9.8	10.2	53	7.7	5630	1900	20730	24			2.394	1.867	0.599	42
030	Theodore Industrial Canal	TC-1	900808	1137	30	30	9.4	22000	8.1	10.7	68	6.1	6415	2850	15645	38			1.57	0.569	0.229	204
030	Theodore Industrial Canal	TC-1	900911	1400	29	31	8.6	24000	13.4	10.4	64	>13.0	13600	3267	17020	43			0.535	1.562	0.268	>1200
030	Theodore Industrial Canal	TC-1	901009	1450	28	29	8.4	20500	7.5	11.5	69	4.3	7750	2700	14140	24			2.66	0.93	0.67	6
030	Theodore Industrial Canal	TC-1	901114	1300	25	19	8.4	14500	7.5	11.6	76	3.6	13500	2680	14910	10			0.031	0.81	0.049	28
030	Theodore Industrial Canal	TC-1	901206	1330	15	16	7.8	19000	7.5	9.9	89	3.4	8930	3010	16650	10			5.16	0.43	0.202	103
030	Theodore Industrial Canal	TC-1	910117	1215	15	15	7.0	9800	13.3	8.5	39	1.1	2700	1220	5352	7			0.825	0.94	0.272	129
030	Theodore Industrial Canal	TC-1	910213	1230	21	17	8.5	14800	8.5	11.7	55	4.1	4502	1755	8302	14			1.59	0.63	0.134	148
030	Theodore Industrial Canal	TC-1	910312	1245	22	17	7.5	2650	31.0	9.1	25	1.8	725	136	1368	13			0.257	0.43	0.104	30
030	Theodore Industrial Canal	TC-1	910403	1215	24	21	8.4	8000	26.0	10.9	25	2.6	2160	792	4504	32			0.116	0.32	0.118	144
030	Theodore Industrial Canal	TC-1	910514	0920	28	27	7.2	1800	18.6	6.6	28	1.9	720	255	1351	7			0.22	0.84	0.069	277
030	Theodore Industrial Canal	TC-1	910604	1330	33	30	7.8	4450	13.0	9.1	43	3.0	1400	545	3101	15			1.93	0.35	0.496	291
030	Theodore Industrial Canal	TC-1	910716	1205	30	29	7.0	5500	13.1	8.4	40	2.9	1720	806	3779	9			1.15	1.06	0.155	>600
030	Theodore Industrial Canal	TC-1	910808	0920	26	30	7.7	17000	6.7	5.1	49	4.6	5256	2050	10562	19			0.764	1.18	0.137	104
030	Theodore Industrial Canal	TC-1	910918	1015	32	31	7.9	15000	6.1	3.8	76	4.1	6350	2107	12300	9			3.365	0.78	0.528	270
030	Theodore Industrial Canal	TC-1	911029	1130	27	25	7.9	12000	6.9	7.4	71	4.5	6040	2290	10840	20			<0.005	0.3	0.634	51
030	Theodore Industrial Canal	TC-1	911113	1250	18	17	8.7	17000	8.2	16.6	86		8720	2974	16900	43			1.429	0.95	0.375	27
030	Theodore Industrial Canal	TC-1	911211	0900	14	15	7.3	8000	9.0	10.0	56	1.9	3300	967	6464	23			0.131	0.63	0.505	29
030	Theodore Industrial Canal	TC-1	920108	0900	16	14	8.6	10000	6.7	13.0	56	2.6	3280	1260	6346	13			0.049	0.14	0.024	12
030	Theodore Industrial Canal	TC-1	920204	1305	14	16	7.8	7620	6.5	12.0	54	6.2	2170	1055	4584	8			2.159	1.17	0.332	65
030	Theodore Industrial Canal	TC-1	920311	1210	9	17	7.5	6000	8.8	8.3	45	2.4	1870	806	3803	5			1.085	0.79	0.168	216
030	Theodore Industrial Canal	TC-1	920408	0920	15	18	7.6	17200	5.3	7.2	78	3.3	4232	1390	7664	22			0.944	0.7	0.083	80
030	Theodore Industrial Canal	TC-1	920512	0845	23	24	8.4	21600	8.0	11.6	72	6.6	5910	2619	10280	12			1.062	2	0.421	34
030	Theodore Industrial Canal	TC-1	920615	1015	27	27	7.5	18000	10.5	6.4	65	2.2	5899	2016	10064	26			0.991	0.96	0.368	200
030	Theodore Industrial Canal	TC-1	920707	0920	30	29	8.1	23400	6.3	9.4	64	6.4	6506	2464	11336	23			2.07	1.38	0.29	218
030	Theodore Industrial Canal	TC-1	920811	1130	27	30	8.4	16500	16.7	11.6	63	>10.0	5730	1927	9984	30			0.527	0.91	0.178	270
030	Theodore Industrial Canal	TC-1	920908	1255	29	31	8.4	11910	7.6	9.8	60	4.2	3540	1250	6576	18			<0.005	0.59	0.029	8
030	Theodore Industrial Canal	TC-1	930112	1215	22	17	7.0	7000	20.0	8.4	58	<1.0	1924	940	3454	19			2.012	0.54	0.048	416
030	Theodore Industrial Canal	TC-1	930211	0920	20	15	7.4	5400	29.0	10.4	44	3.7	1487	634	2834	25			1.623	0.81	0.079	512
030	Theodore Industrial Canal	TC-1	930303	0910	17	15	7.1	7450	19.7	9.4	62	1.6	1821	1050	3620	25			1.455	0.35	0.258	1000
030	Theodore Industrial Canal	TC-1	930406	0820	13	17	7.0	9720	3.9	8.6	60	1.9	2860	1410	5840	10			2.48	0.56	0.131	30
030	Theodore Industrial Canal	TC-1	930503	0910	22	21	6.7	3650	12.2	7.2	40	1.2	830	501	1950	11			1.04	0.62	0.053	470
030	Theodore Industrial Canal	TC-1	930608	0900	30	28	7.7	12490	8.7	8.2	60	3.6	3840	1330	7350	21			0.519	0.64	0.075	1420
030	Theodore Industrial Canal	TC-1	930708	0825	29	30	7.8	15640	11.2	8.0	78	2.4	5260	1640	9400	36			0.787	0.47	0.119	600
030	Theodore Industrial Canal	TC-1	950606	1025					7.3		67	2.0			8630	13		0.029	0.086	0.71	0.223	54
030	Theodore Industrial Canal	TC-1	950711	1323	34	31	8.3	18680	9.1	8.2	65	8.1			11300	15		<0.01	<0.005	0.67	0.054	122
030	Theodore Industrial Canal	TC-1	950829	1255	38	32	7.8	23060	5.3	7.5	76	1.8			13700	20		0.062	<0.005	0.47	0.028	250
030	Theodore Industrial Canal	TC-1	950926	1317	32	28	8.2	24750	8.2	11.7	100	8.8			16900	23		<0.01	0.061	1.7	0.37	<10
030	Theodore Industrial Canal	TC-1	951017	1135	26	22	8.1	12320	8.9	9.0	63	1.8			7170	16		<0.01	0.01	1.8	0.044	270

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile Bay (0316-0205)																						
030	Theodore Industrial Canal	TC-1	951107	0903	26	18	6.5	12070	15.0	8.2	57		3500		6972	34		0.027	0.344	1.2	0.281	104
030	Theodore Industrial Canal	TC-1	951211	1050	9	12	7.8	22540	7.9	9.8	64	1.6	6812		13700	23		0.041	0.099	0.39	0.062	20
030	Theodore Industrial Canal	TC-1	960110	1120	15	10	7.5	15560	6.0	11.0	49	<1.0	4823		9020	7		0.038	0.069	0.5	0.019	<2
030	Theodore Industrial Canal	TC-1	960205	1305	5	6	7.3	10080	51.0	12.3	41	1.3	2676	1030	5690	80		0.06	0.115	0.62	0.098	400
030	Theodore Industrial Canal	TC-1	960305	1220	23	16	7.7		13.4	10.9	43	2.1	2344	790	4893	14		<0.01	0.13	0.43	0.076	<4
030	Theodore Industrial Canal	TC-1	960402	1330	20	19	6.9	15660	12.6	8.5	60	1.8	4488	2140	9633	16		0.093	0.071		0.3	<20
030	Theodore Industrial Canal	TC-1	960516	0950	29	26	7.5	7230	12.4	7.5	43	1.8	1896	675	4152	4		<0.01	<0.005	0.43	0.012	387
030	Theodore Industrial Canal	TC-1	960613	1420	30	30	8.4	12540	9.2	12.6	69	3.7	3058	1180	6819	10		0.011	<0.005	0.53	0.471	160
030	Theodore Industrial Canal	TC-1	960708	1000	24	29	7.8	13490	36.0	7.9	58	3.4	3194	1188	6696	78		<0.01	0.023	1.3	0.202	>2400
030	Theodore Industrial Canal	TC-1	960820	1025	28	30	7.9	14280	4.7	6.7	70	3.3	4770	1770	9602	6		<0.01	<0.005	0.62	0.029	200
030	Theodore Industrial Canal	TC-1	960912	1245	33	31	8.2	18590	6.8	10.3	77	3.9	5500	2090	11100	14		<0.01	<0.005	1.2	0.014	590
030	Theodore Industrial Canal	TC-1	961007	1025	20	21	7.5	9700	7.2	5.5	92	1.9	2510	982	5500	12		<0.01	0.188	0.56	0.387	200
030	Theodore Industrial Canal	TC-1	961105	1255	23	18	7.9	18760	6.4	8.8	78	2.9	5810	2030	10336	12		<0.01	0.038	<0.1	0.039	20
030	Theodore Industrial Canal	TC-1	961204	1205	17	16	7.8	23070	9.3	9.3	79	1.0	7560	2140	11080	23		<0.01	0.121	0.36	0.104	39
030	Theodore Industrial Canal	TC-1	970102	1035	20	18	7.2	13360	7.4	8.3	67	<1.0	2528	796	3982	10		0.03	0.572	2	0.915	27
030	Theodore Industrial Canal	TC-1	970203	1050	20	14	7.4	9310	9.0	10.4	52	<1.0	2599	1020	4850	8		0.01	0.429	0.86	0.198	>160
030	Theodore Industrial Canal	TC-1	970305	1010	21	19	7.1	5310	17.6	7.9	41	1.4	1269	505	2536	11		0.09	0.196	0.9	0.084	20
030	Theodore Industrial Canal	TC-1	970401	1225	22	20	7.5	18160	9.8	7.8	62	1.8	5570	2010	11000	20		0.11	0.083	0.85	0.138	32
030	Theodore Industrial Canal	TC-1	970429	1400	20	19	7.4	17630	7.0	6.1	66	1.0	5622	1940	8712	9		0.1	0.053	1.64	0.154	40
030	Theodore Industrial Canal	TC-1	970623	1300	32	29	8.4	5140	12.0	10.4	48	2.9	1280	624	3110	23		<0.01	0.087	0.6	0.147	>800
030	Theodore Industrial Canal	TC-1	970708	1015	29	29	7.7	6910	7.2	6.7	55	1.7	2330	712	8210	7		<0.01	0.429	<0.1	0.467	490
030	Theodore Industrial Canal	TC-1	970819	1330	37	32	7.6	14380	7.3	9.3	76	2.8	4960	1680	8	9420		0.03	0.774	0.62	1.81	80
030	Theodore Industrial Canal	TC-1	970910	1300	33	30	7.7	29250	5.7	5.7	92	3.4	8940	3350	1630	12		<0.01	0.093	0.81	0.823	40
030	Theodore Industrial Canal	TC-1	971015	1200	15	23	7.6	24910	6.6	4.5	108	1.2	7950	2690	15100	10		0.04	0.69	0.53	3.35	780
030	Theodore Industrial Canal	TC-1	971124	1305	16	17	7.6	17470	7.7	8.2	77	4.0	5250	1840	10200	28		0.01	0.292	0.56	0.837	64
030	Theodore Industrial Canal	TC-1	971202	1020	15	17	7.3	17290	5.5	6.6	69	1.2	5190	1870	10600	12		0.01	<0.005	0.33	0.073	30
030	Theodore Industrial Canal	TC-1	980115	1110	19	15	6.6	4030	35.0	7.6	38	<1.0	1210	404	2210	23		0.11	0.398	0.59	0.503	350
030	Theodore Industrial Canal	TC-1	980226	1305	20	16	7.2	5960	12.0	8.3	45	<2.0	1645	605	3150	9		<0.01	0.242	0.29	0.175	14
030	Theodore Industrial Canal	TC-1	980310	1240	10	17	6.4	9790	21.0	7.3	41	<2.0	2570	1050	5560	30		0.11	0.463	0.35	0.624	72
030	Theodore Industrial Canal	TC-1	980615	1000	30	29	7.8	17900	7.9	7.0	64	1.8	5290	1890	10000	13		<0.01	0.021	0.44	0.114	16
030	Theodore Industrial Canal	TC-1	980810	1410	34	32	8.5	22800	7.1	10.0	80	4.6	4580	2650	14700	9		<0.01	<0.005	0.7	0.417	36
030	Theodore Industrial Canal	TC-1	981008	1305	25	27	7.0	9240	10.0	6.9	50	3.0	2260	950	5560	8		0.05	0.09	4.49	0.553	50
030	Theodore Industrial Canal	TC-1	990609	1320	33	30	8.4	15490	8.6	9.0	64	5.9	4370	15800	9120	11		0.03	0.016	0.89	0.067	12
030	Theodore Industrial Canal	TC-1	990811	1210	35	31	7.4	25200	6.1	4.4	84	2.6	380	3120	16600	19		0.08	0.181	0.71	0.207	88
030	Theodore Industrial Canal	TC-1	991020	1340	18	23	7.7	31480	4.4	3.0	98	2.8	1570	3470	18000	14		0.57	0.597	0.21	0.897	12
030	Theodore Industrial Canal	TC-1	000627	1400	32	31	7.7	16170	14.9	7.4	89	3.3	6050	1780	8960	25		0.03	0.161	0.6	0.954	560
030	Theodore Industrial Canal	TC-1	000801	1225	28	30	8.2	29820	25.0	8.3	95	>8.5	6210	3510	16600	59		<0.01	0.061	3.19	0.36	300
030	Theodore Industrial Canal	TC-1	001003	1155	30	25	8.0	31840	4.3	7.4	32	2.7	12500	4040	18000	42		<0.01	0.092	0.54	0.09	12
030	Theodore Industrial Canal	TC-1	010605	1315	30	29	8.1	11610	9.7	7.6	14	1.9		1420	7310	13		<0.02	0.019	0.88	0.082	32
030	Theodore Industrial Canal	TC-1	010807	1230	31	30	7.9	19370	6.5	7.1	17	3.0	4440	2370	10600	20		0.01	0.019	0.72	0.225	20
050	Fish R.	FI-1	900920	1520	35	24	6.2	47	4.4	7.8	5	<1.0	24	12	101	2			1.165	<0.05	<0.005	120
050	Fish R.	FI-1	901010	1355	25	21	5.9	130	3.3	7.6	5	<1.0	4	22	51	4			1.426	<0.05	0.06	144
050	Fish R.	FI-1	901113	1205	24	16	6.0	49	2.8	8.6	5	<1.0	9	14	52	3			1.617	0.35	0.009	260
050	Fish R.	FI-1	901218	1240	24	20	6.1	182	3.3	7.9	6	<1.0	6	17	45	1			1.61	0.37	0.015	114
050	Fish R.	FI-1	910115	1330	16	15	5.9	480	19.9	8.6	6	<1.0	5	32	118	18			1.035	0.26	0.049	>600
050	Fish R.	FI-1	910214	1205	19	17	5.9	78	5.6	8.4	6	<1.0	5	31	14	4			1.052	0.1	0.155	260
050	Fish R.	FI-1	910313	1245	26	19	5.9	75	5.9	8.5	5	<1.0	2	12	107	2			1.031	0.4	0.025	228
050	Fish R.	FI-1	910408	1345	19	20	6.0		7.2	7.5	4	1.0	4	16	41	5			0.989	0.22	0.036	>1200
050	Fish R.	FI-1	910516	1225	29	23	6.0	48	15.4	6.7	5	<1.0	4	15	36	11			0.831	0.71	0.056	100
050	Fish R.	FI-1	910605	1400	36	24	6.0	110	8.2	7.2	7	<1.0	6	18	13	4			0.899	0.46	0.014	166
050	Fish R.	FI-1	910711	1315	32	24	5.8	52	12.2	7.7	4	<1.0	7	26	33	11			0.662	0.72	0.057	413
050	Fish R.	FI-1	910812	1335	31	24	6.5	60	8.5	7.2	7	<1.0	6	20	28	6			1.368	1	0.041	151

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_20 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile Bay (0316-0205)																						
050	Fish R.	FI-1	910919	1210	27	23	6.0	45	14.2	6.9	6	<1.0	5	17	51	14			1.083	0.56	0.052	>600
050	Fish R.	FI-1	911015	1355	25	20	5.9	500	3.8	8.1	5	1.3	5	23	87	4			1.377	0.41	0.039	152
050	Fish R.	FI-1	911107	1245	20	14	5.8	60	2.6	9.3	6		11	29	45	5			1.699	0.27	0.02	373
050	Fish R.	FI-1	911210	1230	19	17	6.1	70	2.3	8.4	5	2.1	36	91	53	3			0.95	0.05	0.021	194
050	Fish R.	FI-1	920109	0930	16	15	5.4	50	16.0	8.7	5	2.7	<5	32	105	8			0.856	0.6	0.105	>1200
050	Fish R.	FI-1	920205	1235	16	14	5.6	47	101.0	8.8	6	6.1	<5	6	88	47			0.539	1.05	0.282	>1200
050	Fish R.	FI-1	920312	0840	10	13	6.2	48	21.0	8.7	6	1.0	<5	19	49	16			0.848	0.58	0.056	853
050	Fish R.	FI-1	920407	0955	22	17	6.0	43	6.7	8.4	5	<1.0	12	29	60	5			1.059	0.38	0.035	413
050	Fish R.	FI-1	920513	0920	24	19	5.8	51	3.4	8.0	4	<1.0	6	14	44	1			1.701	0.65	0.023	120
050	Fish R.	FI-1	920611	1320	27	22	5.8	49	25.0	7.1	7	1.3	8	51	82	16			1.086	0.76	0.059	1000
050	Fish R.	FI-1	920714	0920	26	22	5.9	450	8.4	7.2	6	1.2	5	29	58	5			1.3	<0.4	<0.02	547
050	Fish R.	FI-1	920812	0845	23	22	5.8	47	4.5	7.3	5	<1.0	6	20	38	<1			1.48	0.73	<0.005	300
050	Fish R.	FI-1	920910	0950	29	22	5.9	46	5.0	7.4	6	<1.0	6	15	45	2			1.401	0.21	<0.005	620
050	Fish R.	FI-1	930113	1300	17	17	5.6	39	43.0	7.6	6	<1.0	4	14	74	19			0.327	0.51	0.068	4960
050	Fish R.	FI-1	930210	1235	19	15	5.8	46	5.5	9.0	5	<1.0	5	14	42	1			1.264	0.39	0.036	380
050	Fish R.	FI-1	930302	1025	21	16	5.6	49	5.0	8.8	5	<1.0	6	16	54	2			1.429	0.41	<0.005	180
050	Fish R.	FI-1	930408	1207	20	17	5.6	47	5.8	8.5	9	<1.0	5	14	41	8			1.026	0.55	0.013	91
050	Fish R.	FI-1	930504	0910	21	19	5.6	48	13.3	7.6	7	<1.0	6	11	74	8			0.779	0.87	0.033	183
050	Fish R.	FI-1	930610	1025	30	22	5.6	54	23.0	7.6	5	<1.0	9	11	72	35			1.09	0.23	0.054	174
050	Fish R.	FI-1	930707	1130	33	23	5.8	49	4.2	7.5	9	1.0	7	12	80	12			1.33	0.51	0.027	197
050	Fish R.	FI-1	950607	1330					6.2		8	<1.0			106	2		<0.01	1.29	1.2	0.029	>320
050	Fish R.	FI-1	950712	1320	38	23	6.4	55	7.3	7.3	<1	<1.0	14		60	2		<0.01	1.31	0.43	0.027	<4
050	Fish R.	FI-1	950830	1505	37	24	6.5	50	3.2	7.4	5	<1.0	7		64	2		0.009	1.39	0.98	0.01	176
050	Fish R.	FI-1	950927	1315	32	21	6.3	50	4.0	7.8	8		10		71	6		<0.01	1.43	0.51	<0.005	284
050	Fish R.	FI-1	951018	1145	26	19	5.9	38	4.5	8.5	5	1.2	8		31	2		<0.01	0.955	0.2	0.077	110
050	Fish R.	FI-1	951108	1420	19	18	5.7	44	16.0	8.0			7		50	12		<0.01	0.8	<0.1	0.013	>500
050	Fish R.	FI-1	951212	1330	19	12	5.9	48		9.9	5	<1.0	12		71	3		<0.01	1.38	0.34	<0.005	8
050	Fish R.	FI-1	960103	0855	8	14	5.6	42	2.1	8.6	5	1.0	5		60	8		<0.01	0.565	0.43	0.027	398
050	Fish R.	FI-1	960201	0915	8	14	6.1	47	5.1	8.9	5	1.2	9	14	63	5		<0.01	0.93	0.17	0.026	129
050	Fish R.	FI-1	960307	1135	7	17	6.1	44	6.5	8.1	5	<1.0	11	11	38	4		<0.01	1.07	0.48	0.017	770
050	Fish R.	FI-1	960404	0925	20	16	6.0	40	14.2	8.2	6	1.1	7	11	39	9		<0.01	0.946	0.15	0.03	338
050	Fish R.	FI-1	960521	1315	30	21	5.7	49	6.8	7.9	5	1.2	9	11	33	4		<0.01	0.563	<0.1	<0.005	335
050	Fish R.	FI-1	960613	0945	29	21	7.0	54	8.5	7.6	5	1.2	7	17	49	7		0.013	0.195	0.39	0.03	430
050	Fish R.	FI-1	960708	1455	27	23	6.5	51	57.0	6.8	6	2.1	8	21	68	73		0.01	0.624	2	0.094	>2400
050	Fish R.	FI-1	960821	0930	30	22	5.8	65	6.7	7.8	8	1.3	10	17	58	11		<0.01	1.21	<0.1	0.096	60
050	Fish R.	FI-1	960918	0920	25	23	5.8	58	9.9	8.0	6	1.8	12.7	14	62	10		0.01	0.756	0.82	0.117	185
050	Fish R.	FI-1	961015	0935	21	18	5.8	70	4.8	8.8	6	1.0	8.5	18	46	3		<0.01	1.56	0.66	<0.005	77
050	Fish R.	FI-1	961106	0945	18	19	5.7	58	4.9	8.4	7	1.2	10	12	45	7		<0.01	0.863	<0.1	0.014	240
050	Fish R.	FI-1	961205	1305	22	16	6.2	60		9.1	7	1.3	16	18	47	1		<0.01	1.62	0.32	0.026	110
050	Fish R.	FI-1	970106	1450	17	18	6.4	79	4.4	8.1	6	<1.0	9.8	13	38	6		<0.01	1.15	0.47	<0.005	318
050	Fish R.	FI-1	970204	1345	22	18	6.3	63	6.5	8.2	5	<1.0	13	25	44	4		<0.01	1.43	0.56	<0.005	60
050	Fish R.	FI-1	970306	1330	20	19	6.1	71	6.1	8.3	6	<1.0	7.2	11	47	10		<0.01	1.11	0.21	0.016	23
050	Fish R.	FI-1	970403	1235	28	18	6.8	84	4.1	8.7	4	<1.0	11	11	46	14		<0.01	1.25	<0.1	0.006	165
050	Fish R.	FI-1	970501	1325	27	18	6.1	73	6.0	8.2	5	<1.0	10	13	38	10		<0.01	1.22	0.36	0.022	>400
050	Fish R.	FI-1	970624	1340	27	23	6.2	53	6.0	7.3	5	<1.0	10	30	73	14		<0.01	1.43	<0.1	0.042	159
050	Fish R.	FI-1	970724	1200	38	24	6.4	63	18.0	6.0	7	1.9	4.92	14	57	15		0.02	0.451	0.53	0.064	380
050	Fish R.	FI-1	970820	0915	35	23	6.0	83	9.0	7.1	6	<1.0	15	15	70	6		0.05	1.05	<0.1	0.026	168
050	Fish R.	FI-1	970902	1215	38	23	6.6	3540	19.0	6.6	<1	<1.0	5.55	13	49	14		0.01	0.827	0.61	0.062	1480
050	Fish R.	FI-1	971016	1110	19	18	6.0	98	5.2	7.9	4	<1.0	15	12	68	5		0.01	0.802	0.14	0.102	238
050	Fish R.	FI-1	971124	1330	19	15	5.6	52	13.0	8.5	6	<1.0	7.13	18	45	7		0.03	0.729	0.38	0.045	140
050	Fish R.	FI-1	971203	1345	20	17	6.3	50	10.9	8.0	5	1.5	11	17	42	6		<0.01	0.745	0.36	0.041	167
050	Fish R.	FI-1	980127	1425	20	12	5.5	39	39.0	9.3	6	<1.0	7.46	11	53	19		0.1	0.794	0.58	0.069	3200

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile Bay (0316-0205)																						
050	Fish R.	FI-1	980225	1335	23	16	5.5	43	9.0	8.8	4	<2.0	8	18	38	5		<0.01	0.636	0.2	0.082	68
050	Fish R.	FI-1	980311	1255	17	13	5.3	39	19.0	9.3	6	<2.0	10	19	48	15		<0.01	0.799	0.26	0.049	222
050	Fish R.	FI-1	980617	0925	30	23	5.6	57	5.7	7.8	55	<1.0	9.7	1870	45	8		<0.01	0.881	0.18	0.023	40
050	Fish R.	FI-1	980811	1435	38	24	6.1	76	6.2	7.3	6	2.1	8	18	22	4		<0.01	0.924	0.23	0.016	>320
050	Fish R.	FI-1	981015	1050	30	20	5.9	79	6.3	8.0	5	<1.0	9.4	12	52	3		<0.01	0.239	2.03	0.031	37
050	Fish R.	FI-1	990609	0850	25	22	5.8	50	54.0	7.0	5	2.3	21.6	136	58	23		0.01	0.862	0.64	0.086	>1600
050	Fish R.	FI-1	990810	0935	31	25	5.7	32	63.0	5.8	5	4.6	4	10	55	23		<0.01	0.433	0.97	0.128	>4000
050	Fish R.	FI-1	991026	1305	20	15	6.7	273	2.8	10.0	4	<1.0	4	16	55	6		0.01	0.489	<0.1	0.022	120
050	Fish R.	FI-1	000626	1230	29	22	6.1	50	5.2	7.5	5	<1.0	6	19	44	6		<0.01	2.63	0.22	0.04	>800
050	Fish R.	FI-1	000802	1340	29	23	6.0	49	6.5	7.2	10	1.6	8.3	17	54	29		<0.01	1.29	0.52	0.074	>800
050	Fish R.	FI-1	001004	1405	32	20	6.1	83	3.1	8.1	1	<1.0	7	13	13	6		0.01	1.99	0.18	0.033	520
050	Fish R.	FI-1	010607	1415	32	23	6.2	50	2.6	7.8	3	<1.0		30	54	5		0.02	1.82	0.15	0.045	89
050	Fish R.	FI-1	010806	0915	27	23	6.2	87	5.8	7.3	<1	<1.0	5	26	53	<5		0.04	1.29	0.5	0.072	130
050	Weeks Bay	WB-1	900103	1535	16	16	6.7	1700	70.0	8.1	10	1.0	736	166	927	21			0.564	0.51	0.047	>600
050	Weeks Bay	WB-1	900206	1215	18	17	6.9	480	16.8	8.4	9	1.2	114	45	293	38			0.949	0.42	0.018	72
050	Weeks Bay	WB-1	900308	1245	19	19	5.3	140	21.0	9.5	8	3.0	18	28	98	12			0.812	0.32	0.015	73
050	Weeks Bay	WB-1	900404	1250	19	22	7.0	230	12.9	9.9	9	1.0	49	28	141	12			0.905	0.4	0.034	39
050	Weeks Bay	WB-1	900502	1220	27	27	8.7	3500	8.0	8.7	17	3.9	1030	355	2052	14			0.313	0.28	0.024	13
050	Weeks Bay	WB-1	900605	1330	31	30	6.7	1900	6.1	6.7	15	2.1	641	194	1146	7			0.612	0.4	0.054	80
050	Weeks Bay	WB-1	900711	1255	30	29	7.2	3400	6.4	7.1	18	1.2	1280	335	2023	7			0.473	2.496	0.029	30
050	Weeks Bay	WB-1	900809	1315	31	30	8.1	9000	6.2	8.9	35	3.4	2720	1080	6146	16			0.31	0.771	0.051	40
050	Weeks Bay	WB-1	900920	1445	32	31	7.7	12800	15.9	9.1	42	8.4	5300	1540	8357	24			0.053	1.13	0.139	7
050	Weeks Bay	WB-1	901010	1305	25	26	7.6	18500	14.5	6.6	49	3.4	6720	2130	12310	33			0.198	0.88	0.082	80
050	Weeks Bay	WB-1	901113	1400	26	19	8.5	13200	6.1	11.2	38	1.5	8700	160	8858	4			0.773	0.8	0.06	41
050	Weeks Bay	WB-1	901218	1210	23	21	7.9	12000	38.0	9.5	56	3.6	6610	2155	11950	56			0.432	1.12	0.083	166
050	Weeks Bay	WB-1	910214	1135	19	17	8.7	10000	18.3	11.6	26	17.0	2900	1265	5232	26			0.536	1.54	0.065	180
050	Weeks Bay	WB-1	910313	1215	23	20	8.2	2500	21.0	10.3	17	3.1	709	244	1452	20			0.387	0.87	0.066	62
050	Weeks Bay	WB-1	910408	1310	20	23	7.3	1800	10.8	8.9	12	2.5	548	227	1269	11			0.529	0.61	<0.005	37
050	Weeks Bay	WB-1	910515	1145	30	28	6.7	215	49.0	5.8	12	2.4	38	23	122	14			0.259	0.74	0.098	88
050	Weeks Bay	WB-1	910605	1320	33	30	6.6	110	13.7	7.1	11	3.6	25	18	69	1			0.345	0.9	0.031	23
050	Weeks Bay	WB-1	910711	1225	28	28	6.5	780	46.0	6.5	11	2.1	220	86	422	16			0.228	1.22	0.24	294
050	Weeks Bay	WB-1	910812	1305	32	30	8.5	2600	14.0	10.4	15	9.0	724	270	1517	14			0.453	1.46	0.127	100
050	Weeks Bay	WB-1	910919	1135	31	29	7.2	10200	12.2	5.8	30	6.5	3490	1160	6648	10			0.158	0.79	0.078	144
050	Weeks Bay	WB-1	911015	1230	24	24	7.0	13000	12.0	6.3	43	4.4	5211	1750	9907	25			0.255	0.95	0.043	320
050	Weeks Bay	WB-1	911015	1300	16	15	7.8	13500	14.5	10.1	35	4.7	4170	1360	7380	18			0.331	0.6	0.081	740
050	Weeks Bay	WB-1	911107	1200	19	16	7.3	11000	5.4	12.6	43		5160	1710	9408	26			0.481	<0.05	0.033	55
050	Weeks Bay	WB-1	911210	1200	19	18	7.1	11000	4.0	11.0	31	1.4	3490	1340	6700	3			0.584	0.13	0.018	125
050	Weeks Bay	WB-1	920109	1005	17	16	8.4	11000	39.0	9.2	33	>18.0	3800	1270	6560	70			0.419	3.27	0.31	>600
050	Weeks Bay	WB-1	920205	1200	18	16	6.8	9600	63.0	6.4	29	8.4	2750	931	5598	40			0.228	1	0.229	940
050	Weeks Bay	WB-1	920312	0915	12	15	6.6	1000	27.0	7.2	12	1.6	223	100	520	17			0.708	0.91	0.086	1080
050	Weeks Bay	WB-1	920407	1025	22	18	7.7	1890	17.2	9.6	16	2.8	493	182	969	16			0.676	1.26	0.057	20
050	Weeks Bay	WB-1	920513	1105	28	25	8.7	4200	8.6	10.4	21	7.0	1113	417	2231	16			0.467	1	0.075	85
050	Weeks Bay	WB-1	920611	1255	27	28	7.0	7120	8.6	7.3	23	2.6	1930	646	3660	10			0.406	0.67	0.161	144
050	Weeks Bay	WB-1	920714	0955	28	29	7.2	6160	13.8	5.6	28	3.9	1890	561	3493	10			0.27	0.83	0.05	280
050	Weeks Bay	WB-1	920812	0915	26	27	7.1	3700	5.5	4.5	18	2.3	1050	368	2011	4			0.646	0.87	<0.005	264
050	Weeks Bay	WB-1	920910	1020	29	29	6.9	7630	4.6	7.2	25	2.5	1940	644	3997	5			0.459	0.55	<0.005	168
050	Weeks Bay	WB-1	930113	1220	17	17	6.4	5590	35.0	6.6	20	1.5	1766	630	3321	25			0.571	0.41	0.055	>2400
050	Weeks Bay	WB-1	930210	1210	19	15	6.7	5350	7.7	10.3	19	2.8	1522	470	2907	7			0.776	0.35	0.027	310
050	Weeks Bay	WB-1	930302	1215	21	15	7.1	6230	11.6	9.6	25	3.4	1683	580	3380	16			0.621	0.38	0.033	80
050	Weeks Bay	WB-1	930408	1140	19	18	6.8	2130	37.0	8.6	19	3.0	527	180	1100	36			0.324	0.82	0.069	60
050	Weeks Bay	WB-1	930504	0945	22	22	6.4	518	13.6	7.7	10	1.2	107	42	248	11			0.745	0.64	0.037	68
050	Weeks Bay	WB-1	930610	1100	32	29	6.8	1780	5.1	8.2	16	2.2	470	149	947	6			0.58	0.24	0.031	15

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_20 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile Bay (0316-0205)																						
050	Weeks Bay	WB-1	930707	1100	33	30	6.7	3630	4.1	6.8	19	1.7	670	219	443	12			0.591	0.99	0.026	11
050	Weeks Bay	WB-1	950607	1110					17.3		14	2.2			894	10		<0.01	0.335	0.6	0.045	34
050	Weeks Bay	WB-1	950712	1250	35	30	6.9	7660	5.3	7.3	20	3.5	1128		2320	7		0.018	0.351	0.97	<0.005	198
050	Weeks Bay	WB-1	950830	1430	36	32	7.1	11050	3.8	8.4	35	4.0			5900	9		<0.01	0.282	0.55	0.01	15
050	Weeks Bay	WB-1	950927	1110	28	25	6.4	14570	6.5	4.8	36		2908		11400	10		0.073	0.297	1.3	0.008	44
050	Weeks Bay	WB-1	951018	1105	27	22	6.8	9790	4.2	7.7	30	2.4	2946		5530	3		0.02	0.382	0.77	0.073	38
050	Weeks Bay	WB-1	951108	1130	18	17	6.2	3650	58.0	7.1			589		1253	63		0.04	0.434	0.8	0.118	>200
050	Weeks Bay	WB-1	951212	1305	19	14	6.7	3060		8.9	17	1.0	1044		1570	10		0.056	0.769	0.45	0.01	2
050	Weeks Bay	WB-1	960103	0930	7	13	6.1	3680	2.8	8.4	13	<1.0			2060	19		0.04	0.45	0.67	0.066	>1600
050	Weeks Bay	WB-1	960201	0955	7	13	6.5	2960	10.9	8.7	14	2.6	804	276	1475	9		0.018	0.524	0.38	0.028	290
050	Weeks Bay	WB-1	960307	1110	10	17	6.8	1095	25.0	8.6	10	1.5	258	98	530	25		<0.01	0.691	0.58	0.067	300
050	Weeks Bay	WB-1	960404	1000	23	18	6.5	146	77.0	7.3	7	2.5	33	16	118	13		0.042	0.334	0.47	0.13	199
050	Weeks Bay	WB-1	960521	1250	30	27	7.2	506	10.5	8.6	16	3.4	140	55	290	6		<0.01	0.483	0.3	0.019	20
050	Weeks Bay	WB-1	960613	1020	30	28	7.7	4370	14.5	6.9	17	3.5	569	188	1001	10		<0.01	0.059	0.41	0.053	47
050	Weeks Bay	WB-1	960708	1435	25	28	6.8	1520	6.9	6.0	13	2.1	327	128	700	9		0.04	0.684	1.5	0.01	>240
050	Weeks Bay	WB-1	960821	1010	28	27	6.7	3820	5.9	5.8	18	3.0	840	308	1770	5		0.07	0.297	0.75	<0.005	64
050	Weeks Bay	WB-1	960918	0955	28	26	6.4	3700	5.8	6.8	16	2.4	915	307	1810	4		0.07	0.577	0.97	0.013	94
050	Weeks Bay	WB-1	961015	1015	24	22	7.1	13660	4.3	7.4	40	2.1	4142	1330	7430	19		<0.01	0.37	0.68	<0.005	124
050	Weeks Bay	WB-1	961106	1020	20	21	7.3	90	2.2	8.4	29	1.0	2420	851	4711	5		<0.01	0.439	<0.1	<0.005	208
050	Weeks Bay	WB-1	961205	1240	20	16	7.8	24590		8.9	21	1.8	2077	595	3016	8		0.01	0.446	<0.1	0.01	79
050	Weeks Bay	WB-1	970106	1425	16	18	6.9	5230	9.0	7.4	23	3.6	1487	493	2729	10		0.12	0.478	0.29	0.049	168
050	Weeks Bay	WB-1	970204	1310	22	17	7.3	5100	17.8	9.2	23	2.5	1475	482	2880	22		<0.01	0.461	1.5	0.011	40
050	Weeks Bay	WB-1	970306	1250	18	20	7.0	2920	36.0	8.4	16	2.0	644	206	1230	37		0.06	0.581	0.87	0.071	44
050	Weeks Bay	WB-1	970403	1205	24	21	7.7	2440	6.6	9.8	14	2.1	530	182	920	12		<0.01	0.613	0.22	0.035	40
050	Weeks Bay	WB-1	970501	1245	26	20	7.0	5430	8.6	8.2	11	3.0	518	188	1040	10		<0.01	0.402	1.2	0.046	45
050	Weeks Bay	WB-1	970624	1300	29	28	7.2	899	13.0	8.2	17	3.5	230	82	524	24		<0.01	0.426	0.21	0.07	18
050	Weeks Bay	WB-1	970724	1100	36	27	6.1	75	25.0	4.7	8	1.7	7.48	14	59	4		0.03	0.23	0.45	0.066	153
050	Weeks Bay	WB-1	970820	0945	33	29	6.2	5300	7.7	6.1	15	2.1	697	249	1430	6		0.06	0.689	<0.1	0.045	74
050	Weeks Bay	WB-1	970902	1140	36	28	6.8	8050	5.7	7.8	<1	2.5	1590	550	3260	7		0.05	0.659	0.81	0.022	215
050	Weeks Bay	WB-1	971016	1310	21	21	7.7	10900	5.0	5.9	35	2.4	3200	1040	6040	5		0.1	0.532	0.77	0.025	273
050	Weeks Bay	WB-1	971124	1250	18	17	7.1	16800	45.0	6.6	11	1.9	457	258	1160	21		0.06	0.382	0.63	0.08	1020
050	Weeks Bay	WB-1	971203	1305	20	18	7.1	3380	30.0	6.3	19	1.4	686	232	1310	12		0.03	0.316	0.62	0.067	260
050	Weeks Bay	WB-1	980127	1330	19	13	6.0	110	34.0	8.3	7	<1.0	23.2	16	96	8		0.02	0.661	0.34	0.081	250
050	Weeks Bay	WB-1	980225	1305	22	18	6.1	195	18.5	9.6	7	2.4	50	27	113	10		<0.01	0.82	0.35	0.057	169
050	Weeks Bay	WB-1	980311	1215	15	15	5.9	60	68.0	6.9	7	<2.0	11	15	71	17		<0.01	0.282	0.51	0.131	372
050	Weeks Bay	WB-1	980617	1015	30	29	7.2	1480	5.4	7.6	13	1.8	439	168	954	8		<0.01	0.352	0.56	0.019	8
050	Weeks Bay	WB-1	980811	1250	35	30	6.8	4660	3.4	10.2	20	3.1	1380	465	2730	2		<0.01	0.772	0.59	<0.005	128
050	Weeks Bay	WB-1	981015	1130	30	23	6.5	4140	3.3	5.6	13	<1.0	478	208	1260	<1		<0.01	0.174	5.01	0.021	48
050	Weeks Bay	WB-1	990609	0930	25	27	6.7	3080	5.9	4.2	22	3.7	1040	3790	2180	6		0.05	0.439	0.64	0.026	80
050	Weeks Bay	WB-1	990810	1010	30	26	6.1	862	50.0	4.0	11	3.8	55	86	503	26		0.08	0.506	1.1	0.153	>4000
050	Weeks Bay	WB-1	991026	1230	22	19	7.6	14280	5.1	10.1	48	2.0	4380	1880	9510	18		0.01	0.152	0.72	0.037	260
050	Weeks Bay	WB-1	000626	1145	27	30	7.2	9400	9.9	4.7	42	2.6	3620	971	5160	16		<0.01	1.94	0.81	0.058	44
050	Weeks Bay	WB-1	000802	1310	26	29	7.8	14740	12.2	7.3	21	3.8	3820	1560	7180	31		<0.01	0.068	1.02	0.061	120
050	Weeks Bay	WB-1	001004	1205	30	26	8.2	18550	6.0	9.9	19	4.6	6190	2080	11300	21		0.01	0.228	0.95	0.068	560
050	Weeks Bay	WB-1	010607	1215	31	28	8.0	12360	15.2	8.0	12	<1.0		1530	7560	34		0.02	0.049	0.88	0.072	10
050	Weeks Bay	WB-1	010806	0955	28	28	7.2	12590	7.3	5.7	11	4.0	3440	1340	7130	14		<0.01	0.022	0.86	0.067	210
060	Bon Secour R.	BS-1	900103	1505	15	14	7.5	24000	8.0	13.2	57	5.0	8260	2475	13390	24			0.26	<0.1	0.031	27
060	Bon Secour R.	BS-1	900206	1130	19	18	8.8	10000	28.0	14.1	37	>10.0	2540	1010	5410	64			<0.005	0.82	0.064	35
060	Bon Secour R.	BS-1	900308	1215	19	20	6.9	3000	32.0	9.8	30	2.7	1010	280	1826	38			0.192	0.47	0.039	25
060	Bon Secour R.	BS-1	900404	1215	19	22	8.1	2850	41.0	10.3	26	1.3	886	275	1618	37			0.207	0.82	0.055	31
060	Bon Secour R.	BS-1	900502	1150	28	28	8.1	13500	12.6	8.0	43	7.5	4540	1560	8792	17			<0.005	0.61	0.088	28
060	Bon Secour R.	BS-1	900605	1230	32	31	8.3	17000	19.1	7.1	58	5.7	6080	2000	10790	37			<0.005	1.88	0.089	76

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_2O (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile Bay (0316-0205)																						
060	Bon Secour R.	BS-1	900711	1145	29	30	8.4	16000	15.7	6.0	63	7.2	5670	1733	9772	34			<0.005	3.637	0.145	32
060	Bon Secour R.	BS-1	900809	1230	32	30	8.4	19000	20.0	7.2	75	5.9	6590	2767	15070	49				1.17	0.105	7
060	Bon Secour R.	BS-1	900920	1410	35	32	8.3	26000	17.6	9.6	79	8.8	10200	3367	9420	41			0.006	1.12	0.196	12
060	Bon Secour R.	BS-1	901010	1250	25	27	8.0	30000	11.4	5.8	85	3.8	11700	4170	23090	43			<0.005	0.45	0.095	14
060	Bon Secour R.	BS-1	901113	1320	22	18	8.0	28500	11.0	9.9	84	>11.0	11800	3930	21200	44			0.178	4.32	0.406	5
060	Bon Secour R.	BS-1	901218	1128	24	20	8.3	19500	13.0	11.2	87	7.2	11700	3790	20760	12			0.054	1.55	0.146	72
060	Bon Secour R.	BS-1	910115	1105	15	14	7.9	25400	14.8	9.5	60	3.2	8530	2800	13880	17			0.205	0.87	0.076	800
060	Bon Secour R.	BS-1	910214	1105	19	17	8.2	18000	6.3	10.5	47	5.6	5800	2143	10010	10			0.078	0.81	0.089	45
060	Bon Secour R.	BS-1	910313	1140	23	20	8.8	8500	13.3	10.9	40	4.1	2620	880	4840	10			0.442	0.86	0.063	200
060	Bon Secour R.	BS-1	910408	1230	24	23	7.9	13500	14.5	7.3	34	4.3	5076	1843	9570	23			0.015	0.39	0.055	22
060	Bon Secour R.	BS-1	910516	1110	30	29	7.5	9000	13.5	5.8	35	3.2	2019	845	4688	10			<0.005	0.8	0.077	64
060	Bon Secour R.	BS-1	910605	1150	32	31	7.7	4700	10.7	6.2	42	7.0	1470	545	3144	14			<0.005	0.95	0.205	111
060	Bon Secour R.	BS-1	910711	1150	33	30	8.4	5500	13.2	10.6	34	3.5	1600	540	3360	18			0.088	0.98	0.062	110
060	Bon Secour R.	BS-1	910812	1235	30	31	8.3	15500	18.0	7.9	50	7.4	5170	1930	9940	14			<0.005	1.23	0.143	11
060	Bon Secour R.	BS-1	910919	1100	29	30	7.7	24900	15.2	6.2	64	7.6	9020	2950	16790	25			<0.005	0.78	0.111	39
060	Bon Secour R.	BS-1	911015	1155	25	25	8.0	22000	13.0	7.2	76	5.4	10280	3710	19270	51			0.021	0.92	0.093	56
060	Bon Secour R.	BS-1	911107	1135	19	15	8.1	21500	3.9	10.1	73		10280	3490	19410	50			0.078	0.83	0.054	7
060	Bon Secour R.	BS-1	911210	1130	18	17	8.1	27000	5.8	11.8	75	4.5	10830	3470	18270	6			0.012	0.57	0.504	49
060	Bon Secour R.	BS-1	920109	1125	18	16	8.4	24500	4.5	9.8	69	7.6	9370	2830	16150	68			<0.005	0.53	0.045	44
060	Bon Secour R.	BS-1	920205	1130	19	16	8.2	17900	25.0	9.9	48	>20.0	5500	1900	10756	43			<0.005	1.6	0.248	>240
060	Bon Secour R.	BS-1	920312	0950	14	15	7.5	9000	12.1	7.9	39	5.4	2600	874	5030	10			0.281	1.31	0.139	132
060	Bon Secour R.	BS-1	920407	1055	22	19	7.9	13150	10.8	9.6	52	4.9	3872	1300	7484	13			0.009	0.68	0.05	20
060	Bon Secour R.	BS-1	920513	1130	27	25	7.8	14580	12.1	6.8	56	4.2	4780	1649	8432	27			<0.001	0.88	0.091	31
060	Bon Secour R.	BS-1	920611	1130	25	29	7.5	25000	15.2	3.7	71	5.3	8621	2787	14860	33			<0.005	1.49	0.191	88
060	Bon Secour R.	BS-1	920714	1020	28	30	7.9	20100	14.8	4.7	65	7.4	6590	2122	12104	18			<0.005	1.36	0.15	34
060	Bon Secour R.	BS-1	920812	0950	23	29	7.6	23800	15.8	4.5	66	>10.0	7980	2711	13868	37			<0.005	0.89	0.216	36
060	Bon Secour R.	BS-1	920910	1055	29	30	7.8	24550	15.6	5.5	70	8.4	8330	2820	15580	32			<0.005	1.93	0.155	170
060	Bon Secour R.	BS-1	930113	1050	17	17	7.0	16600	11.7	8.0	45	5.1	5037	1767	9120	27			0.358	0.71	0.042	>120
060	Bon Secour R.	BS-1	930210	1140	17	15	7.4	10880	13.3	9.6	40	>8.6	3358	1050	6310	23			0.459	0.7	0.242	72
060	Bon Secour R.	BS-1	930302	1145	21	16	7.8	15080	9.5	10.4	41	3.8	4741	1550	8850	19			0.209	0.78	0.029	17
060	Bon Secour R.	BS-1	930408	1115	19	18	7.6	13980	9.4	8.9	3	5.2	4270	1450	8070	23			0.169	0.87	0.074	2
060	Bon Secour R.	BS-1	930504	1002	21	23	7.5	10170	9.3	7.5	32	2.5	2810	935	5490	18			0.299	0.68	0.073	93
060	Bon Secour R.	BS-1	930610	1130	31	32	8.0	15720	14.6	8.9	63	>7.0	4950	1680	9790	31			<0.005	3.78	0.871	240
060	Bon Secour R.	BS-1	930707	1030	32	31	7.6	16050	12.2	4.0	62	8.6	5160	1690	9890	38			<0.005	0.59	0.262	208
060	Bon Secour R.	BS-1	950607	1045					15.2		59	7.3			11700	48		<0.01	<0.005	2.5	0.204	9
060	Bon Secour R.	BS-1	950712	1220	36	31	7.1	24280	13.0	7.7	66	6.9			14900	23		0.035	<0.005	2.2	0.306	33
060	Bon Secour R.	BS-1	950830	1355	34	33	8.3	22600	12.0	11.4	69	9.5			13300	39		0.018	<0.005	1	0.087	2
060	Bon Secour R.	BS-1	951212	1235	17	13	7.3	19090		10.1	68	1.9			11700	13		0.14	0.315	0.76	0.025	<2
060	Bon Secour R.	BS-1	960201	1020	10	14	8.2	17810	5.4	10.7	47	5.8	5245	1920	10028	29		<0.01	0.157	0.55	0.036	22
060	Bon Secour R.	BS-1	960307	1045	10	19	7.6	12890	36.0	8.0	46	3.2	3630	1300	7124	62		<0.01	0.028	0.87	0.124	74
060	Bon Secour R.	BS-1	960404	1040	25	20	7.0	7870	18.4	9.6	32	3.2	2069	721	4510	14		<0.01	0.165	0.5	0.039	88
060	Bon Secour R.	BS-1	960521	1140	30	30	7.8	8810	13.1	7.4	46	5.0	2211	180	5252	14		<0.01	<0.005	1	0.071	>320
060	Bon Secour R.	BS-1	960613	1050	30	29	7.2	16370	15.4	5.4	51	6.9	3872	1440	8433	16		<0.01	<0.005	1.4	0.144	390
060	Bon Secour R.	BS-1	960708	1405	25	30	7.2	16960	16.3	4.6	64	4.4	4559	1592	8752	34		0.02	<0.005	1.9	0.126	1020
060	Bon Secour R.	BS-1	960821	1045	29	29	7.6	21620	15.2	5.7	31	5.2	7240	2610	14800	26		<0.01	<0.005	1.8	0.096	22
060	Bon Secour R.	BS-1	960918	1025	26	29	7.7	21270	17.3	7.6	69	5.6	6110	2290	13100	21		0.02	<0.005	1.6	0.072	8
060	Bon Secour R.	BS-1	961015	1055	24	23	7.8	22390	10.4	7.8	66	3.7	6670	2450	13500	14		<0.01	0.046	1.2	0.03	46
060	Bon Secour R.	BS-1	961106	1105	25	23	7.7	209	5.3	8.3	7.4	4.3	7520	3450	17030	9		<0.01	<0.005	<0.1	0.033	80
060	Bon Secour R.	BS-1	961205	1150	19	16	7.8	29500		9.3	70	3.5	9700	3080	13510	10		<0.01	0.054	<0.1	0.091	100
060	Bon Secour R.	BS-1	970106	1355	17	19	8.2	14320	16.9	9.3	67	78.6	5079	1620	8498	34		0.08	<0.005	5	0.499	40
060	Bon Secour R.	BS-1	970204	1220	22	18	8.6	16110	12.0	11.6	55	5.1	5130	1710	9120	22		<0.01	0.088	0.74	0.025	64
060	Bon Secour R.	BS-1	970306	1210	18	20	7.3	18040	14.2	7.7	54	3.2	5506	2070	11228	19		0.13	0.078	1.3	0.087	40

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mobile Bay (0316-0205)																						
060	Bon Secour R.	BS-1	970403	1135	23	21	7.9	12060	9.6	9.4	45	3.8	4570	1220	6378	26		<0.01	0.045	0.88	0.073	35
060	Bon Secour R.	BS-1	970501	1205	24	22	7.5	16420	11.9	8.6	46	4.1	5770	1800	9320	20		<0.01	0.075	0.86	0.083	40
060	Bon Secour R.	BS-1	970624	1120	27	29	7.1	7590	23.0	4.6	50	5.0	2130	765	4650	36		0.1	<0.005	1	0.419	37
060	Bon Secour R.	BS-1	970724	1035	35	29	6.2	800	30.0	4.3	14	2.1	221	63	458	7		0.12	0.25	0.55	0.111	240
060	Bon Secour R.	BS-1	970820	1015	38	31	7.4	14660	12.8	6.4	51	<1.0	4660	1620	9150	11		0.02	<0.005	1.5	0.187	80
060	Bon Secour R.	BS-1	970902	1100	36	30	7.7	16550	12.8	8.1	6	5.5	5460	1860	10500	13		<0.01	<0.005	1.5	0.097	40
060	Bon Secour R.	BS-1	971016	1338	24	22	8.0	28190	10.5	7.3	78	>6.3	10750	3070	17300	19		0.11	0.085	2	0.219	15
060	Bon Secour R.	BS-1	971124	1150	19	17	8.0	23400	7.3	10.5	68	>10.0	6900	2520	13600	15		0.07	0.226	1.3	0.15	170
060	Bon Secour R.	BS-1	971203	1230	21	19	6.6	19490	13.8	7.0	56	4.6	5280	1820	10100	9		0.18	0.22	0.95	0.137	173
060	Bon Secour R.	BS-1	980127	1300	19	14	6.8	7560	23.0	7.9	33	1.3	2320	725	4160	21		0.14	0.38	0.53	0.74	70
060	Bon Secour R.	BS-1	980225	1230	21	19	7.5	4380	19.2	10.5	21	3.3	1250	414	2340	15		<0.01	0.516	0.52	0.081	109
060	Bon Secour R.	BS-1	980311	1155	12	14	6.4	5580	28.0	8.5	21	<2.0	1360	583	3040	24		0.1	0.19	0.4	0.076	199
060	Bon Secour R.	BS-1	980617	1045	29	30	7.7	15600	15.8	5.6	58	4.5	5540	1720	9145	20		0.02	0.016	1.1	0.22	18
060	Bon Secour R.	BS-1	980811	1205	33	31	7.9	26880	19.0	8.0	75	>8.3	4990	3020	17100	22		<0.01	<0.005	1.44	0.212	160
060	Bon Secour R.	BS-1	981015	1200	31	25	7.7	11700	15.0	8.9	39	5.0	3120	1190	7550	12		<0.01	0.042	4.71	0.13	16
060	Bon Secour R.	BS-1	990609	1030	28	30	8.0	19600	15.0	5.3	64	>7.9	6610	22600	12400	21		0.04	0.017	2.3	0.15	<20
060	Bon Secour R.	BS-1	990810	1050	30	29	7.2	10690	14.0	5.6	50	5.0	136	1080	5940	17		0.12	0.206	1.3	0.09	850
060	Bon Secour R.	BS-1	991026	1150	21	20	8.3	29420	8.1	11.4	76	4.9	8930	3290	17200	31		<0.01	0.397	0.93	0.093	2
060	Bon Secour R.	BS-1	000626	1105	25	30	8.0	24360	18.9	3.9	78	>7.7	7980	3060	15300	38		<0.01	1.67	1.5	0.269	260
060	Bon Secour R.	BS-1	000802	1225	25	29	7.4	26890	18.1	3.9	80	>6.2	5800	3110	15900	46		0.29	0.008	1.9	0.386	600
060	Bon Secour R.	BS-1	001004	1115	30	27	8.1	32620	10.0	9.1	26	6.6	12500	4210	22800	33		0.01	0.06	1.2	0.203	48
060	Bon Secour R.	BS-1	010607	1135	33	29	8.0	20990	15.8	7.2	18	>6.5		2640	13100	33		0.22	0.024	2.2	0.561	150
060	Bon Secour R.	BS-1	010806	1030	29	29	7.4	24360	13.1	4.8	18	5.4	5080	2820	14200	39		0.03	0.019	1.56	0.398	24
Escatawpa River (0317-0008)																						
070	Escatawpa R.	E-1	900104	1015	20	12	5.0	30	10.4	9.5	2	<1.0	4	53	45	15			0.013		0.01	165
070	Escatawpa R.	E-1	900207	1145	20	15	6.2	20	9.8	9.7	2	1.0	2	16	63	38			0.036		0.026	160
070	Escatawpa R.	E-1	900306	1010	21	15	4.9	25	7.9	9.7	3	1.0	<1	16	24	13			0.032		<0.005	24
070	Escatawpa R.	E-1	900403	1010	16	17	5.2	20	12.5	9.6	2	1.1	1	7	33	14			0.018		0.037	198
070	Escatawpa R.	E-1	900501	1040	29	23	5.3	25	11.8	7.1	2	1.1	3	16	58	10			0.03		0.032	188
070	Escatawpa R.	E-1	900606	1310	31	27	6.5	25	13.5	6.5	3	1.1	4.5	12	38	19			0.025	0.21	0.021	65
070	Escatawpa R.	E-1	900717	1240	27	25	6.1	52	4.5	7.1	4	1.0	5.1	12	15	4			0.039		0.157	52
070	Escatawpa R.	E-1	900808	1030	25	25	5.2	300	18.2	6.6	2	1.4	2	12	54	14			0.1		0.019	80
070	Escatawpa R.	E-1	900911	1030	30	27	6.0	40	7.4	7.2	5	<1.0	27	10	57	4			<0.005		<0.005	64
070	Escatawpa R.	E-1	901009	1130	30	24	5.7	35	4.3	7.2	5	<1.0	7	12	77	3			0.138		0.057	16
070	Escatawpa R.	E-1	901114	1045	24	14	5.6	115	5.6	9.2	3	<1.0	10	18	59	9			0.174		<0.005	89
070	Escatawpa R.	E-1	901206	1020	14	9	5.3	81	8.4	10.4	6	1.4	6	10	26	6			0.174		0.018	308
070	Escatawpa R.	E-1	910117	0945	11	10	3.6	45	10.0	9.6	2	1.0	4	34	53	13			0.031		0.016	114
070	Escatawpa R.	E-1	910213	1015	19	12	4.9	40	5.6	9.8	4	<1.0	4	33		1			0.028		0.228	9
070	Escatawpa R.	E-1	910312	0950	20	13	5.0	35	6.8	8.9	3	<1.0	4	14	33	8			0.289		<0.005	16
070	Escatawpa R.	E-1	910403	0955	23	16	5.0	30	9.5	8.9	2	1.1	2	24	46	3			0.015		<0.005	66
070	Escatawpa R.	E-1	910514	1200	30	23	4.7	20	16.1	5.5	2	<1.0	2	16	21	7			<0.005		0.017	92
070	Escatawpa R.	E-1	910604	1000	30	25	4.5	28	14.9	6.6	4	1.4	3	10	53	22			<0.005		<0.005	33
070	Escatawpa R.	E-1	910716	0945	27	26	5.1	40	12.1	7.5	4	<1.0	7	8	63	11			0.111		0.038	310
070	Escatawpa R.	E-1	910814	1000	25	26	5.9	40	6.1	7.1	3	<1.0	5	11	35	6			0.117		0.027	77
070	Escatawpa R.	E-1	910924	1005	27	24	5.7	160	6.4	7.6	3	<1.0	3	13	45	8					0.259	97
070	Escatawpa R.	E-1	911016	1200	18	18	6.1	90	4.6	8.8	4	2.0	4	11	47	3			0.186		0.026	64
070	Escatawpa R.	E-1	911113	1000	15	10	6.0	170	2.4	11.1	5		11	16	47	1			0.386		<0.005	19
070	Escatawpa R.	E-1	911211	1140	20	14	5.0	110	6.2	10.3	3	1.5	<5	9	58	9			0.049		0.019	113
070	Escatawpa R.	E-1	920108	1110	16	11	5.4	38	4.3	10.6	2	1.1	<5	63	51	1			0.136		0.005	28
070	Escatawpa R.	E-1	920204	1040	16	11	4.5	34	7.7	9.8	2	1.8	<5	70	43	9			0.052		0.018	19
070	Escatawpa R.	E-1	920311	0940	11	14	4.7	28	15.4	8.6	4	1.9	<5	56	50	14			0.021		0.028	340
070	Escatawpa R.	E-1	920408	1140	21	18	5.8	23	5.1	8.9	24	<1.0	4	23	38	5			0.097		0.004	36

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Escatawpa River (0317-0008)																						
070	Escatawpa R.	E-1	920512	1130	25	21	5.9	28	3.7	8.3	3	<1.0	5	29	35	1			0.173	0.79	0.008	29
070	Escatawpa R.	E-1	920615	1220	27	25	5.7	28	8.8	7.7	4	<1.0	5	40	42	16			0.025		0.022	160
070	Escatawpa R.	E-1	920707	1240	33	29	5.8	31	6.8	7.4	4	<1.0	5	29	42	10			<0.005		<0.02	92
070	Escatawpa R.	E-1	920811	0745	20	24	4.9	28	18.0	7.2	3	1.5	4	31	44	25			0.147		<0.005	1700
070	Escatawpa R.	E-1	920908	1040	27	25	5.5	29	9.2	7.6	4	<1.0	5	12	45	11			0.127		<0.005	333
070	Escatawpa R.	E-1	930112	0945	18	14	4.4	29	34.0	9.1	2	1.0	3	18	40	54		<0.05	<0.005		0.014	1720
070	Escatawpa R.	E-1	930211	1110	18	13	5.0	22	25.0	9.8	3	<1.0	13	8	39	38			0.05		0.018	292
070	Escatawpa R.	E-1	930303	1200	19	13	4.7	24	44.0	9.8	3	<1.0	4	8	106	56			0.03		0.029	947
070	Escatawpa R.	E-1	930408	1338	19	15	4.6	24	11.5	9.0	54	<1.0	3	6	31	10			<0.005		0.012	60
070	Escatawpa R.	E-1	930503	1250	28	20	4.6	28	10.7	8.3	2	<1.0	4	8	34	16			0.026		0.073	91
070	Escatawpa R.	E-1	930608	1110	31	26	5.4	24	7.3	7.0	4	<1.0	8	16	42	7			0.078		0.187	19
070	Escatawpa R.	E-1	930708	1045	31	27	5.6	27	5.9	6.9	9	<1.0	11	13	45	12			0.106		0.017	42
070	Escatawpa R.	E-1	930831	1030	29	25	5.6	27	11.8	7.4	3	<1.0	4.9	10	80	12			0.123		0.009	>240
070	Escatawpa R.	E-1	930922	1400	30	27	5.8	27	4.9	7.7	10	<1.0	6	6	39	4			0.009		<0.004	83
070	Escatawpa R.	E-1	931013	1356	19	18	6.0	26	2.7	9.2	4	<1.0	4	7.1	44	<1			0.081		0.009	39
070	Escatawpa R.	E-1	931118	1400	16	18	4.5	35	9.6	8.0	3	1.2	4	19.13	52	10			0.036		0.041	>120
070	Escatawpa R.	E-1	931213	1350	18	11	5.1	30	6.6	11.1	19	<1.0	5	5.9	47	4	<5		0.073		<0.001	132
070	Escatawpa R.	E-1	940106	0900	14	8	5.3	38	3.5	11.0	2	<1.0	4	8.1	40	2			0.071	0.136	<0.005	20
070	Escatawpa R.	E-1	940216	1145	17	11	4.7	27	7.0	10.3	4.2	<1.0	17	19	45	16			<0.005		<0.005	24
070	Escatawpa R.	E-1	940324	1230	26	20	5.3	23	5.2	8.4	4	1.0	4	7.4	33	5			0.103		<0.005	20
070	Escatawpa R.	E-1	940419	1250	28	19	4.4	28	12.5	8.6	3	<1.0	3	5	61	8			0.003		0.007	92
070	Escatawpa R.	E-1	940512	1300	30	24	5.1	30	7.6	8.1	36	1.2	4.2	6	45	7			0.052		0.013	50
070	Escatawpa R.	E-1	940616	0930	29	26	4.9	24	7.7	7.0	2.1	<1.0	4	13	42	9		<0.05	0.049		0.007	164
070	Escatawpa R.	E-1	940713	1015	27	24	4.0	27	15.3	6.8	2	1.4	<3	7					<0.005		0.017	142
070	Escatawpa R.	E-1	940830	1200	32	27	5.8	31	3.1	7.5	5	1.4	<5	6	51	3			0.116		0.005	140
070	Escatawpa R.	E-1	940921	0935	24	22	5.6	30	3.9	7.7	5	<1.0	6	7	58	3		0.137	0.137		0.007	80
070	Escatawpa R.	E-1	941024	1340	23	23	5.8	39	3.5	8.6	4.6	<1.0	4.86	6	39	2			0.117		0.004	101
070	Escatawpa R.	E-1	941109	1400	27	20	4.7	37	9.4	8.5	<1	1.8	4.25	8	34	6			<0.005		0.022	>1100
070	Escatawpa R.	E-1	941206	1100	17	17	4.1	38	20.0	8.3	3	1.2	4.6	12	56	35			0.032		0.034	3300
070	Escatawpa R.	E-1	950112	1410	22	14	4.4	38	8.6	9.7	<1	<1.0	4	6.37	37	5			0.067		<0.005	293
070	Escatawpa R.	E-1	950221	1430	21	14	4.1	25	16.3	8.8	4	1.0	3	6.9	40	20			0.027		<0.005	300
070	Escatawpa R.	E-1	950321	1350	27	18	4.3	26	12.4	8.5	<1	<1.0	3	5.5	50	3			0.029		<0.005	40
070	Escatawpa R.	E-1	950425	1330	22	20	4.6	32	15.0	7.0	3	1.2	7	6	54	21			0.038		0.022	121
070	Escatawpa R.	E-1	950504	1250	27	20	5.1	30	7.2	8.2	4	<1.0	9	6	41	11			0.103		0.009	26
070	Escatawpa R.	E-1	950606	1330					4.2		<1	<1.0			55	2		<0.01	0.061	0.43	0.013	46
070	Escatawpa R.	E-1	950711	1030	31	26	7.1	30	6.8	7.0	5	<1.0			43	3		<0.01	0.057		<0.005	>160
070	Escatawpa R.	E-1	950829	0930	30	27	5.9	33	3.5	8.3	6	<1.0	4	62	43	2			0.152	0.42	<0.005	152
070	Escatawpa R.	E-1	950926	1010	25	22	5.9	42	3.0	8.3	5	1.4		12		6			0.158		<0.005	8
070	Escatawpa R.	E-1	951017	0935	19	18	5.8	36	3.6	8.8	3	<1.0	7		43	2		<0.01	0.05		0.09	39
070	Escatawpa R.	E-1	951107	1100	24	16	5.2	29	6.0	9.4	3		4		43	6		<0.01	0.072	2.1	<0.005	188
070	Escatawpa R.	E-1	951211	0900	3	7	4.9	34	6.4	11.5	3	1.0	5	18	12	16		<0.01	0.053	0.33	<0.005	127
070	Escatawpa R.	E-1	960110	0910	6	7	4.5	31	5.2	11.4	3	<1.0	4	5	62	4		<0.01	0.065		<0.005	<10
070	Escatawpa R.	E-1	960205	1040			4.0	33	12.9	13.0	2	1.1	4	12	52	11		<0.01	0.021		0.006	113
070	Escatawpa R.	E-1	960305	1025	22	13	5.0	29	12.4	9.5	2	1.1	4	8	48	5		<0.01	0.045		0.01	117
070	Escatawpa R.	E-1	960402	0920	22	16	5.1	25	18.1	8.0	1	<1.0	3	15	43	38		<0.01	0.016		0.01	75
070	Escatawpa R.	E-1	960516	1225	27	23	5.3	25	5.4	8.1	3	<1.0	5	12	37	2		<0.01	0.012		<0.005	18
070	Escatawpa R.	E-1	960612	1300	30	25	5.9	31	5.1	7.7	5	1.1	7	7	41	4		0.013	<0.005		0.005	70
070	Escatawpa R.	E-1	960708	1115	28	28	6.0	37	10.5	8.4	5	1.1	4	19	37	10		<0.01	0.152		<0.005	>600
070	Escatawpa R.	E-1	960820	1425	28	28	5.9	34	6.8	8.5	5	1.7	4	6.1	38	6		<0.01	0.106		<0.005	132
070	Escatawpa R.	E-1	960912	1045	29	26	5.7	32	4.7	8.4	6	<1.0	4.55	26	37	6		<0.01	0.136		<0.005	69
070	Escatawpa R.	E-1	961007	1320	18	19	6.4	44	5.7	8.7	6	1.2	5.43	11	39	2		<0.01	0.159		<0.005	139
070	Escatawpa R.	E-1	961105	1005	21	15	6.2	40	4.2	9.6	8	<1.0	7	15	34	2		<0.01	0.108		<0.005	150

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-H_2O (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Escatawpa River (0317-0008)																						
070	Escatawpa R.	E-1	961204	1000	12	12	4.2	52	16.9	9.6	2	1.0	4.4	15	54	22		<0.01	0.023		0.008	>800
070	Escatawpa R.	E-1	970102	1255	21	17	4.7	74	12.0	8.6	2	<1.0	5.2	26	49	14		<0.01	0.023		<0.005	528
070	Escatawpa R.	E-1	970203	1335	24	14	5.1	51	9.6	9.3	4		4	13	46	9		<0.01	0.067		<0.005	50
070	Escatawpa R.	E-1	970305	1225	28	19	4.5	52	11.9	8.1	2	1.2	3.9	6	43	18		<0.01	0.032		0.022	35
070	Escatawpa R.	E-1	970401	1020	19	18	5.3	43	9.3	8.8	2	<1.0	5	7	42	13		<0.01	0.159		0.016	185
070	Escatawpa R.	E-1	970429	1200	17	17	4.9	50	17.3	8.0	<5	<1.0	3.3	6	42	25		<0.01	0.045		0.013	850
070	Escatawpa R.	E-1	970623	1015	29	25	5.0	35	18.4	6.8	4	<1.0	2.7	6	115	35		<0.01	0.066		0.014	158
070	Escatawpa R.	E-1	970723	1100	35	25	5.3	52	15.3	6.2	1	1.8	2.88	16	52	33		<0.01	0.006		0.032	240
070	Escatawpa R.	E-1	970819	1115	38	27	5.0	72	10.6	6.9	4	<1.0	1.42	15	44	8		0.03	0.097		0.005	268
070	Escatawpa R.	E-1	970910	1045	32	24	6.3	101	3.0	7.8	3	<1.0	4.74	6	39	5		<0.01	0.183		<0.005	130
070	Escatawpa R.	E-1	971015	1445	16	19	6.0	109	35.0	9.0	1.1	1.2	7.8	18	57	47		<0.01	0.335		0.008	>1600
070	Escatawpa R.	E-1	971124	1050	15	13	5.1	40	6.7	9.7	5	1.4	6.13	17	46	4		<0.01	0.048		0.011	223
070	Escatawpa R.	E-1	971202	1245	17	15	4.6	40	13.7	7.8	<3	1.3	4.1	12	44	21		<0.01	0.017		0.017	1290
070	Escatawpa R.	E-1	980121	1030	19	11	4.3	25	12.6	9.2	2	<1.0	3.07	7	36	10		0.03	0.061		0.011	<10
070	Escatawpa R.	E-1	980226	0945	19	14	4.5	27	9.3	10.3	2	<2.0	3	6	35	6		<0.01	0.065		0.011	54
070	Escatawpa R.	E-1	980310	1045		14	4.0	21	17.0	8.1	<3	<2.0	<10	10	41	26		<0.01	0.008		0.027	1220
070	Escatawpa R.	E-1	980615	1245	31	30	6.1	26	6.2	7.1	<5	<1.0	4.5	24	44	5		<0.01	0.086		<0.005	65
070	Escatawpa R.	E-1	980810	1140	35	26	5.2	28	20.0	7.2	2	<1.0	5	9	28	13		<0.01	0.155		0.023	>800
070	Escatawpa R.	E-1	981008	1045	24	23	4.6	52	45.0	7.2	<2	1.0	5.1	21	72	95		0.04	<0.005		0.052	1000
070	Escatawpa R.	E-1	990609	0945	30	26	5.7	40	9.9	7.5	<5	1.4	6	78	48	6		0.02	0.099		0.005	140
070	Escatawpa R.	E-1	990811	0935	33	28	5.9	27	6.0	7.2	4	1.1	5	12	34	5		0.02	0.211		0.012	300
070	Escatawpa R.	E-1	991020	1100	15	19	5.8	32	5.4	8.0	2	1.5		15	46	<5		0.02	0.153		0.025	130
070	Escatawpa R.	E-1	000627	1005	25	25	6.0	40	3.6	7.6	3	<1.0	7	11	34	<5		<0.01	0.146		0.013	32
070	Escatawpa R.	E-1	000801	0900	27	24	5.9	35	17.8	7.6	4	1.1	5	15	50	21		0.01	0.027		0.023	>800
070	Escatawpa R.	E-1	001003	0910	23	20	6.4	57	2.8	8.3	2	1.2	4	8	66	<5		0.01	0.2		0.028	190
070	Escatawpa R.	E-1	001101	0945																		
070	Escatawpa R.	E-1	010605	1005	28	24	5.2	30	53.0	7.4	1	<1.0		32	44	89		0.02	0.208		0.063	350
070	Escatawpa R.	E-1	010807	0925	30	27	5.9	96	4.9	7.3	<1	<1.0	3	21	37	6		0.44	1.29		0.019	110
Mississippi Coastal (0317-0009)																						
050	Bayou La Batre	BLB-1	900104	1140	20	15	6.9	2000	7.9	7.3	10	1.4	867	198	1146	9			0.11	<0.1	0.026	282
050	Bayou La Batre	BLB-1	900306	1145	14	18	8.0	2500	7.0	6.9	13	1.7	824	232	1411	8			0.074	0.42	0.027	>600
050	Bayou La Batre	BLB-1	900403	1200	17	19	7.1	1000	6.2	0.9	10	1.3	283	104	584	3			0.099	0.32	0.045	207
050	Bayou La Batre	BLB-1	900501	1200	29	25	6.1	420	5.6	1.7	8	<1.0	105	50	289	3			0.109	0.35	0.032	136
050	Bayou La Batre	BLB-1	900507	1310	18	16	6.3	900	6.4	2.2	9	<1.0	267	97	574	16			0.136	0.28	0.049	280
050	Bayou La Batre	BLB-1	900606	1140	33	29	6.3	6000	4.3	0.4	21	1.0	2000	620	3489	6			0.089	1.17	0.065	>1200
050	Bayou La Batre	BLB-1	900717	1130	27	24	6.4	4450	7.0	0.2	17	1.1	1610	455	2726	8			0.04	0.393	0.126	560
050	Bayou La Batre	BLB-1	900808	1315	30	26	5.8	1200	11.9	0.7	6	1.4	280	116	775	8			0.03	0.62	0.044	320
050	Bayou La Batre	BLB-1	900911	1200	33	28	6.8	10000	4.7	0.2	26	1.5	6330	1080	6437	8			<0.005	0.56	0.058	200
050	Bayou La Batre	BLB-1	901009	1255	31	27	7.3	7000	4.4	1.0	23	<1.0	2570	750	4482	7			0.029	<0.05	0.066	80
050	Bayou La Batre	BLB-1	901114	1225	25	19	8.0	6800	3.8	5.4	29	<1.0	4510	1280	6828				0.02	0.31	0.023	88
050	Bayou La Batre	BLB-1	901206	1205	17	12	6.4	3000	5.7	2.7	11	<1.0	1120	365	2202	3			0.192	0.21	0.027	400
050	Bayou La Batre	BLB-1	910117	1110	14	13	5.8	2000	7.2	3.0	6	1.0	577	228	1117	4			0.077	0.85	0.015	182
050	Bayou La Batre	BLB-1	910213	1130	22	15	6.6	5020	4.0	4.3	19	<1.0	1709	599	3065	3			0.108	0.33	0.065	37
050	Bayou La Batre	BLB-1	910312	1135	22	16	6.5	1700	3.8	7.2	10	<1.0	485	168	879	4			0.098	0.26	0.016	186
050	Bayou La Batre	BLB-1	910403	1110	24	20	6.8	4000	3.2	5.1	8	1.1	1067	361	2087	4			0.071	<0.1	0.034	91
050	Bayou La Batre	BLB-1	910514	1035	28	25	5.7	210	12.6	4.7	7	1.1	61	35	164	2			0.021	0.66	0.276	330
050	Bayou La Batre	BLB-1	910604	1145	33	29	6.0	1450	7.9	4.8	14	4.2	38	20	121	17			0.015	1.04	0.085	328
050	Bayou La Batre	BLB-1	910716	1105	28	29	7.0	1400	7.9	0.2	12	<1.0	557	156	840	3			<0.005	0.86	0.03	>1200
050	Bayou La Batre	BLB-1	910814	1135	30	28	6.7	2400	8.4	2.0	11	<1.0	763	267	1666	6			0.046	0.87	0.039	1380
050	Bayou La Batre	BLB-1	910924	1130	28	25	6.7	4000	3.9	1.5	15	1.0	1400	467	2931	8				0.54	0.126	146
050	Bayou La Batre	BLB-1	911016	1020	23	19	6.9	4650	2.9	1.2	20	1.6	1985	628	3710	7			0.052	0.3	0.033	290
050	Bayou La Batre	BLB-1	911113	1125	17	13	6.4	3500	2.7	6.5	15		1420	466	2845	4			0.132	<0.05	<0.005	132

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (°C)	T-$H_2$0 (°C)	pH (su)	Cond. (umhos @25°C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mississippi Coastal (0317-0009)																						
050	Bayou La Batre	BLB-1	911211	1000	18	15	6.2	3200	4.5	4.4	15	<1.0	1160	395	2562	6			0.043	<0.05	0.028	>600
050	Bayou La Batre	BLB-1	920108	0955	17	14	6.7	6000	2.6	2.6	20	1.5	2030	667	3785	3			0.141	0.37	0.024	112
050	Bayou La Batre	BLB-1	920204	1155	13	13	7.1	3490	5.4	2.5	14	2.5	1140	365	2165	3			0.159	0.65	0.029	114
050	Bayou La Batre	BLB-1	920311	1110	11	13	6.1	800	19.0	3.3	6	1.5	200	96	467	5			0.035	0.68	0.035	2680
050	Bayou La Batre	BLB-1	920408	1010	18	18	7.2	2100	7.2	2.4	29	<1.0	572	190	1103	3			0.042	0.6	0.008	177
050	Bayou La Batre	BLB-1	920512	0930	24	21	6.5	4030	3.7	5.0	14	<1.0	1219	388	2310	1			0.114	0.47	0.008	177
050	Bayou La Batre	BLB-1	920615	1110	26	25	6.7	7000	4.0	2.0	22	1.5	1960	710	3846	6			0.066	0.65	<0.005	960
050	Bayou La Batre	BLB-1	920707	1010	32	28	6.8	6470	3.3	4.3	17	2.3	1640	547	3128	8			0.14	0.5	<0.02	280
050	Bayou La Batre	BLB-1	920811	0945	24	26	7.0	6110	4.4	0.2	16	<1.0	1580	539	2912	6			0.054	0.25	0.008	607
050	Bayou La Batre	BLB-1	920908	1150	28	26	6.5	3990	3.6	1.3	17	1.1	1284	413	2396	6			0.031	0.23	<0.005	580
050	Bayou La Batre	BLB-1	930112	1115	19	16	5.8	3580	36.0	6.4	9	1.2	892	275	1703	17			<0.005	0.5	0.015	6600
050	Bayou La Batre	BLB-1	930211	1005	18	15	6.0	979	20.0	6.5	10	1.4	338	116	713	14			0.014	0.29	0.051	>2400
050	Bayou La Batre	BLB-1	930303	1010	18	15	6.0	1343	17.2	7.4	10	<1.0	382	128	814	10			0.042	0.62	0.026	1200
050	Bayou La Batre	BLB-1	930406	0915	13	15	6.2	1300	6.8	2.2	9	<1.0	314	102	649	3			0.078	0.46	<0.005	130
050	Bayou La Batre	BLB-1	930503	1005	22	19	5.3	885	9.0	5.4	4	<1.0	243	85	526	7			<0.005	0.53	0.053	327
050	Bayou La Batre	BLB-1	930608	1000	29	27	6.6	7930	3.4	2.1	25	1.2	1470	510	3016	5			0.101	0.6	0.023	840
050	Bayou La Batre	BLB-1	930708	0920	28	29	6.6	9400	4.0	0.6	26	1.3	1840	577	3478	12			0.06	0.34	0.035	313
050	Bayou La Batre	BLB-1	950606	1120					5.6		20	<1.0			2890	5		0.047	0.091	0.2	0.029	220
050	Bayou La Batre	BLB-1	950711	1145	34	30	6.9	26650	3.9	1.2	36	<1.0			2030	2		<0.01	0.105	0.36	<0.005	1720
050	Bayou La Batre	BLB-1	950829	1050	34	32	7.2	29840	4.0	5.2	22	<1.0			3000	2		0.065	0.099	0.39	<0.005	40
050	Bayou La Batre	BLB-1	950926	1135	28	24	7.4	8150	4.8	4.7	21	<1.0			4120	9		0.019	0.081	0.17	<0.005	30
050	Bayou La Batre	BLB-1	951017	1045	26	19	6.8	1068	4.3	8.0	21	<1.0			3300	8		<0.01	0.019	0.34	0.084	178
050	Bayou La Batre	BLB-1	951107	1000	23	17	6.5	1294	6.0	7.2	9		225		735	4		<0.01	<0.005	1.3	<0.005	265
050	Bayou La Batre	BLB-1	951211	1000	10	9	6.3	4330	3.8	9.5	15	<1.0	1044		1960	13		<0.01	0.149	0.3	<0.005	81
050	Bayou La Batre	BLB-1	960110	1030	13	9	6.1	627	3.5	10.5	7	<1.0	178		370	3		<0.01	0.249	0.33	<0.005	8
050	Bayou La Batre	BLB-1	960205	1205	4	5	5.7	2140	21.0	11.9	10	1.2	728	271	1377	10		<0.01	0.063	0.47	0.021	536
050	Bayou La Batre	BLB-1	960305	1125	22	16	6.0		8.3	8.3	10	<1.0	388	140	781	<1		<0.01	0.164	0.51	<0.005	160
050	Bayou La Batre	BLB-1	960402	1230	23	18	5.6	1350	15.4	6.6	5	<1.0	293	123	734	4		<0.01	0.027	0.3	0.021	131
050	Bayou La Batre	BLB-1	960516	1100	30	25	7.0	1670	3.8	5.6	12	<1.0	287	126	711	<1		<0.01	0.051	<0.1	<0.005	161
050	Bayou La Batre	BLB-1	960612	1430	30	26	7.2	2660	4.7	4.2	14	2.3	448	192	1141	<1		0.02	0.007	1.2	0.009	460
050	Bayou La Batre	BLB-1	960708	1100	24	28	7.1	10520	10.0	3.4	35	2.0	2962	921	5670	40		0.04	0.107	1.9	0.04	>2400
050	Bayou La Batre	BLB-1	960820	1215	27	27	6.7	7010	4.6	1.8	27	2.1	2320	791	4669	5		0.01	0.053	<0.1	<0.005	235
050	Bayou La Batre	BLB-1	960912	1150	33	27	6.7	12000	4.1	6.4	25	1.5	1420	566	3250	4		0.03	0.104	0.67	<0.005	83
050	Bayou La Batre	BLB-1	961007	1120	19	20	6.8	7490	7.6	0.7	25	1.0	2170	751	4560	5		<0.01	<0.005	1.1	<0.005	>240
050	Bayou La Batre	BLB-1	961105	1150	22	19	7.1	16020	4.4	4.9	60	4.6	6720	2490	13446	39		<0.01	0.056	<0.1	0.006	300
050	Bayou La Batre	BLB-1	961204	1115	16	17	7.3	37460	5.3	5.5	14	1.2	1328	378	1850	2		<0.01	0.103	0.22	<0.005	110
050	Bayou La Batre	BLB-1	970102	1130	20	18	5.9	3280	10.0	5.2	8	1.4	257	105	460	4		<0.01	0.12	0.38	<0.005	184
050	Bayou La Batre	BLB-1	970203	1140	23	14	6.8	18820	9.2	5.9	20		1749	607	3396	11		0.03	0.088	0.92	<0.005	400
050	Bayou La Batre	BLB-1	970305	1110	24	19	6.3	5340	10.3	5.7	14	<1.0	626	208	1170	3		0.04	0.154	0.41	0.032	170
050	Bayou La Batre	BLB-1	970401	1130	22	19	7.3	3850	4.3	7.5	14	<1.0	914	309	1780	6		0.04	0.047	1.5	0.013	124
050	Bayou La Batre	BLB-1	970429	1315	19	20	6.7	21980	7.5	2.2	6	<1.0	217	86	338	5		<0.01	0.182	0.364	0.018	160
050	Bayou La Batre	BLB-1	970623	1140	31	31	6.8	4940	5.1	1.2	16	<1.0	715	242	1470	6		<0.01	0.053	<0.1	0.038	187
050	Bayou La Batre	BLB-1	970723	0950	33	25	5.3	533	18.3	4.2	3	1.0	107	41	262	3		0.01	0.029	0.39	0.016	220
050	Bayou La Batre	BLB-1	970819	1235	36	29	6.6	6300	6.0	0.3	20	<1.0	1500	494	3050	3		0.03	0.224	<0.1	0.023	345
050	Bayou La Batre	BLB-1	970910	1200	34	26	6.8	12040	2.7	0.8	35	<1.0	3220	1140	6720	5		<0.01	0.191	0.39	0.023	240
050	Bayou La Batre	BLB-1	971015	1250	15	20	6.7	6370	8.9	2.9	14	<1.0	1830	558	3340	3		0.01	0.164	0.6	<0.005	1400
050	Bayou La Batre	BLB-1	971124	1200	17	15	7.9	3410	11.0	4.5	6	<1.0	448	206	1200	4		<0.01	<0.005	0.57	0.028	181
050	Bayou La Batre	BLB-1	971202	1120	16	15	6.7	3620	7.1	2.4	3	<1.0	875	318	1830	4		0.01	0.075	0.57	0.022	175
050	Bayou La Batre	BLB-1	980120	1240	16	13	6.4	1880	7.9	5.5	16	<1.0	756	218	1290	4		0.14	0.275	0.27	0.019	136
050	Bayou La Batre	BLB-1	980226	1205	21	15	5.9	3000	10.6	4.3	10	<2.0	786	272	1520	2		<0.01	0.049	0.29	0.016	168
050	Bayou La Batre	BLB-1	980310	1145	9	14	5.2	55	15.0	3.3	3	<2.0	56	24	143	12		0.02	0.025	0.32	0.022	137
050	Bayou La Batre	BLB-1	980615	1100	31	28	6.9	4550	4.5	3.1	19	<1.0	1510	462	2620	3		<0.01	0.046	0.37	<0.005	117

Appendix F-8a. Physical/chemical data collected within the Upper Tombigbee (0316-01), Mobile Bay-Lower Tombigbee (0316-02), and the Escatawpa R. Mississippi Coastal (0317-00) accounting units during ADEM's Ambient Monitoring Program, 1990-2001.

Sub-watershed	Waterbody	Station	Date (yymmdd)	Time (24 hr)	T-Air (^oC)	T-$H_2$0 (^oC)	pH (su)	Cond. (umhos @25^{o}C)	Turb (ntu)	DO (mg/L)	Alkalinity (mg/L)	BOD-5 (mg/L)	Chloride (mg/L)	Hardness (mg/L)	TDS (mg/L)	TSS (mg/L)	COD (mg/L)	NH_3-N (mg/L)	NO_3-N (mg/L)	TKN (mg/L)	Total P (mg/L)	Fecal Coliform (colonies/ 100 mL)
Mississippi Coastal (0317-0009)																						
050	Bayou La Batre	BLB-1	980810	1305	33	31	7.5	35350	6.4	0.3	17	<1.0	1640	673	3080	<1		<0.005	0.046	0.45	0.022	>800
050	Bayou La Batre	BLB-1	981008	1200	23	24	6.2	3000	11.5	5.2	13	<1.0	360	237	1440			0.02	<0.005	6	0.028	275
050	Bayou La Batre	BLB-1	990609	1130	31	27	7.3	11850	5.7	1.2	47	3.4	5500	19000	10700	124		0.09	0.104	0.78	0.037	240
050	Bayou La Batre	BLB-1	990811	1050	34	26	6.0	2070	14.5	7.1	9	1.8	15	150	855	6		0.03	0.208	0.99	0.04	1200
050	Bayou La Batre	BLB-1	991020	1200	17	21	7.3	12440	3.6	0.4	51	1.6	6500	2280	12800	16		0.13	0.361	1	0.049	260
050	Bayou La Batre	BLB-1	000627	1145	26	24	5.8	2300	20.0	4.5	6	2.0	701	208	1220	16		0.05	0.177	0.99	0.044	>8000
050	Bayou La Batre	BLB-1	000801	1015	29	26	6.8	5000	5.2	0.2	21	<1.0	1840	570	3420	10		<0.01	0.039	0.36	0.014	>800
050	Bayou La Batre	BLB-1	001003	1025	28	23	7.1	9600	2.4	5.5	6	<1.0	2380	750	4320	10		0.02	0.244	0.26	0.03	3000
050	Bayou La Batre	BLB-1	010605	1125	32	29	7.2	20140	3.7	2.0	5	<1.0		650	3150	<5		0.03	0.151	0.35	0.026	270
050	Bayou La Batre	BLB-1	010807	1040	31	28	7.2	17020	2.9	2.1	<1	<1.0	2660	1060	4650	18		0.02	0.108	0.37	0.035	210

Appendix F-9. Clean Water Strategy Project

Lead Agency: ADEM

Purpose: ADEM conducted intensive water quality monitoring during the 1996 Clean Water Strategy Project to evaluate the condition of the state's surface waters, identify or confirm problem areas, and to serve as a guide from which to direct future sampling efforts. Sampling stations were chosen where problems were known or suspected to exist, or where there was a lack of existing data. Data were collected monthly, June through October of 1996. All samples and in-situ measures were collected in accordance with ADEM SOP and QA/QC manuals.

Appendix F-9a. Physical/chemical data

References:

ADEM. 1999a. Alabama Clean Water Strategy Water Quality Assessment Report (1996). Alabama Department of Environmental Management. Montgomery, Alabama.

Appendix F-9a. Water quality data collected within the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and Escatawpa River - Mississippi Coastal (0317-00) accounting units during ADEM's 1996 Clean Water Strategy Project (ADEM 1996x).

Sub-watershed	Station	Waterbody	Date (yymmdd)	Time (24 hr)	Total depth (ft)	Sampling depth (ft)	Air Temp. (°C)	Water Temp. (°C)	pH (s.u.)	DO (mg/L)	Conductivity (umhos at 25 °C)	Turb. (ntu)	BOD-5 (mg/L)	NH_3-N (mg/L)	TKN (mg/L)	NO_2+NO_3-N (mg/L)	Total-P (mg/L)	Fecal Coliform (colonies/100 mL)	TSS (mg/L)	Flow (cfs)
Buttahatchee River CU (0316-0103)																				
020	UT09	Buttahatchee R.	960628	0937	2.0	0.0	26	27	7.4	9.5										
020	UT09	Buttahatchee R.	960730	0955	2.0	1.0			5.9	8.9			1	0.018	0.223	0.275	<0.04			
020	UT09	Buttahatchee R.	960826	0956	1.0	0.5	28	24	7.4	8.0										
020	UT09	Buttahatchee R.	960925	1510	2.0	1.0	30	21	7.1	9.1	50	13.1	0.2	0.021	0.15	0.286	<0.03			
020	UT09	Buttahatchee R.	961030	1047	1.5	0.8	21	19	7.1	8.9	39	10.7	1	<0.1	0.52	1.49	<0.05			
020	UT10	Buttahatchee R.	960627	1320	2.0	0.0	34	29	6.8	8.0										
020	UT10	Buttahatchee R.	960730	1107	2.0	1.0	25	27	6.7	9.1			0.8	0.057	0.285	0.347	0.147			
020	UT10	Buttahatchee R.	960826	1016	1.5	0.8	28	25	6.8	7.8										
020	UT10	Buttahatchee R.	960925	1025	2.0	1.0	28	22	7.7	7.9	61	20.0	0.4	0.068	0.235	0.3	0.054			
020	UT10	Buttahatchee R.	961030	1136	2.0	1.0	21	20	7.3	8.5	43	18.5	0.2	<0.1	0.75	1.61	0.12			
040	UT11	Buttahatchee R.	960627	1410	5.0	0.0	34	29	6.8	8.4										
040	UT11	Buttahatchee R.	960730	1140	5.0	2.5	24	27	6.4	10.2			0.9	0.03	0.38	0.205	0.101			
040	UT11	Buttahatchee R.	960826	1115	4.0	2.0	32	26	7.0	7.6										
040	UT11	Buttahatchee R.	960925	1108	0.5	0.3	24	17	6.5	8.5	24	47.0	0.3	0.044	0.248	0.229	0.082			
040	UT11	Buttahatchee R.	961030	1203	7.0	3.5	22	20	7.1	8.1	38	19.3	1	<0.1	0.64	2.12	0.08			
Luxapallila Creek CU (0316-0105)																				
010	UT03	Little Bear Cr.	960627	1505			32	28	6.7	5.7	62									
010	UT03	Little Bear Cr.	960927	1255	3.0	1.5	18	23	6.5	5.4	52									
010	UT04	Luxapallila Cr.	960628	1055	1.0	0.5	26	27	6.8	10.8										
010	UT04	Luxapallila Cr.	960730	1516	1.0	0.5	23	28	6.9	10.2			0.5	0.015	0.251	0.457	0.045			
010	UT04	Luxapallila Cr.	960826	1416	1.0	0.5	34	27	7.0	10.0										
010	UT04	Luxapallila Cr.	960925	1422	1.0	0.5	30	24	7.0	7.7	45	8.3	0.5	0.026	0.174	0.51	<0.03			
010	UT04	Luxapallila Cr.	961030	1523	1.0	0.5	22	20	7.1	8.4	38	7.9	<0.1	0.16	0.56	1.5	<0.05			
010	UT05	Luxapallila Cr.	960730	1345	2.0	1.0	24	29	6.9	10.3			0.5	0.045	0.254	0.375	0.057			
010	UT05	Luxapallila Cr.	960826	1251	1.0	0.5	32	25	6.9	8.5										
010	UT05	Luxapallila Cr.	960925	1253	1.5	0.8	31	22	7.1	8.4	50	17.7	0.4	0.035	0.181	0.445	0.043			
010	UT05	Luxapallila Cr.	961030	1344	2.0	1.5	23	21	7.2	8.9	38	16.6	1.3	<0.1	0.67	1.6	0.08			
030	UT06	Luxapallila Cr.	960627	1502	4.0	0.0	34	29	7.2	10.5										
030	UT06	Luxapallila Cr.	960730	1249	4.0	2.0	22	28	7.1	11.9			1.1	0.05	0.516	0.261	0.218			
030	UT06	Luxapallila Cr.	960826	1156	2.0	1.0	38	25	6.8	8.7										
030	UT06	Luxapallila Cr.	960925	1253	3.0	1.5	30	21	7.1	8.5	11	20.9	0.3	0.01	0.236	0.336	0.054			
030	UT06	Luxapallila Cr.	961030	1257	2.5	1.8	22	21	7.2	8.6	38	23.0	1	<0.1	0.75	1.8	<0.05			
Middle Tombigbee River - Lubbub Creek CU (0316-0106)																				
060	UT16	Coal Fire Cr.	960611	1245			33	23	6.8	7.4	26									
060	UT16	Coal Fire Cr.	960718	1300	3.6	2.0	31	25	6.7	7.0	20		1.7	0.021	0.323	0.174	<0.05			
060	UT16	Coal Fire Cr.	960815	1200	3.9	1.5	32	26	6.7	7.1	40		0.8	0.026	0.295	0.142	0.064			
060	UT16	Coal Fire Cr.	960903	1120	4.0	2.0	33	25	7.3	6.9	48									
060	UT16	Coal Fire Cr.	961022	1330	5.5	3.0	26	16	6.9	9.3	27		1		<0.15	1.96	<0.05			

Appendix F-9a. Water quality data collected within the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and Escatawpa River - Mississippi Coastal (0317-00) accounting units during ADEM's 1996 Clean Water Strategy Project (ADEM 1996x).

Sub-watershed	Station	Waterbody	Date (yymmdd)	Time (24 hr)	Total depth (ft)	Sampling depth (ft)	Air Temp. (°C)	Water Temp. (°C)	pH (s.u.)	DO (mg/L)	Conductivity (umhos at 25 °C)	Turb. (ntu)	BOD-5 (mg/L)	NH_3-N (mg/L)	TKN (mg/L)	NO_2+NO_3-N (mg/L)	Total-P (mg/L)	Fecal Coliform (colonies/100 mL)	TSS (mg/L)	Flow (cfs)
Middle Tombigbee River - Lubbub Creek CU (0316-0106)																				
060	UT17	Coal Fire Cr.	960627	1115			32	25	6.6	6.8	25									
060	UT17	Coal Fire Cr.	960730	1231	2.1	1.1	32	25	6.8	6.8	21		1	0.01	0.293	0.105	0.083			
060	UT17	Coal Fire Cr.	960822	1220	2.1	1.0	31	21	6.5	7.2	21		1.3	<0.005	0.215	0.145	<0.04			
060	UT17	Coal Fire Cr.	960927	1040	2.0	1.5	19	24	8.2	7.1	21									
060	UT17	Coal Fire Cr.	961023	1040	2.6	1.6	19	14	7.2	8.4	25		2.4	<0.1	<0.15	1.6	<0.05			
060	UT18	Coal Fire Cr.	960627	1200			31	24	6.3	6.9	21									
060	UT18	Coal Fire Cr.	960730	1310	1.3	0.6	35	25	6.4	6.9	21		1	0.02	0.269	0.131	0.054			
060	UT18	Coal Fire Cr.	960822	1140	0.8	0.0	31	20	6.1	7.8	31		1.4	0.012	0.276	0.191	<0.04			
060	UT18	Coal Fire Cr.	960927	1110	2.0	1.5	19	22	7.2	6.3	21									
060	UT18	Coal Fire Cr.	961023	1130	2.3	1.5	20	13	6.5	8.0	26		2.7	<0.1	<0.15	1.95	<0.05			
070	UT14	Woolbank Cr.	960611	1315			33	23	7.1	8.3	29									
070	UT14	Woolbank Cr.	960718	1230	1.8	0.0	31	24	6.0	7.1	26		1.6	0.056	0.279	0.165	<0.05			
070	UT14	Woolbank Cr.	960815	1130	1.5	0.8	32	25	6.9	6.6	53		0.9	0.033	0.274	0.094	0.053			
070	UT14	Woolbank Cr.	960903	1135	2.0	1.0	33	23	7.0	6.7	73									
070	UT14	Woolbank Cr.	961022	1315	1.8	1.0	30	17	6.6	5.4	36		2.2	<0.1	<0.15	1.2	<0.05			
070	UT15	Woolbank Cr.	960611	1345			37	24	7.1	8.1	29									
070	UT15	Woolbank Cr.	960710	1200	0.8	0.0	32	24	6.7	7.5	26		1.7	0.042	0.253	0.112	<0.05			
070	UT15	Woolbank Cr.	960815	1115	0.7	0.3	30	25	6.8	7.5	58		0.9	0.007	0.227	0.078	<0.04			
070	UT15	Woolbank Cr.	960903	1155	8.0	4.0	33	25	6.9	7.0	71									
070	UT15	Woolbank Cr.	961022	1300	1.5	1.0	26	17	6.6	6.3	18		1.8	<0.1	<0.15	1.97	<0.05			
100	UT21	Lubbub Cr.	960627	1320			32	27	6.4	4.1	39									
100	UT21	Lubbub Cr.	960730	1340	0.9	0.4	37	26	6.6	6.7	21		1	0.032	0.281	0.078	0.047			
100	UT21	Lubbub Cr.	960822	1300	5.5	2.5	31	23	6.4	4.2	41		1.9	0.037	0.393	0.119	0.041			
100	UT21	Lubbub Cr.	960927	1135	8.0	5.0	19	24	6.8	5.7	26									
100	UT21	Lubbub Cr.	961023	1155	4.3	2.0	24	15	6.1	6.4	24		1.6	<0.1	<0.15	2.08	<0.05			
100	UT22	Lubbub Cr.	960627	1235			33	26	6.5	6.6	24									
100	UT22	Lubbub Cr.	960730	1410	7.7	5.0	35	26	6.5	5.2	29		1.2	0.031	0.461	0.036	0.086			
100	UT22	Lubbub Cr.	960822	1100	0.7	0.0	30	21	6.4	7.4	30		1.6	0.01	0.284	0.123	<0.04			
100	UT22	Lubbub Cr.	960927	1205	2.0	1.5	19	23	6.5	7.1	16									
100	UT22	Lubbub Cr.	961023	1230	2.0	1.0	24	14	6.3	8.3	26		2	<0.1	<0.15	2	0.09			
110	UT01	Little Bear Cr.	960627	1445			30	27	6.3	4.2	53									
110	UT01	Little Bear Cr.	960730	1510	4.4	2.2	33	28	6.4	4.1	36		1	0.06	0.426	0.167	0.106			
110	UT01	Little Bear Cr.	960822	1420	4.0	2.0	32	24	6.3	2.5	51		2	<0.005	0.329	0.07	0.099			
110	UT01	Little Bear Cr.	960927	1310	4.0	1.5	17	23	6.3	4.7	42									
110	UT01	Little Bear Cr.	961023	1350	2.0	2.0	25	16	4.4	6.3	49		1.3	<0.1	<0.15	1.6	<0.05			
110	UT02	Little Bear Cr.	960626	1545			33	28	6.6	6.4	58									
110	UT02	Little Bear Cr.	960730	1555	5.5	5.0	30	26	6.6	6.6	40		1.8	0.063	0.387	0.31	0.104			
110	UT02	Little Bear Cr.	960822	1445	4.0	2.0	32	24	6.7	6.7	56		3.6	<0.005	0.576	0.491	0.048			
110	UT02	Little Bear Cr.	960927	1325	4.0	1.5	17	23	6.5	6.8	42									
110	UT02	Little Bear Cr.	961023	1405	4.0	2.0	26	15	5.9	8.7	37		1.8	<0.1	<0.15	1.9	<0.05			

Appendix F-9a. Water quality data collected within the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and Escatawpa River - Mississippi Coastal (0317-00) accounting units during ADEM's 1996 Clean Water Strategy Project (ADEM 1996x).

Sub-watershed	Station	Waterbody	Date (yymmdd)	Time (24 hr)	Total depth (ft)	Sampling depth (ft)	Air Temp. (°C)	Water Temp. (°C)	pH (s.u.)	DO (mg/L)	Conductivity (umhos at 25 °C)	Turb. (ntu)	BOD-5 (mg/L)	NH_3-N (mg/L)	TKN (mg/L)	NO_2+NO_3-N (mg/L)	Total-P (mg/L)	Fecal Coliform (colonies/100 mL)	TSS (mg/L)	Flow (cfs)
Middle Tombigbee River - Lubbub Creek CU (0316-0106)																				
110	UT03	Little Bear Cr.	960730	1535	5.8	5.0	32	26	6.6	6.2	42		1	0.045	0.388	0.248	0.091			
110	UT03	Little Bear Cr.	960822	1400	4.5	2.2	32	22	6.6	5.4	64		2.1	0.01	0.356	0.274	0.07			
110	UT03	Little Bear Cr.	961023	1330	3.0	1.5	25	14	6.3	7.3			1.6	<0.1	<0.15	1.95	<0.05			
120	UT19	Lubbub Cr.	960611	1030			32	22	6.6	7.7	32									
120	UT19	Lubbub Cr.	960718	1045	6.0	3.0	30	23	6.5	7.4	26		1.8	0.012	0.475	0.14	<0.05			
120	UT19	Lubbub Cr.	960815	1225	6.8	3.4	31	26	6.7	7.5	53		0.7	0.029	0.374	0.086	0.063			
120	UT19	Lubbub Cr.	960903	1325	10.0	5.0	35	25	6.9	6.9	57									
120	UT19	Lubbub Cr.	961022	1040	6.5	4.0	27	17	7.5	9.8	29		1	<0.1	<0.15	1.6	<0.05			
120	UT20	Lubbub Cr.	960611	1120			37	23	7.0	7.5	36									
120	UT20	Lubbub Cr.	960718	1130	3.0	1.5	32	24	6.7	6.9	25		1.8	0.03	0.412	0.12	<0.05			
120	UT20	Lubbub Cr.	960815	1030	3.1	1.5	31	26	6.9	6.7	53		1.1	0.036	0.399	0.078	0.069			
120	UT20	Lubbub Cr.	960903	1235	5.0	2.5	31	24	6.9	6.9	60									
120	UT20	Lubbub Cr.	961022	1230	4.0	2.0	26	16	6.6	9.2	30		1.1	<0.1	<0.15	1.75	<0.05			
Sipsey River CU (0316-0107)																				
030	UT07	Stud Horse Cr.	960730	1450			25	26	7.2	10.5			0.7	0.008	0.146	0.131	0.045			
030	UT07	Stud Horse Cr.	960826	1350	0.5	0.3	32	25	7.2	8.3										
030	UT07	Stud Horse Cr.	961030	1452			23	19	7.0	8.3	17	8.8	1.5	<0.1	0.21	0.15	<0.05			
030	UT07	Stud Horse Cr.					28	20	7.2	8.1	23	9.9	0.3	<0.015	<0.1	0.08	<0.03			
030	UT08	Stud Horse Cr.	960628	1150	0.5	0.0	29	27	6.7	9.8										
030	UT08	Stud Horse Cr.	960730	1341	0.5	0.3	25	26	6.9	11.8			0.4	0.017	0.168	0.2	<0.04			
030	UT08	Stud Horse Cr.	960826	1335	1.0	0.5	34	26	7.5	8.3										
030	UT08	Stud Horse Cr.	960925	1334			31	21	7.1	8.1	38	5.7	0.3	0.017	<0.1	0.153	<0.03			
030	UT08	Stud Horse Cr.	961030	1430			23	20			31	5.6	1.5	<0.1	0.4	1.01	<0.05			
070	UT13	Sipsey R.	960611	1445			38	26	7.0	7.6	74									
070	UT13	Sipsey R.	960718	1010	13.2	5.0	30	26	6.9	6.7	59		1.4	0.035	0.328	0.182	<0.05			
070	UT13	Sipsey R.	960815	1000	12.4	5.0	27	26	7.1	6.8	131		1	0.018	0.229	0.18	0.078			
070	UT13	Sipsey R.	960903	1300	14.0	5.0	33	26	7.0	6.8	131									
070	UT13	Sipsey R.	961022	1140	12.5	5.0	26	17	6.6	9.5	35		0.7	<0.1	<0.15	1.02	<0.05			
080	UT12	Sipsey R.	960611	1000			35	27	6.4	7.3	67									
080	UT12	Sipsey R.	960718	1330	9.4	5.0	31	24	6.8	7.1	67		1.7	0.016	0.326	0.202	<0.05			
080	UT12	Sipsey R.	960815	1300	6.8	3.4	31	27	6.9	7.2	121		0.5	0.019	0.231	0.186	0.045			
080	UT12	Sipsey R.	960903	1345	10.0	5.0	37	25	7.0	7.0	103									
080	UT12	Sipsey R.	961022	1110	7.5	4.0	27	17	6.9	9.5	83		0.6	<0.1	<0.15	1.01	<0.05			
Middle Tombigbee River - Chickasaw Creek CU (0316-0201)																				
130	LT05	Tuckabum Cr.	960628	1020	1.0	0.5	29	24	6.9	6.8	102	10.0								
130	LT05	Tuckabum Cr.	960725	0905	1.2	1.0	24	23	6.9	6.1	94	7100		<0.015	<0.15	0.03	0.075			
130	LT05	Tuckabum Cr.	960829	0855	1.0	1.0	26	24	6.8	6.5	100	19.0	1.9	<0.015	0.32	0.05	0.12		1	
130	LT05	Tuckabum Cr.	960926	0850	1.5	1.0	23	21	6.7	5.8	92	30.0	0.9	0.02	<0.15	<0.003	0.04		21	
130	LT05	Tuckabum Cr.	961031	1005	1.2	1.0	23	18	6.5	7.6	110	18.0								

Appendix F-9a. Water quality data collected within the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and Escatawpa River - Mississippi Coastal (0317-00) accounting units during ADEM's 1996 Clean Water Strategy Project (ADEM 1996x).

Sub-watershed	Station	Waterbody	Date (yymmdd)	Time (24 hr)	Total depth (ft)	Sampling depth (ft)	Air Temp. (°C)	Water Temp. (°C)	pH (s.u.)	DO (mg/L)	Conductivity (umhos at 25 °C)	Turb. (ntu)	BOD-5 (mg/L)	NH_3-N (mg/L)	TKN (mg/L)	NO_2+NO_3-N (mg/L)	Total-P (mg/L)	Fecal Coliform (colonies/100 mL)	TSS (mg/L)	Flow (cfs)
Middle Tombigbee River - Chickasaw Creek CU (0316-0201)																				
130	LT06	Tuckabum Cr.	960628	1120	2.0	1.0	30	27	7.7	8.0	111	10.0								
130	LT06	Tuckabum Cr.	960725	1010	2.0	1.0	27	26	7.1	6.2	98	36.0	0.8						18	
130	LT06	Tuckabum Cr.	960829	0940	2.5	1.2	27	25	6.7	6.4	59	47.0	3	<0.015	1.16	0.1	0.17		25	
130	LT06	Tuckabum Cr.	960926	0940	3.0	1.5	26	23	7.3	7.7	88	17.0	0.7	<0.015	<0.15	0.01	0.04		5	
130	LT06	Tuckabum Cr.	961030	1545	3.0	1.5	22	21	6.1	7.3	81	35.0								
150	LT16	Yantley Cr.	960628	1000	1.0	0.5	29	24	7.0	4.6	102	14.0								
150	LT16	Yantley Cr.	960725	0845	2.0	1.0	24	23	7.0	4.4	104	31.0	0.9	<0.015	<0.15	0.04	0.03		18	
150	LT16	Yantley Cr.	960829	0830	1.3	1.0	25	24	7.0	5.1	110	27.0	3.3	<0.015	0.59	0.07	0.13		11	
150	LT16	Yantley Cr.	960926	0835	2.0	1.0	21	20	7.0	4.7	100	21.0	1.2	<0.015	0.44	0.02	0.02		7	
150	LT16	Yantley Cr.	961031	0950	1.5	1.0	19	17	6.6	5.1	100	30.0								
150	LT17	Yantley Cr.	960628	1050	1.5	0.8	31	25	7.1	6.5	108	8.8								
150	LT17	Yantley Cr.	960725	0950	2.0	1.0	28	24	6.9	6.0	82	7.9	2.1	<0.015	<0.17	0.12	0.12		102	
150	LT17	Yantley Cr.	960829	0920	0.8	0.8	27	24	7.2	6.8	121	13.0	0.5	<0.015	<0.15	0.11	0.13		2	
150	LT17	Yantley Cr.	960926	0920	2.5	1.0	25	22	7.2	7.4	118	10.0	0.8	0.015	0.16	0.02	0.06		2	
150	LT17	Yantley Cr.	961031	1555	2.0	1.0	25	21	6.9	6.4	86	24.0								
160	LT07	Tuckabum Cr.	960628	1205	2.0	1.0	34	28	7.3	6.5	106	9.9								
160	LT07	Tuckabum Cr.	960724	1600	2.0	1.0	26	27	7.2	6.6	120	21.0		<0.015	<0.15	0.04	0.04			
160	LT07	Tuckabum Cr.	960828	1550	4.0	2.0	29	25	6.6	5.7	45	>100	4.1	<0.015	0.46	0.11	0.16		235	
160	LT07	Tuckabum Cr.	960926	1010	2.0	1.0	30	24	7.3	7.5	102	15.0	1.4	0.06	<0.15	0.03	0.06		3	
160	LT07	Tuckabum Cr.	961030	1510	3.5	1.5	27	21	6.8	7.7	66	37.0								
180	LT08	Horse Cr.	960627	1940	1.0	0.5	26	27	6.9	5.2	72	10.0								
180	LT08	Horse Cr.	960725	1100	1.5	1.0	26	25	6.8	5.8	60	27.0	0.8	<0.015	<0.15	0.17	0.03		21	
180	LT08	Horse Cr.	960829	1045	1.0	1.0	27	25	6.8	6.6	41	20.0	2.4	<0.015	<0.15	0.25	0.12		12	
180	LT08	Horse Cr.	960926	1050	1.5	1.0	26	24	7.0	7.1	66	16.5	1.8	<0.015	0.41	0.11	0.04		9	
180	LT08	Horse Cr.	961031	1110	1.2	1.0	25	19	6.5	7.0	90	13.0								
180	LT09	Horse Cr.	960627	1840	1.0	0.5	29	29	7.1	6.2	93	8.6								11.05
180	LT09	Horse Cr.	960725	1135	3.0	1.5	28	27	7.0	5.8	77	22.0	0.6	<0.015	0.42	0.1	0.09		8	
180	LT09	Horse Cr.	960829	1125	2.0	1.0	29	27	7.2	6.7	87	16.0	0.9	0.015	0.44	0.07	0.15		6	
180	LT09	Horse Cr.	960926	1120	3.0	1.5	32	25	7.2	7.2	81	13.0	1.5	<0.015	0.33	0.05	0.05		3	
180	LT09	Horse Cr.	961031	1140	4.0	2.0	27	19	6.6	7.8	96	11.0								
250	LT14	Okatuppa Cr.	960627	1555	1.5	0.8	32	31	7.1	6.8	63	5.3								
250	LT14	Okatuppa Cr.	960724	1350	1.3	1.0	34	30	7.0	7.0	78	5.8	0.2	<0.015	<0.15	0.02	0.02		2	
250	LT14	Okatuppa Cr.	960828	1335	1.2	1.0	26	25	6.6	8.0	50	100L	1.4	<0.015	<0.15	0.03	0.15		114	
250	LT14	Okatuppa Cr.	960925	1405	2.0	1.0	33	27	7.0	7.8	67	4.8	0.6	<0.015	<0.15	<0.003	0.01		1	
250	LT14	Okatuppa Cr.	961030	1250	2.0	1.0	27	23	6.8	7.7	54	19.0								
280	LT15	Okatuppa Cr.	960627	1415	3.0	1.5	32	30	7.5	6.9	137	10.0								48.5
280	LT15	Okatuppa Cr.	960724	1315	3.0	1.5	31	30	7.5	7.1	155	8.9	0.5	<0.015	0.15	0.04	0.02		13	
280	LT15	Okatuppa Cr.	960828	1300	3.0	1.5	25	26	7.1	6.1	117	41.0	1.2	<0.015	0.59	0.09	0.14		32	
280	LT15	Okatuppa Cr.	960925	1330	3.0	1.5	34	26	7.2	8.1	205	6.2	1.3	<0.015	<0.15	<0.003	0.02		5	
280	LT15	Okatuppa Cr.	961030	1220	4.0	2.0	27	22	6.9	7.5	159	19.0								

Appendix F-9a. Water quality data collected within the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and Escatawpa River - Mississippi Coastal (0317-00) accounting units during ADEM's 1996 Clean Water Strategy Project (ADEM 1996x).

Sub-watershed	Station	Waterbody	Date (yymmdd)	Time (24 hr)	Total depth (ft)	Sampling depth (ft)	Air Temp. (°C)	Water Temp. (°C)	pH (s.u.)	DO (mg/L)	Conductivity (umhos at 25 °C)	Turb. (ntu)	BOD-5 (mg/L)	NH_3-N (mg/L)	TKN (mg/L)	NO_2+NO_3-N (mg/L)	Total-P (mg/L)	Fecal Coliform (colonies/100 mL)	TSS (mg/L)	Flow (cfs)
Sucarnoochee River CU (0316-0202)																				
080	LT01	Sucarnoochee R.	960628	0836	3.0	1.5	25	26	6.9	6.6	50	11.0								
080	LT01	Sucarnoochee R.	960724	1915	3.0	1.5	23	28	7.0	6.8	43	29.0	1	<0.015	<0.15	0.09	0.03		30	
080	LT01	Sucarnoochee R.	960828	1750	4.0	2.0	25	27	6.9	8.0	39	16.0	1.1	<0.015	0.25	0.07	0.14		19	
080	LT01	Sucarnoochee R.	960925	1835	3.0	1.5	25	24	7.0	8.0	31	13.5	1.1	<0.015	<0.15	0.05	0.03		8	
080	LT01	Sucarnoochee R.	961031	0830	4.0	2.0	15	18	6.9	8.1	45	15.0								
080	LT02	Sucarnoochee R.	960628	0710	3.0	1.5	24	27	7.1	6.6	67	19.0								210
080	LT02	Sucarnoochee R.	960724	1745	3.0	1.5	23	29	7.3	6.8	56	27.0	0.7	<0.015	<0.15	0.08	0.03		30	
080	LT02	Sucarnoochee R.	960828	1710	2.5	1.3	28	27	7.0	7.2	57	26.0	1.8	<0.015	0.15	0.07	0.13		5	
080	LT02	Sucarnoochee R.	960925	1735	2.0	1.0	27	25	7.4	7.9	45	20.0	1.4	<0.015	0.15	0.06	0.03		15	
080	LT02	Sucarnoochee R.	961031	0735	3.0	1.5	12	17	6.9	7.7	58	26.0								
100	LT03	Alamuchee Cr.	960628	0915	1.0	0.5	25	25	7.0	6.2	81									
100	LT03	Alamuchee Cr.	960725	0800	1.5	1.0	22	24	6.9	5.9	82	18.0	0.5	<0.015	0.19	0.1	0.03		10	
100	LT03	Alamuchee Cr.	960829	0755	1.3	1.0	23	24	7.0	6.9	81	16.0	1.7	<0.015	<0.15	0.07	0.11		5	
100	LT03	Alamuchee Cr.	960926	0755	1.5	1.0	25	21	7.5	7.3	76	9.4	0.8	0.02	0.26	0.13	0.04		3	70
100	LT03	Alamuchee Cr.	961031	0925	1.5	1.0	19	17	6.7	7.3	71	21.0								
100	LT04	Alamuchee Cr.	960628	0735	1.5	0.8	25	28	7.0	5.6	90	12.0								46.9
100	LT04	Alamuchee Cr.	960724	1840	1.8	1.0	23	29	7.1	6.0	93	7.4	1.4	<0.015	0.31	0.01	0.04		13	100
100	LT04	Alamuchee Cr.	960828	1650	1.0	0.8	27	27	6.9	6.9	79	19.0	1.8	<0.015	0.27	0.03	0.21		3	
100	LT04	Alamuchee Cr.	960925	1805	1.5	1.0	25	26	7.2	7.7	64	15.0	1.4	<0.015	0.29	0.04	0.05		5	
100	LT04	Alamuchee Cr.	961031	0755	1.5	1.0	12	17	6.7	7.5	68	23.0								
Lower Tombigbee River CU (0316-0203)																				
040	LT12	Satilpa Cr.	960627	1246	1.5	0.8	32	28	7.1	6.7	68	7.2		<0.015	0.27	0.74	0.03			
040	LT12	Satilpa Cr.	960724	1240	2.0	1.0	36	28	7.5	6.3	161	5.7	0.3	<0.015	<0.15	0.1	0.02		9	
040	LT12	Satilpa Cr.	960828	1225	2.0	1.0	30	26	7.4	7.6	144	18.0	0.7	<0.015	<0.15	0.1	0.11		10	
040	LT12	Satilpa Cr.	960925	1245	2.0	1.0	35	24	7.2	7.4	117	8.9	1.2	<0.015	<0.15	0.04	0.01		4	
040	LT12	Satilpa Cr.	961030	1150	2.2	1.0	26	21	6.6	7.2	87	17.0								
040	LT13	Satilpa Cr.	960627	1333	3.0	1.5	34	27	7.5	6.3	140	9.4								35
040	LT13	Satilpa Cr.	960724	1205	2.0	1.0	32	26	6.2	6.6	59	100.0	0.7						72	
040	LT13	Satilpa Cr.	960828	1145	1.5	1.0	28	25	7.2	6.9	80	15.0	0.8	<0.015	0.2	0.04	0.11		1	
040	LT13	Satilpa Cr.	960925	1200	1.5	1.0	31	22	7.0	8.1	65	7.5	1	<0.015	<0.15	<0.003	0.01		1	
040	LT13	Satilpa Cr.	961030	1115	2.0	1.0	25	21	6.6	7.5	66	8.7								
090	LT10	Bassett Cr.	960627	1130	1.5	0.8	30	26	7.0	5.9	80	10.5								9.13
090	LT10	Bassett Cr.	960724	1030	1.5	1.0	30	26	6.5	6.2	69	51.0	0.8	<0.015	<0.15	0.13	0.05		33	
090	LT10	Bassett Cr.	960828	1110	1.2	0.5	26	25	6.9	4.7	135	17.5	1.2	<0.015	0.19	0.06	0.14		1	
090	LT10	Bassett Cr.	960925	1120	1.0	1.0	30	24	7.2	7.3	83	6.0	1.5	<0.015	0.34	0.03	0.04		1	
090	LT10	Bassett Cr.	961030	1045	2.2	1.0	25	22	6.8	6.7	65	8.2								
090	LT11	Bassett Cr.	960627	1035	4.0	2.0	29	25	7.6	7.0	102	7.2								
090	LT11	Bassett Cr.	960724	1125	3.0	1.5	28	25	7.1	7.0	100	7.4	0.2	<0.015	<0.15	0.17	0.02		6	
090	LT11	Bassett Cr.	960828	1010	3.0	1.5	29	24	7.6	7.6	97	7.0	0.3	<0.015	<0.15	0.23	0.1		4	
090	LT11	Bassett Cr.	960925	1010	2.0	1.0	30	22	7.2	8.0	95	6.0	1.3	0.03	<0.15	0.17	0.02		1	
090	LT11	Bassett Cr.	961030	0920	3.0	1.5	25	22	6.8	7.6	104	6.4								

Appendix F-9a. Water quality data collected within the Upper Tombigbee (0316-01), Mobile Bay - Lower Tombigbee (0316-02), and Escatawpa River - Mississippi Coastal (0317-00) accounting units during ADEM's 1996 Clean Water Strategy Project (ADEM 1996x).

Sub-watershed	Station	Waterbody	Date (yymmdd)	Time (24 hr)	Total depth (ft)	Sampling depth (ft)	Air Temp. (°C)	Water Temp. (°C)	pH (s.u.)	DO (mg/L)	Conductivity (umhos at 25 °C)	Turb. (ntu)	BOD-5 (mg/L)	NH_3-N (mg/L)	TKN (mg/L)	NO_2+NO_3-N (mg/L)	Total-P (mg/L)	Fecal Coliform (colonies/100 mL)	TSS (mg/L)	Flow (cfs)
Mobile River - Tensaw River CU (0316-0204)																				
050	MO03	Mobile R.	960611	1015	13.0	0.3	30	28	7.0	6.2	2492	15.9	3.5	0.314	1	0.016	0.168			
050	MO03	Mobile R.	960930	1300	30.0	5.0	26	26	7.4	7.2	4347	12.0	<1	0.07	<0.1	0.067	0.024	28		
050	MO03	Mobile R.	961028	1115	26.0	5.0	26	23	7.2	6.6	6221	15.1	1.1	<0.01	<0.1	0.077	0.039	68		
050	MO04	Eight Mile Cr.	960618	1015	5.3	0.3	30	23	7.2	7.2	58	8.1		0.014	0.3	<0.005	<0.005	110		
050	MO04	Eight Mile Cr.	960925	0920	5.3	2.6	24	20	6.5	7.6	54	8.2	0	0.02	0.49	0.243	<0.005	130		
060	MO01	Threemile Cr.	960612	0930	0.5	0.3	30	26	7.0	7.5	72	5.0	1.2	0.042	0.36	0.035	0.018	1050		
060	MO01	Threemile Cr.	960923	1025	2.5	1.3	28	23	7.6	7.6	77	4.8	<2	0.08	<0.1	0.222	0.005	80		
060	MO01	Threemile Cr.	961016	1115	1.6	0.8	25	23	7.0	9.8	83	2.0	1.2	<0.01	<0.1	0.13	<0.005	10		
Escatawpa River CU (0317-0008)																				
030	ES01	Puppy Cr.	096023	1115	0.5	0.3	24	21	6.4	4.6	92	18.3	<2	0.11	0.91	<0.005	0.078	56		
030	ES01	Puppy Cr.	960612	1050	0.5	0.3	30	23	6.3	4.4	93	24.0	2.1	0.147	0.68	<0.005	0.113	194		
030	ES01	Puppy Cr.	961016	1030	0.5	0.3	22	18	6.3	6.0	100	21.0	1	0.01	1.3	<0.005	0.042	90		
030	ES02	Tributary to Puppy Cr.	096023	1145	0.5	0.3	30	20	6.6	5.9	143	5.6	<2	0.04	0.71	0.087	0.068	43		
030	ES02	Tributary to Puppy Cr.	960612	1120	1.3	0.3	30	22	6.6	4.9	133	7.5	1.4	0.06	0.63	<0.005	0.144	>160		
030	ES02	Tributary to Puppy Cr.	961016	1010	1.5	0.7	22	18	6.6	7.0	190	3.8	<1	0.02	1.2	0.049	0.014	67		
030	ES03	Puppy Cr.	096023	1200	1.0	0.5	30	21	6.6	8.6	47	5.8	<2	<0.01	0.4	<0.005	0.005	62		
030	ES03	Puppy Cr.	960612	1150	1.0	0.3	27	24	6.6	8.5	41	7.2	1.2	<0.01	0.04	<0.005	0.022	>160		
030	ES03	Puppy Cr.	961016	0845	1.0	0.5	20	17	6.4	9.0	62	3.9	1.2	0.01	0.88	0.055	0.005	106		
030	ES04	Puppy Cr.	096023	1230	1.5	0.8	30	21	6.0	8.6	36	6.3	<2	0.04	0.17	0.162	0.005	97		
030	ES04	Puppy Cr.	960612	1215	1.0	0.3	30	24	6.0	8.1	34	6.6	1.2	<0.01	0.29	0.032	0.015	>160		
030	ES04	Puppy Cr.	961016	0930	1.0	0.5	24	18	6.1	9.0	42	3.9	<1	<0.01	0.62	0.206	0.005	320		
Mississippi Coastal CU (0317-0009)																				
060	MO02	Bayou La Batre	960612	1430	10.0	0.3	30	26	7.2	4.2	2428	2.3	2.3	0.02	0.36	0.035	0.009	460		
060	MO02	Bayou La Batre	960912	1150	13.5	5.0	33	27	6.7	6.4	10409	4.1	1.5	0.03	0.67	0.104	<0.005	83		
060	MO02	Bayou La Batre	961007	1120	13.0	0.5	19	20	6.8	0.7	8459	7.6	1	<0.01	1.1	<0.005	<0.005	>240		