2008 INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT

Water Quality in Alabama
2006-2007

2008 Alabama Integrated Water Quality Monitoring and Assessment Report

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This report was prepared by the Alabama Department of Environmental Management as required by Section 305(b) (the Clean Water Act). Comments or questions related to the content of the report should be addressed to:

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Executive Summary

Alabama's 2008 Integrated Water Quality Assessment and Monitoring Report includes some changes from previous 305(b) reports. This document combines information about Alabama's surface and ground water resource management programs with a comprehensive listing of State waters consistent with EPA's 2006 guidance. The guidance requests that states report on the condition of all surface waters by categorizing rivers, streams, lakes, estuaries, and coastal waters according to their designated uses and the degree to which water quality is supporting those uses. State waters have been segmented consistent with the National Hydrography Dataset (NHD) and assigned a unique assessment unit identification number (AU) based on the recently completed twelve-digit hydrologic units (watersheds) for Alabama. Waterbody data and information are evaluated using the use support assessment methodology and the waterbody is assigned to one of the following categories.

Category1

Waters that are attaining all applicable water quality standards.

Category 2

Waters for which readily available data, which meets the State's requirements as described in Section 4.9, supports a determination that some water quality standards are met and there is insufficient data to determine if remaining water quality standards are met. Attainment status of the remaining standards is unknown because data is insufficient. Waters for which the minimum data requirements (as described later) have not been met will be placed in Category 2.

- *Category 2A*
  For these waters available data does not satisfy minimum data requirements but there is a high potential for use impairment based on the limited data. These waters will be given a higher priority for additional data collection.

- *Category 2B*
  For these waters available data does not satisfy minimum data requirements but there is a low potential for use impairment based on the limited data. These waters will be included in future basin monitoring rotations as resources allow.

Category 3
Waters for which there is no data or information to determine if any applicable water quality standard is attained or impaired. These waters will be considered unassessed.

Category 4

Waters in which one or more applicable water quality standards are not met but establishment of a TMDL is not required.

- *Category 4A*

  Waters for which all TMDLs needed to result in attainment of all applicable WQSs have been approved or established by EPA.

- *Category 4B*

  Waters for which other required control measures are expected to attain applicable water quality standards in a reasonable period of time. Adequate documentation is required to indicate that the proposed control mechanisms will address all major pollutant sources and should result in the issuance of more stringent effluent limitations required by either Federal, State, or local authority or the implementation of "other pollution control requirements (e.g., best management practices) required by local, state, or federal authority" that are stringent enough to implement applicable water quality standards. Waters will be evaluated on a case by case basis to determine if the proposed control measures or activities under another program can be expected to address the cause of use impairment within a reasonable time period. A reasonable time period may vary depending on the degree of technical difficulty or extent of the modifications to existing measures needed to achieve water quality standards. EPA's 2006 assessment and listing guidance offers additional clarification of what might be expected of waters placed in Category 4b.

- *Category 4C*

  Waters in which the impairment is not caused by a pollutant. This would include waters which are impaired due to natural causes or pollution. A pollutant is defined in Section 502(6) of the Clean Water Act (CWA) as "spoil, solid waste, incinerator residue, sewerage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water." Pollution is defined as "the man-made or man-induced alteration of the chemical, physical, or radiological integrity of a waterbody." Invasive plants and animal species are considered pollution.

Category 5

Waters in which a pollutant has caused or is suspected of causing impairment. If the impairment is caused by an identified pollutant the water should be placed in Category 5. All "readily available data and information" will be used to determine when a water should be placed in Category 5. Waters in this category comprise the State's list of impaired waters or §303(d) list.
When the information used to assess the waterbody consist primarily of observed conditions, (limited water quality data, water quality data older than six years, or estimated impacts from observed or suspected activities), the assessment is generally referred to as an evaluated assessment (Category 2). Evaluated assessments usually require the use of some degree of

professional judgment by the person making the assessment and these assessments are not considered sufficient to place waters in or to remove waters from the impaired category (Category 5) or the fully supporting category (Category 1).

Monitored assessments (Categories 1 and 5) are based on readily available chemical, physical, and/or biological data collected during the previous six years, using commonly accepted and well-documented methods. Readily available data are data that have been collected or assembled by the Department or other groups or agencies and are available to the public. Data older than six years old may be used on a case-by-case basis when assessing waters that are not currently included in Category 1 or Category 5. (For example, older data could be used if conditions, such as land use, have not changed.) Much of the remainder of this document will pertain to the use of monitoring data to make use support determinations.

Categorizing Alabama's surface waters represents a significant effort. With approximately 47,072 miles of perennial rivers and streams and approximately 30, 170 miles of intermittent streams, this process will be ongoing and will require substantial resources and time. While the State's monitoring efforts have increased dramatically during the last 10 to 15 years, much of that effort has been focused on impaired waters or waters with special concerns, such as reservoirs or coastal waters. The five part list included in the appendix of this report represents the categorization based on information currently available. As new information becomes available the list will be updated and placed on the Department's web site to give the public the most complete and accurate picture of the water quality status of Alabama's surface water resources.

Table ES-1 River Basins

Alabama River Basin
Black Warrior River Basin
Cahaba River Basin
Chattahoochee River Basin
Chipola River Basin
Choctawhatchee River Basin
Coosa River Basin
Escatawpa River Basin
Lower Tombigbee River Basin
Mobile River Basin
Perdido - Escambia River Basin
Tallapoosa River Basin
Tennessee River Basin
Upper Tombigbee River Basin

Alabama has a population in excess of 4,447,100 (2000 Census), a 10.1% increase in population from the 1990 census, and covers a surface area of 51,609 square miles. The cities of Birmingham, Huntsville, Montgomery, Mobile, and their surrounding suburbs contain approximately half of Alabama's population. The state is comprised of sixty-seven (67) counties. A large percentage of Alabama's industries are related to forestry, agriculture, and mining. The State is divided into fourteen (14) major river basins (Table ES-1) containing 77,272 miles of rivers and streams (Table ES-2). Table ES-3 shows Size of Surface Waters Assigned to Reporting Categories.

Alabama has ponds, lakes, and reservoirs in excess of 490,472 acres. Freshwater wetlands occupy an estimated 3,600,000 acres. Alabama's coastal wetlands are estimated at 27,600 acres (National Wetland Inventory estimates). Coastal Alabama also contains an estimated 610 square miles of estuaries and a coastal shoreline that is 337 miles long (includes Mobile Bay and island shorelines).

Assessing the State's abundant surface water resources requires a significant effort and significant resources. During FY 05 the Alabama Department of Environmental Management (ADEM) initiated monitoring of upland waters using a revised monitoring strategy that focuses on assessing whole watersheds consistent with the Department's 2005 assessment and listing methodology. These watersheds, ranging in size from approximately 10 square miles up to

Table ES-2 Atlas

Topics	Value
State population	4,447,100
State surface area	51,609
Number of river basins	14
Total miles of rivers and streams	77,274
Miles of perennial rivers/streams	47,072
Miles of intermittent (nonperennial) streams	30,170
Miles of ditches and canals	32
Border miles of shared rivers/streams	210
Number of lakes/reservoirs/ponds	7,694
Number of significant publicly-owned lakes/reservoirs/ponds	43
Acres of lakes/reservoirs/ponds	490,472
Acres of significant publicly-owned lakes/reservoirs/ponds	425,748
Square miles of estuaries/harbors/ponds	610
Miles of ocean coast (includes bays and inlets)	337
Acres of freshwater wetlands*	3,600,000
Acres of tidal wetlands*	27,600

*historic National Wetland Inventory estimates

more that 100 square miles, were randomly selected to incorporate a range of human disturbances. In addition to the probabilistic watershed monitoring, the Department continued its more traditional monitoring of §303(d) listed streams, ambient trend monitoring, and the rivers and reservoirs monitoring programs.

Alabama's surface water is of generally high quality. An indication of full support of rivers and streams can be determined by analyzing Alabama's 2008 303(d) List. The total mileage for rivers and streams not supporting designated uses is 2,520 miles. This total is 3% of the 77,272 total rivers and streams miles. This is a good indication that Alabama has a high percentage of full use support for rivers and streams. Approximately 83% of Alabama's publicly accessible lakes and reservoirs are fully supporting their designated uses. Much of the non-support acreage is related to historic as well as recent PCB contamination and eutrophic conditions in the Coosa River Basin reservoirs. Naturally higher nutrients in the soils of the Coosa River Basin, to a large extent, dictate its reservoirs' eutrophic conditions. In an effort to manage eutrophic conditions more directly, the Department has developed nutrient criteria for 29 reservoirs (Weiss Lake, Lake Harris, West Point Lake, Walter F. George Lake, Lake Martin, Yates Lake, Thurlow Lake, Lake Guntersville, Wheeler Lake, Wilson Lake, Pickwick Lake, Little Bear Creek Lake, Cedar Creek Lake, Claiborne Lake, Dannelly Lake, Bankhead Lake, Holt Lake, Lewis Smith Lake, Oliver Lake, Lake Tuscaloosa, Warrior Lake, Lake Harding, Gantt Lake, Point A Lake, Inland Lake, Jackson Lake, Coffeeville Lake, Demopolis Lake, and Gainesville Lake).

Alabama's estuaries enjoy overall good health but pathogens and mercury are pollutants of concern in many coastal watersheds. The Department's coastal water quality monitoring program is participating in several monitoring initiatives with partners such as the Mobile Bay National Estuary Program, the National Oceanic and Atmospheric Administration, the U.S. Environmental Protection Agency, and other local groups and institutions to provide comprehensive assessments of Alabama's coastal waters.

Alabama has initiated a Wetlands Identification Program in coastal Alabama (Baldwin County) and has completed an extensive study of the possible wetland restoration locations for 5 areas of the State (Alabama River Watershed, Lower Black Warrior River Watershed, Sipsey River Watershed, and Baldwin and Mobile Counties). Statewide wetland estimates derived from EPA landuse data are also included in the wetlands section. ADEM and the US Army Corps of Engineers continue to partner in the management and mitigation of impacts to wetlands in the water quality certification processes of Section 401 and 404 of the Clean Water Act. Alabama has one of the best preserved major river deltas in the U.S., that being the Mobile-Tensaw River Delta. To preserve such a valuable national resource the Alabama Department of Natural Resources and Conservation - State Lands Division has purchased a very large percentage of the Delta through the US Department of Interior's North American Wetlands Conservation Act (NAWCA) funding. The coastal section contains a map of wetland tracts purchased through NAWCA. Wetlands have also been purchased at Weeks Bay, a National Estuarine Reserve.

Alabama's ground water continues to be managed effectively through efforts under the Underground Storage Tank (UST) Program, the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the Underground Injection Control (UIC) Program, as well as the Wellhead Protection Program (WHPP). The lack of chronic detections of pollutants in public water supply groundwater sources is a good indication of Alabama's high ground water quality and effective management of the resource.

Approximately 850,000,000 gallons of drinking water are taken from ground and surface sources each day, provided with treatment, and made available to approximately four million citizens in Alabama. Six hundred and seven (607) community systems, seventy-two (72) transient non-community systems and thirty-two (32) non-transient non-community systems are permitted by the ADEM. Approximately sixty-five (65) percent of the water used is obtained from surface sources such as lakes, rivers, and streams and provided with full treatment to include coagulation, sedimentation, filtration, and disinfection. One hundred (100) percent of these systems meet turbidity requirements, ninety-seven (97) percent meet trihalomethane standards, one hundred (100) percent meet haloacetic acid standards and one hundred (100) percent meet inorganic and radiological drinking water standards.

There is much new work to be done regarding water quality management with the 303(d) process and implementation of Total Maximum Daily Loads in Alabama and the recent management efforts of the Source Water Protection Program and the Wellhead Protection Program. Management efforts continue in the UST, RCRA, CERCLA, and UIC Programs and through National Pollutant Discharge Elimination System (NPDES) permitting. Continuing watershed coordination efforts in Alabama are vital to the effective use of limited resources for surface and ground water management. Implementation of controls for nonpoint source runoff is an integral component of watershed management in Alabama. Water quality monitoring will

Table ES-3 Size of Surface Waters Assigned to Reporting Categories

Waterbody Type	Category								Total Assessed
	1	2A	2B	3	4A	4B	4C	5	
River/Stream (miles)	4,318.06	727.42	2,572.12	4290.12	760.01	48.84	22.77	1,728..42	14,467.66
Reservoir/Lake (acres)	326,288.93	249.4	8,298.92	5,374.92	28,886.71	-	-	63,025.17	432,124.09
Estuary/Ocean (square miles)	57.97	-	-	-	-	-	-	627.84	706.51

List of Acronyms

A&I	Agriculture and Industry water supply use classification
AAES	Alabama Agricultural Experiment Station
ACES	Alabama Cooperative Extension Service
ACT/ACF	Alabama-Coosa-Tallapoosa/Apalachicola-Chattahoochee-Flint River Basins study
ACWI	Alabama Coastal Waters Initiative
ADAI	Alabama Department of Agriculture and Industries
ADCNR	Alabama Department of Conservation and Natural Resources
ADCNR-MRD	Alabama Department of Conservation and Natural Resources-Marine Resources Division
ADE	Alabama Department of Education
ADEM	Alabama Department of Environmental Management
ADPH	Alabama Department of Public Health
AEEI	Alabama Environmental Education Initiative
AEMA	Alabama Emergency Management Agency
AEMC	Alabama Environmental Management Commission
AFC	Alabama Forestry Commission
AGPT	Algal Growth Potential Test
ALAMAP	Alabama Monitoring and Assessment Program
ALUS	Aquatic Life Use Assessment
ANHP	Alabama Natural Heritage Program
ASCS	Agricultural Stabilization & Conservation Service
ASMC	Alabama Surface Mining Commission
ASSESS	ADEM's Strategy for Sampling Environmental indicators of Surface water Quality Status
ASWCC	Alabama Soil and Water Conservation Committee
AUC	Assessment Unit Code
AWPCA	Alabama Water Pollution Control Act
B/H	Biological/Habitat data
BMP	Best Management Practices
CBEP	Community-Based Environmental Protection
CERS	Center for Environmental Research and Service at Troy State University
CLP	Clean Lakes Program
CNPCP	Coastal Nonpoint Pollution Control Program
CPYRWMA	Choctawhatchee-Pea and Yellow Rivers Watershed Management Authority
CSO	Combined Sewer Overflow
CWA	Clean Water Act
CWP	Clean Water Partnership
DA	Drainage Area
DIZ	Discharge Information Zone for NPDES Coastal Permits
DO	Dissolved Oxygen

List of Acronyms

EMAP	Environmental Monitoring Assessment Program
EPA	U.S. Environmental Protection Agency
ERL-A	EPA's Environmental Research Laboratory at Athens, GA
ERL-C	EPA's Environmental Research Laboratory at Corvallis, OR
F&W	Fish and Wildlife use classification
FDA	U.S. Food and Drug Administration
FDER	Florida Department of Environmental Regulation
GDNR	Georgia Department of Natural Resources
GIS	Geographical Information System
GPS	Global Positioning System
GSA	Geological Survey of Alabama
HDG	Human Disturbance Gradient
HUC	Hydrologic Unit Code
IO	Industrial Operations
LDI	Landscape Development Index
MBP	Multihabitat Bioassessment Protocol
MCL	Maximum Contaminant Level
MESC	Marine Environmental Sciences Consortium of Dauphin Island, AL
MGD	Million Gallons per Day
MOPC	Mississippi Office of Pollution Control
MOU	Memorandum of Understanding
MPSs	Hester-Dendy Multiplate Samplers
MRD	Marine Resources Division of the ADCNR
MU	Monitoring Unit
NEP	National Estuary Program
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	Superfund National Priority Listed Sites
NRCS	Natural Resource Conservation Service of the USDA
NWI	National Wetland Inventory of the USFWS
OAW	Outstanding Alabama Water use classification
OEO	Office of Education and Outreach
ONRW	Outstanding National Resource Water designation
P/C	Physical/Chemical data
PACE	Pollution Abatement Costs and Expenditures
PCB	Polychlorinated Biphenyls

List of Acronyms

PFOA	Perfluorooctanoic Acid
PWS	Public Water Supply use classification
RBP	Rapid Bioassessment Protocol
RC&D	Resource Conservation and Development Councils of the USDA
RM	River Mile
RPS	Rapid Periphyton Surveys
RSMP	Rivers and Streams Monitoring Program
RWC	Receiving Water Concentration
S	Swimming and Other Whole Body Water contact Sports use classification
SH	Shellfish Harvesting use classification
SM/LG	Sand Mountain/Lake Guntersville watershed study
SMZ	Streamside Management Zone
SOC	Synthetic Organic Compound
SOD/NR	Sediment Oxygen Demand/Nutrient Release studies
SOP	Standard Operating Procedures
SRF	State Revolving Fund of Alabama
SSO	Sanitary Sewer Overflow
STP	Sewage Treatment Plant
SWCD	Soil and Water Conservation District
SWCP	State Wetland Conservation Plan
TMDL	Total Maximum Daily Loads
TOT	Time-of-travel studies
TRE	Toxicity Reduction Evaluation
TSI	Trophic State Index
UAA	Use Attainability Analysis
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USCG	United States Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service of the Department of the Interior
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound
WCAMI	Wetlands Conservation and Management Initiative
WLA	Wasteload Allocation
WQB	Water Quality Branch
WWTP	Wastewater Treatment Plant

Chapter 1 Water Quality Standards

1.1 Water Quality Standards Program

For information pertaining to Water Quality Standards, contact Mr. Stan Shirley in ADEM's Montgomery Office at (334) 274-4250 or sls@adem.state.al.us

1.2 Water Quality Rule Changes

Changes made to previous Chapter 335-6-10 Water Quality Criteria:

- Clarification was made for referencing both Mercury and Selenium in terms of their Total Recoverable form instead of Dissolved form (Date: May 29, 2007, Section: 335-6-10-.07)
- Development of Chlorophyll a criteria for portions of the Upper and Lower Tombigbee Rivers (Demopolis Lake, Gainesville Lake, Lake Jackson, and Coffeeville Lake) and for a portion of the Black Warrior River (Inland Lake).(Date: September 21, 2005, Section: 335 6-10-.11)

Changes made to previous Chapter 335-6-11 Water Use Classifications For Interstate and Intrastate Waters:

- Black Creek was upgraded from Agricultural and Industrial Water Supply (A&I) to Fish and Wildlife (F&W) which is our Fishable/Swimmable classification. (Date: May 29, 2007, Section: 335-6-11-.02)
- Wolf Bay was upgraded from F&W to Outstanding Alabama Water (OAW) (Date: May 29, 2007 Section: 335-6-11-.02)
- A segment of Choccolocco Creek was upgraded to Public Water Supply (PWS) (Date: May 29, 2007, Section: 335-6-11-.02)
- Previous designation of PWS was removed for a portion of Shoal Creek (Date: September 21, 2005 Section: 335-6-11-.02)

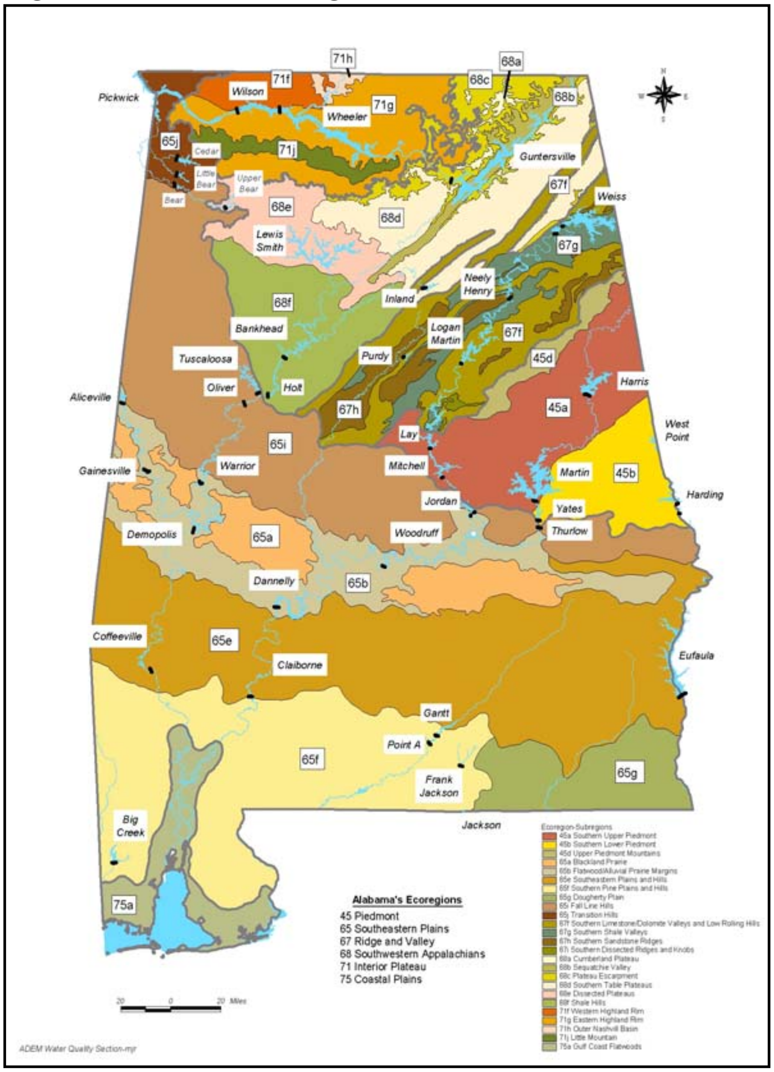
1.3 Conceptual Approach to Nutrient Criteria Development

In developing nutrient criteria, the Department's objective is to determine nutrient levels that are protective of the beneficial uses designated for each reservoir. Keeping in mind that these reservoirs serve a variety of uses, including swimming and recreation, sport-fishing, and public water supply, while also supporting a wide diversity of aquatic life, nutrient criteria are targeted that support the designated uses and are protective of aquatic communities. Thus, the Department's rationale is to establish nutrient criteria consistent with the "fishable/swimmable" goal of the Clean Water Act.Located within 14 major river basins and 25 different sub-ecoregions, Alabama's surface waters represent some of the most biologically diverse aquatic ecosystems in the United States. Because of the large diversity in geographic and climatic conditions from one region to another, as well as the significant variability in dam operations between reservoirs, the Department used best professional judgment to develop nutrient criteria on a lake-specific basis rather than on a more aggregate basis such as an ecoregional approach. The lake-specific approach captures the large variability inherent in man-made reservoirs, where chlorophyll a concentrations are typically affected by such factors as reservoir depth, reservoir retention time, and scheduling of power generation. During the criteria development process, historical data were studied to provide an overall perspective of the condition of each reservoir. This information was analyzed to determine trends in trophic conditions, the degree to which reservoir conditions remained stable over time, and whether any impairment has occurred due to nutrient over-enrichment. From this data, nutrient levels (expressed as seasonal means of chlorophyll a concentrations) were targeted that correlate with reservoir conditions that support the designated beneficial uses. The historical data depicts the diversity of reservoir conditions in Alabama, from lakes in the Tallapoosa River Basin that are naturally oligotrophic-mesotrophic, such as lakes Martin, Yates and Thurlow, to lakes that tend to be more eutrophic in nature, such as the mainstem reservoirs on the Tennessee and Coosa Rivers. The Department recognizes that using reference condition analysis to establish nutrient criteria in reservoirs can be limited due to the fact that there is uncertainty regarding what constitutes "natural" conditions in a man-made water body. Therefore, in developing nutrient criteria, the Department has selected to analyze historical ambient data on an individual reservoir basis to determine if each reservoir continues to support its designated uses. If so, the nutrient concentrations that have historically corresponded to that reservoir's use support are evaluated to determine a chlorophyll a target specific to that reservoir. This same approach is used regardless of the reservoir's trophic state (i.e. eutrophic, oligotrophic, or mesotrophic). Thus, the intent is that the selected chlorophyll a criteria values are specifically associated with a condition of full use support in each respective reservoir, taking into account the factors unique to various trophic conditions. Nutrient criteria were developed to support the existing uses that define each reservoir system and protect the aquatic communities that inhabit them. Data were analyzed to determine the ranges of chlorophyll a and total phosphorus concentrations historically occurring in each reservoir. To maintain nutrient levels within the ranges associated with full use-support conditions, best professional judgment was used to derive criteria values that "cap" each reservoir system with a protective chlorophyll a concentration. In establishing chlorophyll a targets, the variability occurring within the growing season was taken into account. The cooler months are generally less productive and lower chlorophyll a values are usually recorded while the warmer months are generally more productive with higher values typically recorded.

To determine what constitutes healthy conditions in various types of reservoirs and how trophic gradients relate to use attainment, the Department utilizes research conducted by Dr. David Bayne at Auburn University. This research examines how the quality of fisheries correlates to varying trophic conditions in Alabama reservoirs. The study assesses the potential impacts of reverse eutrophication and nutrient reduction on reservoir fisheries and calculates target levels of primary production that provide both quality fishing and satisfactory water clarity for other recreational users, while protecting all aquatic communities. This research ("Compatibility between Water Clarity and Quality Black Bass and Crappie Fisheries in Alabama"; American Fisheries Society Symposium 16:296-305. 1996) provides substantial evidence that fish biomass and sport-fish harvesting are positively correlated to algal production in reservoirs.

The research by Dr. Bayne demonstrates that the size, growth rates and condition of certain species of sports fish are generally higher in eutrophic than in oligo-mesotrophic reservoirs. This study, along with case studies of reservoirs in other regions, raises the concern that the reversal of eutrophication and improvement in water clarity in some reservoirs can be deleterious to its warm-water sports fisheries by reducing fish production and biomass. The Department, therefore, believes that when establishing nutrient criteria it is vital to set water quality standards that adequately consider all the beneficial uses of the reservoir, fishing and swimming alike. Thus, caution is warranted when

Figure 1-1 Alabama's Ecoregions



regulatory actions can potentially result in an undesirable shift in fish species. If, historically, a reservoir has supported all of its uses, including high-quality fisheries and other aquatic communities, nutrient criteria were targeted to preserve these reservoir conditions. The typical hydraulic regime and flow characteristics of each reservoir were other key factors considered during criteria development. The relationship between water quality, biomass accumulation, and hydraulic residence time (or retention time), which is the average amount of time required to completely renew a reservoir's water volume, was taken into account when establishing the chlorophyll a criteria. For example, reservoirs associated with "run-of-the-river" dams typically have small hydraulic head, limited storage area and short retention times and are less likely to be susceptible to conditions that can lead to eutrophication or promote excessive algal growth. In contrast, reservoirs associated with larger dams, such as storage or hydroelectric dams, are more likely to have longer retention times, providing a greater potential for incoming nutrients to stimulate increased algal production. Increased algal biomass can potentially deplete dissolved oxygen levels within the reservoir through bacterial decomposition and photosynthetic respiration. The relationship between reservoir water retention times and phytoplankton algae production was examined in a study by Dr. Bayne on Weiss Lake during the summer of 2001. Dr. Bayne, along with Auburn University professor Dr. Mike Maceina,

Table 1-1 Nutrient Criteria Implementation Schedule for Alabama Reservoirs

Year	Number of Reservoirs	Major Basin(s)	Name of Reservoirs
2001	4	Chattahoochee, Coosa, Tallapoosa	West Point, W.F. George, Weiss, R.L. Harris
2002	9	Tallapoosa, Tennessee	Martin, Yates, Thurlow, Guntersville, Wheeler, Wilson, Pickwick, Little Bear, Cedar
2004	11	Alabama Black Warrior Chattahoochee Perdido-Escambia	Claiborne, Dannelly Bankhead, Holt, Lewis Smith, Oliver, Tuscaloosa, Harding Gantt, Point A
2005	5	Black Warrior Perdido-Escambia Lower Tombigbee Upper Tombigbee Alabama	Inland Jackson Coffeeville Demopolis, Gainsville Woodruff
2006	11	Cahaba Coosa Escatawpa Tennessee Upper Tombigbee	Purdy Jordan, Lay, Logan Martin, Mitchell, Neely Henry Big Creek Bear, Upper Bear Aliceville
2007	1	Perdido-Escambia	Frank Jackson
2008	8	Alabama Coosa Escatawpa Upper Tombigbee	Woodruff Jordan, Lay, Logan Martin, Mitchell, Neely Henry Big Creek Aliceville
2009	1	Cahaba	Purdy
2010	1	Perdido-Escambia	Frank Jackson
2011	2	Tennessee Tennessee	Bear Creek Upper Bear

assessed the potential water quality effects on Weiss Lake of the draft Coosa River water-sharing agreement between Alabama and Georgia. Their study showed that reservoirs with typically short retention times, such as reservoirs on the Coosa River, are more susceptible to hypereutrohic effects and higher chlorophyll a concentrations when retention times are increased even moderately. Historical data shows that higher chlorophyll a concentrations in Weiss Lake have consistently corresponded to longer retention times. Hydrologic models in their study indicated that longer retention times in the reservoir would likely increase phytoplankton algae production and algal biomass accumulation, assuming that other factors remain unchanged. This result is particularly evident during drought periods, such as occurred in 2000 and in 2006.

Also, the nutrient criteria were developed to reflect downstream transport of nutrients and the processes by which nutrient uptake occurs in streams. Nutrient concentrations generally tend to decrease as they move downstream. This attenuation occurs as nutrients are absorbed by micro-organisms and plants (biotic uptake) or as they adsorb onto sediment particles (abiotic uptake) and settle out of the water column. Thus, in developing nutrient criteria, the chlorophyll a targets were set so that along certain stretches of river, each successive reservoir has a lower criteria value as you move downstream. This approach takes into account natural processes that determine nutrient concentrations and is protective of downstream water quality.

1.4 Implementation of Alabama's Antidegradation Policy

On June 25, 2002, the Alabama Environmental Management Commission adopted Rule 335-6-10-12, Implementation of the Antidegradation Policy. This rule codifies procedures for implementing the Department's antidegradation policy (contained in Rule 335-6-10-.04) which was last amended in 1991 and approved that same year by the U.S. Environmental Protection Agency (EPA), Region 4. In response to a petition from the Legal Environmental Assistance Foundation (LEAF), in 1997 EPA requested that ADEM develop written procedures for implementing the state's antidegradation policy.

Final written implementation procedures were submitted to EPA in December 1998 and approved by EPA in August 1999.In November 1999, LEAF sued ADEM alleging that the Department's use of the EPA-approved implementation procedures in the NPDES permitting process was improper because these procedures were, in act, "rules" that had not been adopted through the formal rulemaking process. The Montgomery Circuit Court found in favor of ADEM; a decision later affirmed by the Court of Civil Appeals.

LEAF then applied for a writ of certiorari to the Alabama Supreme Court, which was granted, and thereafter the Alabama Supreme Court concluded in a decision dated March 1, 2002, that the implementation procedures are "rules" within the context of the Alabama Administrative Procedure Act, reversed the judgment of the Court of Civil Appeals and remanded the case to the lower courts. As a result of the Supreme Court decision, the Department ceased the review of permit applications for new or expanded discharges of treated wastewater to those waters affected by the Supreme Court decision until April 10, 2002, following adoption by the Alabama Environmental Management Commission of emergency rule (335-6-10-.12-.01ER) establishing implementation procedures. As adopted, the emergency rule procedures incorporate suggestions made by EPA and are essentially equivalent to the written procedures utilized by the Department prior to the Supreme Court decision. The provisions of the permanent rule adopted on June 25, 2002, are the same as those of the emergency rule and, as such, have been determined by EPA to be consistent with the federal requirement for implementation procedures included in EPA's water quality standards regulation. The final implementation procedures rule became effective on August 1, 2002.

The Department's antidegradation policy serves to conserve and protect the waters of Alabama and their beneficial uses and to prevent the deterioration of a water body even when its water quality surpasses the level necessary to meet the fishable and swimmable goals of the Clean Water Act. The antidegradation implementation policy addresses three categories of waters and beneficial uses:

- High-quality waters that constitute an outstanding national resource (Tier 3 waters);
- Waters where the quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife as well as recreation in and on the water (Tier 2 waters); and
- Existing instream water uses and the level of water quality necessary to protect the existing uses (Tier 1 waters).
- The implementation policy codifies procedures for reviewing applications for new or expanded discharges to waters designated as Tier 2 waters. The two basic components of the implementation policy involve:
- The Departments determination, based on the applicant's demonstration, that the proposed discharge is necessary for important economic or social development in the area in which the waters are located; and
- An evaluation by the applicant of alternatives other than the proposed discharge to Tier 2 water.
- The antidegradation implementation procedures comply with federal law and provides ADEM with adequate guidelines for making environmentally and economically sound decisions, industries with the predictability needed to operate and the public with the assurances needed to guarantee clean water.

1.5 Surface Water Use Classification Maps

The following maps depict Outstanding Alabama Waters and Outstanding National Resource Waters. Alabama's classified surface waters are listed in *ADEM Water Division-Water Quality Program-Chapter 335-6-11-Water Use Classifications for Interstate and Intrastate Waters (effective 05/29/2007)*. Figures 1-2 through 1-6 and Tables 1-2 through 1-6 show waters classified as Outstanding Alabama Waters (OAW) and waters with the special designation of Outstanding National Resource Waters (ONRW). Table 1-8 shows Surface Water Classifications and Designations

Table 1-2 Cahaba River and Tributaries

#	Assessment Unit #	Name	From	To	Use Classification	Miles
1	AL03150202-0503-102	Cahaba River	Alabama Highway 82	lower Little Cahaba River	OAW/S	10.58
2	AL03150202-0203-101	Cahaba River	Shades Creek	Shelby County Road 52	OAW/F&W	23.61
3	AL03150202-0405-100	Cahaba River	lower Little Cahaba River	Shades Creek	OAW/F&W	13.51
4	AL03150202-0201-102	Cahaba River	dam near U.S. Highway 280	Grant's Mill Road	OAW/PWS	13.45
5	AL03150202-0101-102	Cahaba River	US Highway 11	I-59	OAW/F&W	3.13
6	AL03150202-0101-103	Cahaba River	I-59	Its source	OAW/F&W	2.22
7	AL03150202-0404-100	Little Cahaba River	Cahaba River	Its source	OAW/F&W	16.54
8	AL03150202-0902-100	Cahaba River	Alabama River	Alabama Highway 82	OAW/S	89.50
					Total Miles	172.54

Figure 1-2 Cahaba River and Tributaries

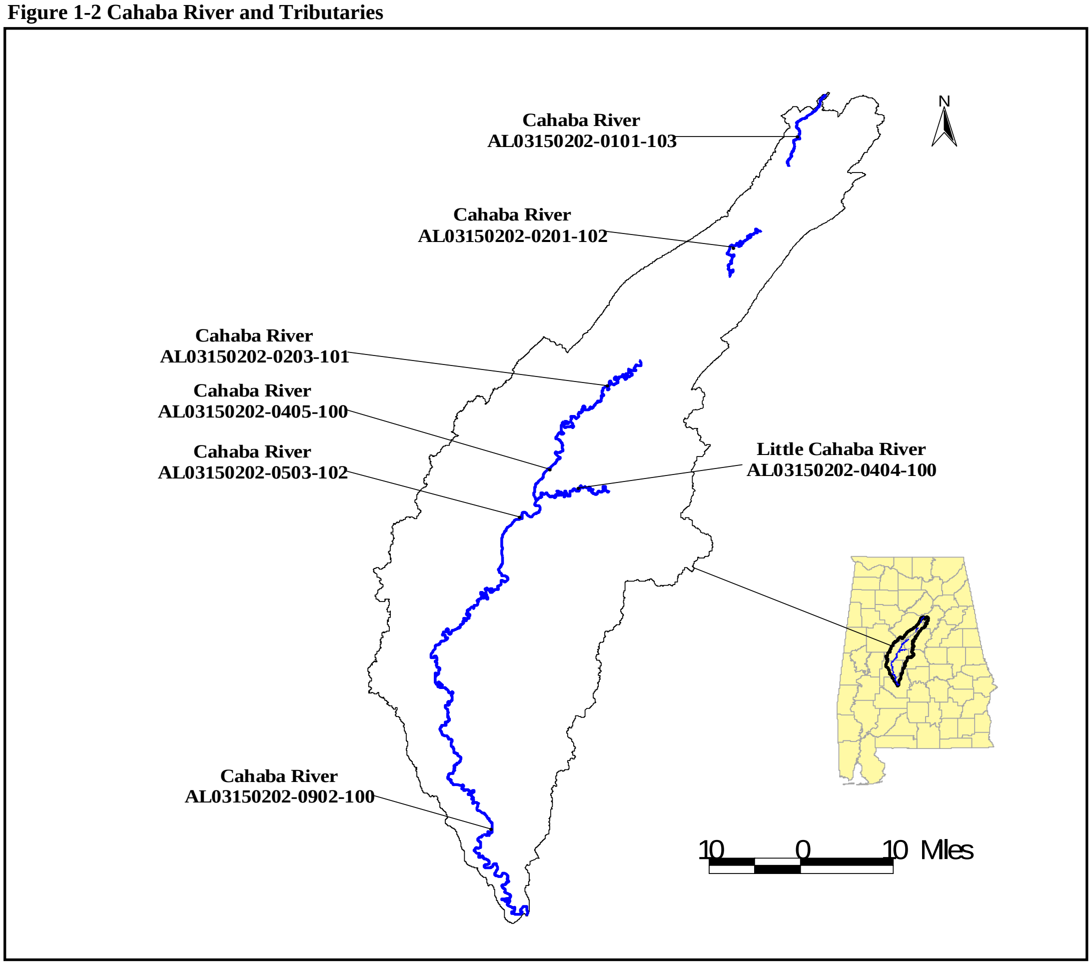


Table 1-3 Hatchet Creek and Tributaries

#	Assessment Unit #	Name	From	To	Use Classification	Miles
1	AL03150107-0807-100	Hatchet Creek	Coosa River	Norfolk Southern Railway	OAW/S/F&W	44.4
2	AL03150107-0802-102	Hatchet Creek	Norfolk Southern Railway	Its source	OAW/PWS/S/F&W	17.7
3	AL03150107-0801-300	East Fork Hatchet Creek	Hatchet Creek	Its source	OAW/F&W	5.3
4	AL03150107-0801-400	West Fork Hatchet Creek	Hatchet Creek	Its source	OAW/F&W	7.7
					Total Miles	75.1

Figure 1-3 Hatchet Creek and Tributaries

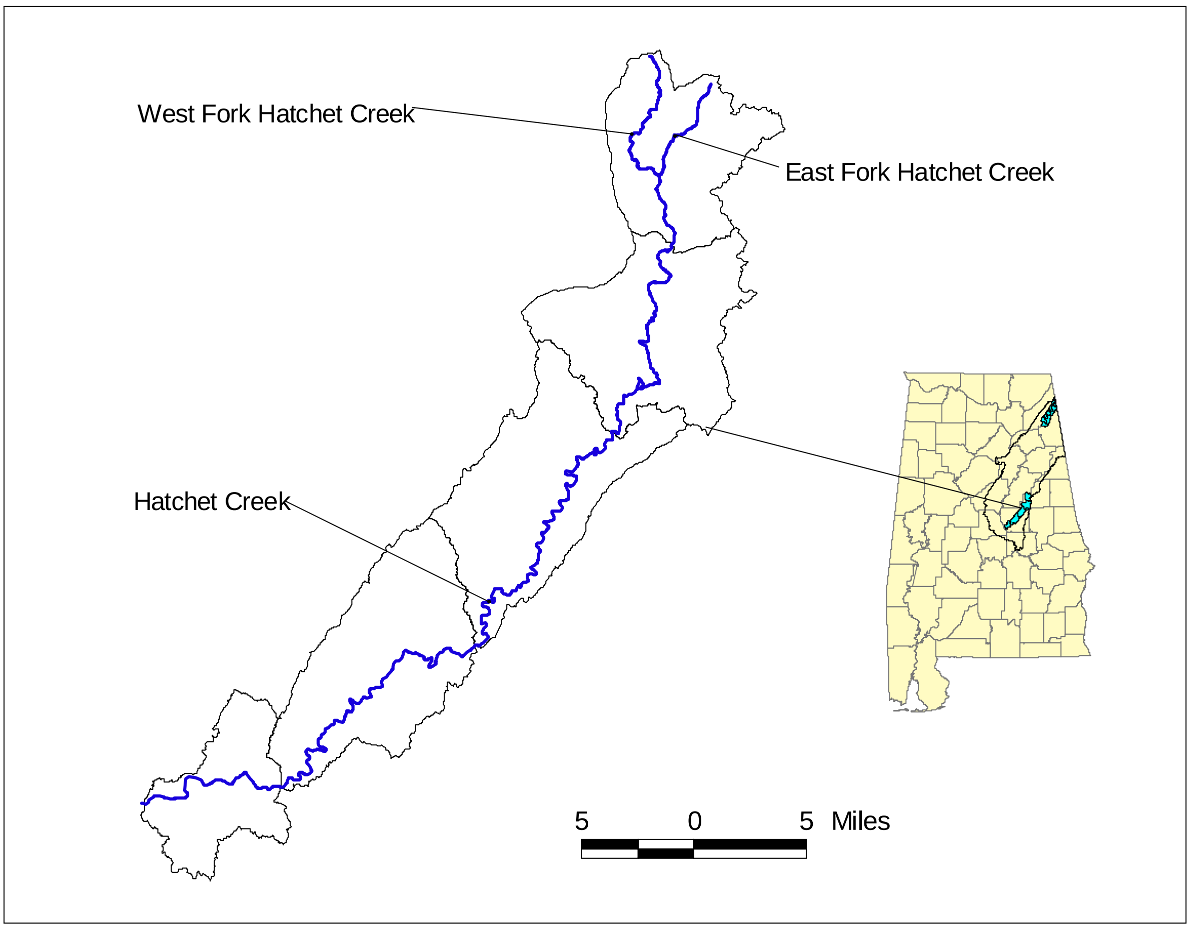


Table 1-4 Little River and Tributaries

#	Assessment Unit #	Name	From	To	Use classification	Miles
1	AL03150105-0806-100	Little River	Coosa River	Its source	PWS/S/F&W (ONRW)	22.2
2	AL03150105-0805-100	Wolf Creek	Little River	Its source	PWS/S/F&W (ONRW)	8.9
3	AL03150105-0804-100	Johnnies Creek	Little River	Its source	PWS/S/F&W (ONRW)	11.5
4	AL03150105-0804-200	Camprock Creek	Johnnies Creek	Its source	PWS/S/F&W (ONRW)	3.3
5	AL03150105-0804-300	Dry Creek	Johnnies Creek	Its source	PWS/S/F&W (ONRW)	2.3
6	AL03150105-0803-100	Bear Creek	Little River	Its source	PWS/S/F&W (ONRW)	8.2
7	AL03150105-0803-300	Hicks Creek	Bear Creek	Its source	PWS/S/F&W (ONRW)	3
8	AL03150105-0803-200	Falls Branch	Bear Creek	Its source	PWS/S/F&W (ONRW)	2.1
9	AL03150105-0806-200	Brooks Branch	Little River	Its source	PWS/S/F&W (ONRW)	1.5
10	AL03150105-0802-100	Yellow Creek	Little River	Its source	PWS/S/F&W (ONRW)	5.8
11	AL03150105-0802-200	Straight Creek	Yellow Creek	Its source	PWS/S/F&W (ONRW)	2.7
12	AL03150105-0801-200	Hurricane Creek	Little River	Its source	PWS/S/F&W (ONRW)	6.3
13	AL03150105-0705-100	West Fork of Little River	Little River	AL-GA state line	PWS/S/F&W (ONRW)	18.7
14	AL03150105-0705-200	Straight Creek	West Fork of Little River	Its source	PWS/S/F&W (ONRW)	4.1
15	AL03150105-0705-300	Sharp Branch	West Fork of Little River	Its source	PWS/S/F&W (ONRW)	1.4
16	AL03150105-0705-400	Seymour Branch	West Fork of Little River	Its source	PWS/S/F&W (ONRW)	2.4
17	AL03150105-0704-201	East Fork West Fork of Little River	West Fork of Little River	AL-GA state line	PWS/S/F&W (ONRW)	0.4
18	AL03150105-0703-100	East Fork of Little River	Little River	AL-GA state line	PWS/S/F&W (ONRW)	9.3
19	AL03150105-0703-200	Laurel Creek	East Fork of Little River	Its source	PWS/S/F&W (ONRW)	3.9
20	AL03150105-0703-300	Gilbert Branch	East Fork of Little River	Its source	PWS/S/F&W (ONRW)	1.9
21	AL03150105-0702-101	Middle Fork of Little River	East Fork of Little River	AL-GA state line	PWS/S/F&W (ONRW)	2.4
22	AL03150105-0703-400	Shrader Branch	Laurel Creek	Its source	PWS/S/F&W (ONRW)	1.8
23	AL03150105-0703-500	Armstrong Branch	Laurel Creek	Its source	PWS/S/F&W (ONRW)	1.8
24	AL03150105-0702-200	Brush Creek	Middle Fork of Little River	Its source	PWS/S/F&W (ONRW)	3.3
25	AL03150105-0702-300	Anna Branch	Middle Fork of Little River	Its source	PWS/S/F&W (ONRW)	2.2
26	AL03150105-0702-400	Blalock Branch	Anna Branch	Its source	PWS/S/F&W (ONRW)	3.3
27	AL03150105-0702-500	Stillhouse Branch	Blalock Branch	Its source	PWS/S/F&W (ONRW)	1.1
		Unnamed Tributaries				141
					Total Miles	277

Figure 1-4 Little River and Tributaries

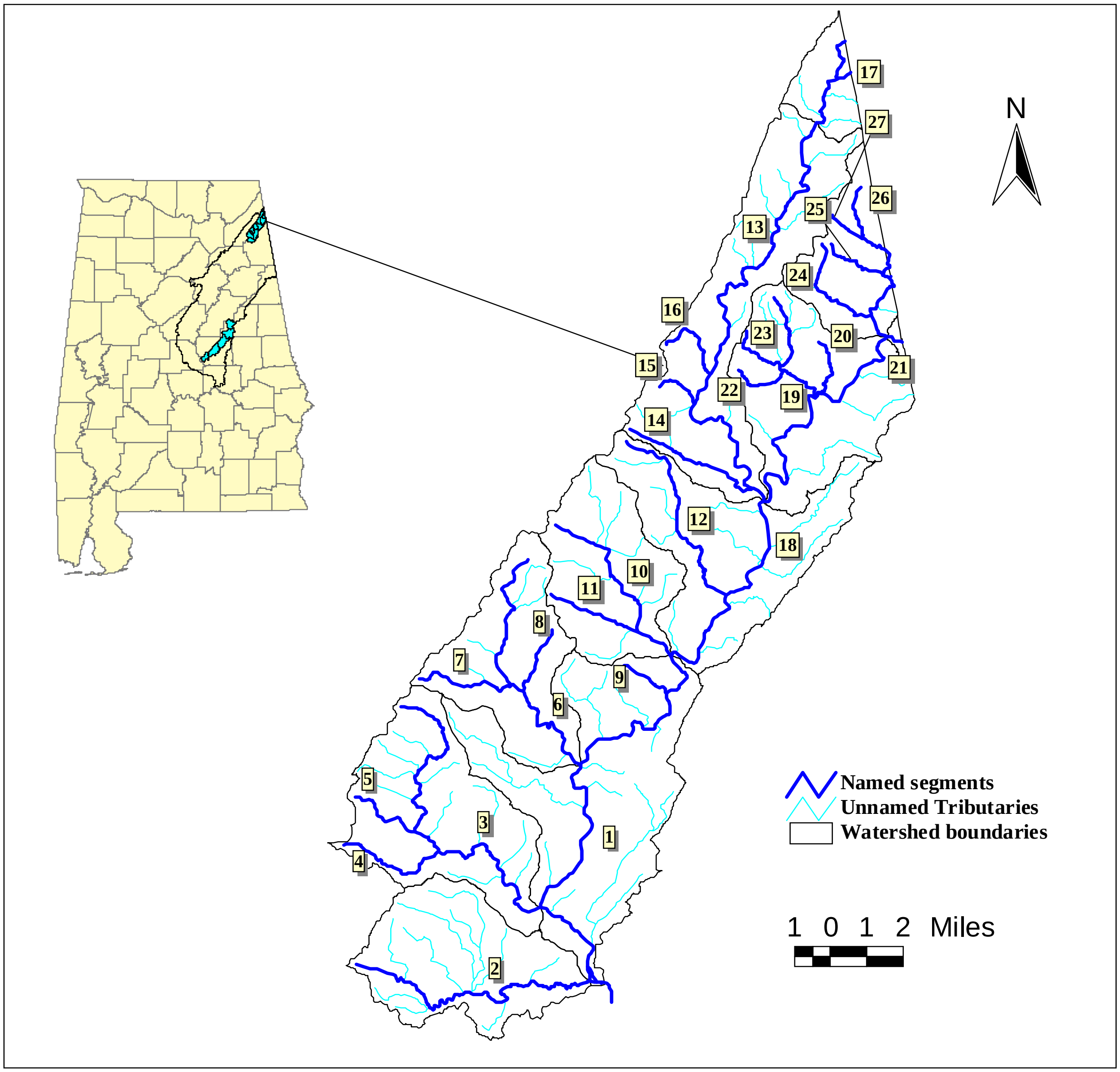


Table 1-5 Sispsey Fork and Tributaries

#	Assessment Unit #	Name	From	To	Use Classification	Miles
1	AL03160110-0104-102	Sipsey Fork	Sandy Creek	Its source	F&W (ONRW)	21.23
2	AL03160110-0103-200	Payne Creek	Sipsey Fork	Its source	F&W (ONRW)	3.89
3	AL03160110-0103-300	Caney Creek	Sipsey Fork	Its source	F&W (ONRW)	4.66
4	AL03160110-0103-700	South Fork Caney Creek	Caney Creek	Its source	F&W (ONRW)	5.04
5	AL03160110-0103-600	North Fork Caney Creek	Caney Creek	Its source	F&W (ONRW)	6.38
6	AL03160110-0103-400	Hurricane Creek	Sipsey Fork	Its source	F&W (ONRW)	2.29
7	AL03160110-0103-500	Davis Creek	Sipsey Fork	Its source	F&W (ONRW)	2.83
8	AL03160110-0102-500	Montgomery Creek	Borden Creek	Its source	F&W (ONRW)	3.99
9	AL03160110-0102-400	Horse Creek	Borden Creek	Its source	F&W (ONRW)	1.76
10	AL03160110-0102-100	Borden Creek	Sipsey Fork	Its source	F&W (ONRW)	23.35
11	AL03160110-0102-300	Flannagin Creek	Borden Creek	Its source	F&W (ONRW)	9.99
12	AL03160110-0102-700	Dry Creek	Flannagin Creek	Its source	F&W (ONRW)	2.17
13	AL03160110-0102-600	Hagood Creek	Braziel Creek	Its source	F&W (ONRW)	7.57
14	AL03160110-0102-200	Braziel Creek	Borden Creek	Its source	F&W (ONRW)	13.77
15	AL03160110-0101-200	Fall Creek	Sipsey Fork	Its source	F&W (ONRW)	2.06
16	AL03160110-0101-300	Bee Branch	Sipsey Fork	Its source	F&W (ONRW)	2.09
17	AL03160110-0101-400	Thompson Creek	Sipsey Fork	Its source	F&W (ONRW)	8.59
18	AL03160110-0101-700	Mattox Creek	Thompson Creek	Its source	F&W (ONRW)	3.26
19	AL03160110-0101-800	Ross Branch	Tedford Creek	Its source	F&W (ONRW)	2.06
20	AL03160110-0101-600	Tedford Creek	Thompson Creek	Its source	F&W (ONRW)	10.40
21	AL03160110-0101-900	Quillan Creek	Hubbard Creek	Its source	F&W (ONRW)	3.77
22	AL03160110-0101-140	Basin Creek	Hubbard Creek	Its source	F&W (ONRW)	4.39
23	AL03160110-0101-500	Hubbard Creek	Sipsey Fork	Its source	F&W (ONRW)	6.59
24	AL03160110-0101-110	Parker Branch	Hubbard Creek	Its source	F&W (ONRW)	3.82
25	AL03160110-0101-120	Whitman Creek	Hubbard Creek	Its source	F&W (ONRW)	3.73
26	AL03160110-0101-160	Natural Well Branch	Maxwell Creek	Its source	F&W (ONRW)	1.45
27	AL03160110-0101-150	Dunn Branch	Maxwell Creek	Its source	F&W (ONRW)	1.33
28	AL03160110-0101-130	Maxwell Creek	Hubbard Creek	Its source	F&W (ONRW)	2.02
29	AL03160110-0101-170	White Oak Branch	Thompson Creek	Its source	F&W (ONRW)	1.69
30	AL03160110-0101-180	Wolf Pen Branch	Sipsey Fork	Its source	F&W (ONRW)	1.00
31	AL03160110-0101-190	Ugly Creek	Sipsey Fork	Its source	F&W (ONRW)	3.05
		Unnamed Tributaries				240.37
					Total Miles	410.59

Figure 1-5 Sipsey Fork and Tributaries

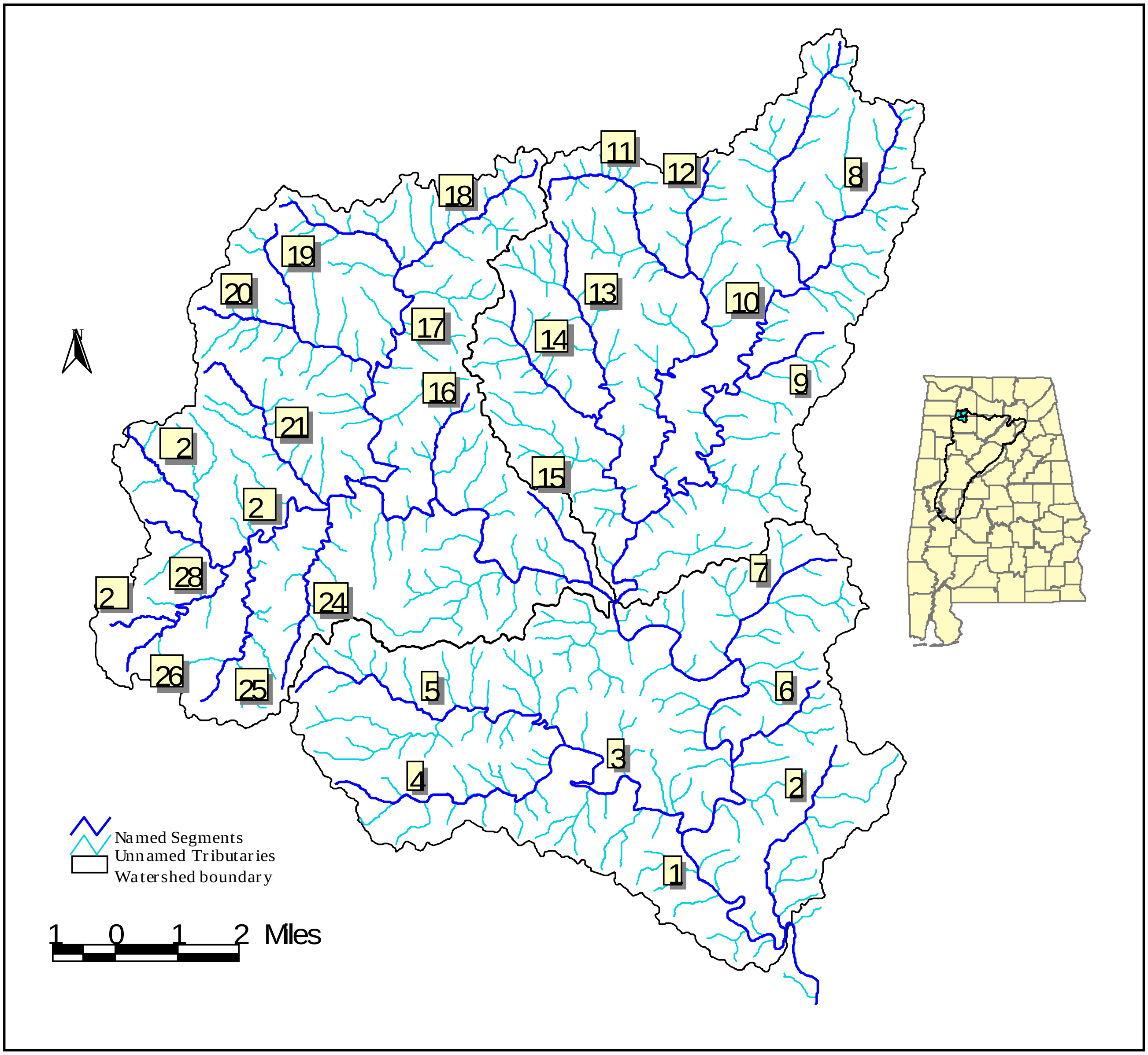


Table 1-6 Tensaw River, Weeks Bay and Tributaries

#	Assessment Unit #	Name	From	To	Use Classification	Miles
Tensaw River and Tributaries						
1	AL03160204-0505-202	Tensaw River	Junction of Tensaw and Apalachee Rivers	Junction of Briar Lake	OAW/S/F&W	21.73
2	AL03160204-0105-302	Tensaw River	Junction of Briar Lake	Junction of Tensaw Lake	OAW/F&W	2.93
3	AL03160204-0105-700	Briar Lake	Junction of Tensaw River	Junction of Tensaw Lake	OAW/F&W	3.60
4	AL03160204-0105-801	Tensaw Lake	Junction of Tensaw River	Bryant Landing	OAW/F&W	5.20
					Total Miles	33.46

#	Assessment Unit #	Name	From	To	Use Classification	Sq Miles
Weeks Bay and Tributaries						
1	AL03160205-0307-101	Weeks Bay	Bon Secour Bay	Fish River	S/F&W (ONRW)	2.7
					Total Square Miles	2.7

Figure 1-6 Tensaw River, Weeks Bay and

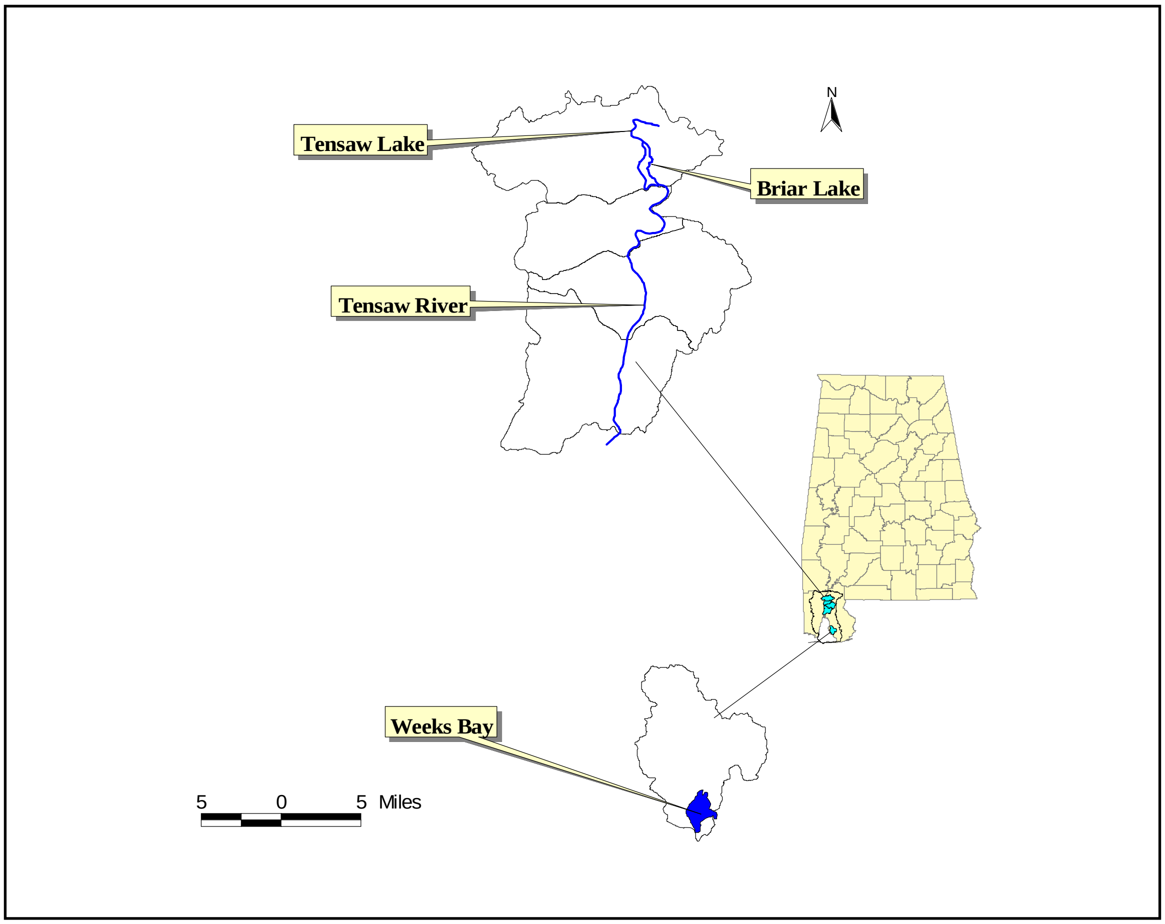


Table 1-7 Wolf Bay and Tributaries

#	Assessment Unit #	Name	From	To	Use Classification	Square Miles
1	AL03140107-0204-600	Wolf Bay	Bay la Launch	Moccasin Bayou	OAW/SH/S/F&W	4.65
2	AL03140107-0203-102	Wolf Bay	Moccasin Bayou	Its source	SH/S/F&W	0.22
					Total Square Miles	4.87

Figure 1-7 Wolf Bay and Tributaries

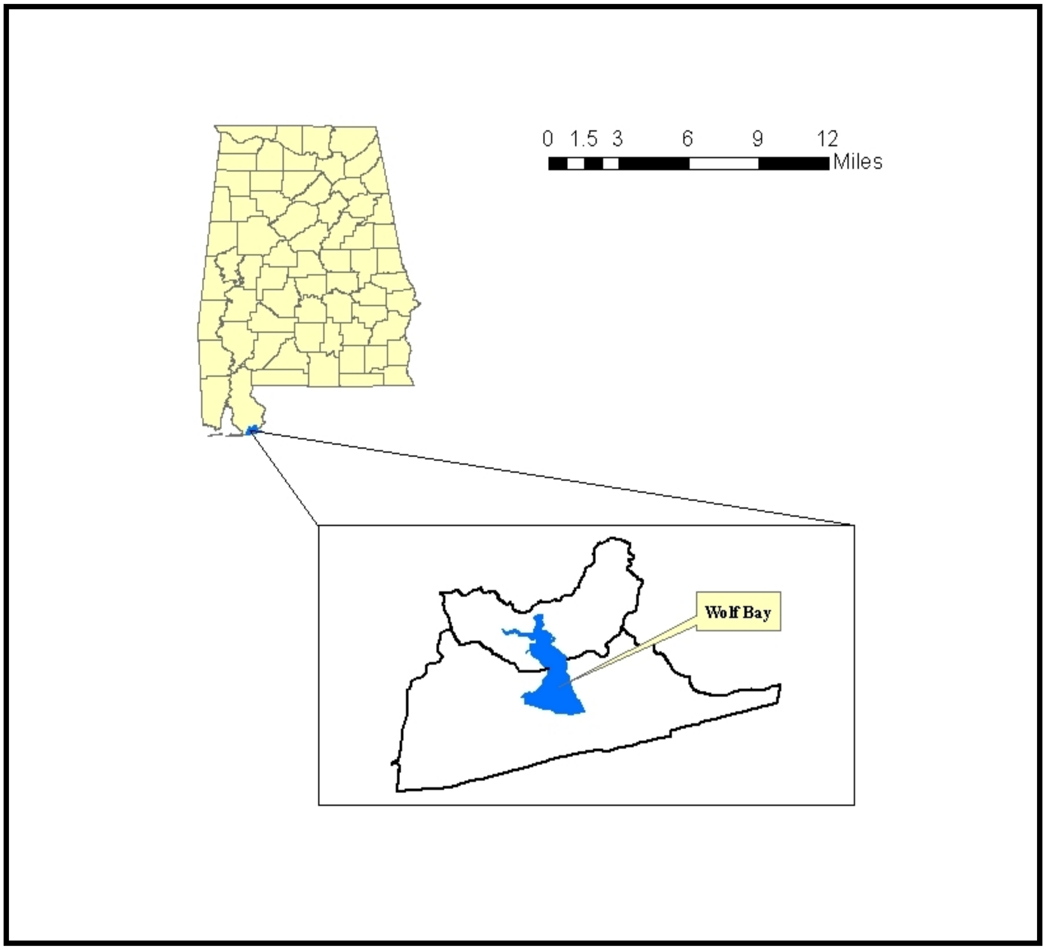


Table 1-8 Surface Water Classifications and Special Designations

Use Classifications	
Outstanding Alabama Water	OAW
Public Water Supply	PWS
Swimming and Other Whole Body and Water Contact Sports	S
Shellfish Harvesting	SH
Fish and Wildlife	F&W
Limited Warmwater Fishery	LWF
Agricultural and Industrial Water Supply	A&I
Special Designations	
Outstanding National Resource Water	ONRW

Chapter 2 Rivers and Streams

2.1 Wadeable Rivers and Streams Monitoring Program (RSMP)

As a first step towards fully implementing the Monitoring Strategy, ADEM initiated a pilot project to evaluate the ability of the Strategy to meet ADEM's monitoring goals and objectives. The 2005 ACT Basin Assessment Pilot Project focused on the wadeable rivers and streams in the Alabama, Coosa, and Tallapoosa River Basins. ADEM continued this monitoring approach in the wadeable rivers and streams in the Escatawpa, Mobile Bay, and Tombigbee River Basins (2006) and the Black Warrior and Cahaba River Basins (2007).

2.1.1 Background

ASSESS outlined seven programs established to meet ADEM's monitoring objectives in wadeable rivers and streams. A coordinated monitoring approach was employed to use available resources as effectively as possible. To this end, the Department developed an adaptive monitoring strategy for wadeable rivers and streams that included implementation of a Watershed Management Approach, an Ecoregional Reference Reach Program, and development of tiered and probabilistic monitoring methods.

ASSESS implemented an adaptive management strategy to evolve as the needs of the Department change or better information or sampling techniques become available. An important component of this strategy is a thorough review of ADEM's monitoring programs to address program weaknesses and changing data needs. As part of this effort, ADEM's Wadeable Rivers and Streams Monitoring Programs were reviewed in 2004. The findings of this review are summarized in the following paragraphs.

Review of the first five year monitoring cycle have shown that ADEM's tiered monitoring approach effectively met the needs of both the Office of Education and Outreach (OEO), responsible for administering ADEM's §319 program, and ADEM's Water Quality Branch (WQB), responsible for developing the State's §303(d) list. During the first tier or phase of monitoring, basin-wide screening assessments were conducted at stream reaches where landuse estimates and nonpoint source information from the local Soil and Water Conservation Districts indicated a moderate or high potential for impairment from nonpoint sources in non-urban areas. At that time, the §319 program only needed a method to prioritize waterbodies for funding, thereby concentrating implementation of best management practices in areas with high risk land use practices, but also providing enough flexibility to administer funds in areas where there was also stakeholder interest.

The basin-wide screening assessments also served as the first phase of ADEM's §303(d)/ TMDL process. The list of potentially-impaired sub-watersheds generated during the basin-wide screening assessments was prioritized for further monitoring to more accurately assess the extent and cause of impairment.

Recent changes to EPA and ADEM monitoring requirements have impacted the effectiveness of ADEM's tiered monitoring approach as a management tool for ADEM's §303(d) and §319 Programs. First, the EPA required that §319 funds only be used on waterbodies with approved TMDLs. Then in 2004, the EPA released the Integrated Water Quality Monitoring and Assessment Report Guidance which requires that all waters in the state be placed into one of five categories that indicates whether or not a waterbody is meeting all of its use classifications. In 2005, the ADEM Water Quality Assessment and Listing Methodology established minimum data quantity and quality requirements necessary to categorize all waterbodies. With these requirements, the basin-wide screening assessment results were of limited value to both programs because they did not meet the minimum data requirements to categorize any water as impaired and place it on the §303(d) list.

Review of ALAMAP data, ADEM's probabilistic monitoring program, showed that the program did not meet its primary objective of providing an accurate estimate of overall water quality in wadeable rivers and streams. Additionally, the ALAMAP data were too limited to be useful or applicable to ADEM's other monitoring programs.

Additionally, development and evaluation of nutrient and sediment TMDLs throughout the state will require the development of accurate and reliable indicators that can detect both impairment from these sources and any changes in water quality due to decreases in nutrient and sediment loads. The EPA has required that all states have nutrient criteria for wadeable rivers and streams developed or in development by 2008. The first five year basin cycle was used primarily to collect baseline water quality data and to screen water quality conditions of potentially impaired waters and waters with no recent assessment data. Greater emphasis must be placed on intensive-level monitoring to meet these challenges.

Based on analysis of the first five year monitoring cycle described above and emerging data needs, ADEM's Wadeable Rivers and Streams Monitoring Program was modified in 2005.

2.1.2 Objectives

The objectives of ADEM's Wadeable Rivers and Streams Program were to provide data:

- To estimate overall water quality;
- To categorize waters in Alabama's Integrated Assessment Report; and,
- To develop nutrient criteria, sediment criteria, biological condition gradients, and assessment criteria that can be used to assess wadeable rivers and streams statewide.

2.1.3 Monitoring Strategy

ADEM's new monitoring strategy maintained its five basin groups targeted for monitoring on a

5-year rotation and continued to incorporate a combination of targeted and probabilistic monitoring to meet state monitoring goals and objectives. However, the seven individual monitoring programs were combined into four types of wadeable, flowing monitoring sites:

- **Probabilistic sites** are sites in randomly-selected watersheds that reflect both overall water quality conditions within a basin group, as well as the complete gradient of potential human disturbances. They are sampled in accordance with ADEM's five year rotating basin cycle.

- **Targeted sites** are selected by ADEM's Water Quality Branch or Office of Education and Outreach or one of the Clean Water Partnerships of Alabama to provide data for listing/ delisting decisions, TMDL development, Use Attainability Analyses, and education and outreach. Where possible, targeted sampling is conducted in accordance with ADEM's five year rotating basin cycle.

- **Long term ecoregional reference reaches,** established to reflect the best available conditions present within a specific ecoregion, are sampled to evaluate assessment results. Reaches to be sampled each year are selected to compliment the Level IV Ecoregions within any given basin group.

- **Ambient trend sites** are sampled to identify long-term trends in water quality statewide and to provide data for the development of TMDLs and water quality criteria. Sampling frequency and parameters collected at these sites vary from other station types. They are sampled statewide annually.

Tiered monitoring efforts are no longer used to screen potentially impaired sites. A set of core indicators are collected at all stations to meet the new data requirements for Alabama's Integrated Assessment Report and Listing and Assessment Methodology. Because these programs meet Alabama's new data requirements, the collected data can be used in listing/ delisting decisions and categorizing waters in the Integrated Report.

ADEM's reach-based probabilistic monitoring design was modified to a watershed-based probabilistic monitoring program. A Human Disturbance Gradient (HDG) was developed to classify each watershed by its potential level of disturbance. By monitoring the watersheds in proportion to the number of watersheds in each HDG category, the monitoring strategy will provide an estimate of overall water quality throughout the basin. Additionally, by sampling the entire gradient of watershed conditions within the basin group, the monitoring strategy will increase ADEM's monitoring capacity by providing data to develop indicators and criteria appropriate for wadeable rivers and streams statewide. Because the HDG provides disturbance and landuse information for all stations assessed within the basin group, it will enable ADEM to document the "least-impaired" landuse characteristics to set criteria for reference reach status in each Ecoregion or Bioregion. It will also assist ADEM in stressor identification for §303(d) listing and TMDL development.

Program Coordination and Development: An important aspect of the new strategy involved communication among ADEM's Field Operations and Water Divisions and Office of Education and Outreach. Personnel from each division met on July 7, 2004 to review results from the first five year monitoring cycle, to identify data needs that were not met by the 1997 ASSESS monitoring strategy, and to discuss potential changes to the monitoring design that could address these needs. ADEM drafted a formal proposal outlining a monitoring strategy to meet the above objectives. ADEM also coordinated a series of conference calls between the Environmental Indicators Section and Water Quality Branch of ADEM, USEPA Region 4 (Atlanta, Georgia), responsible for reviewing the monitoring strategies of all Region 4 states, and EPA Western Ecology Division (WED)-Corvallis, Oregon, who have designed many of the probabilistic EMAP programs nationwide. Based on these discussions and subsequent discussions among ADEM personnel, ADEM's Monitoring Strategy was finalized and, in January 2005, a pilot study was initiated in the wadeable rivers and streams in the Alabama, Coosa, and Tallapoosa River Basins.

During the first ASSESS monitoring cycle, ADEM's §303(d) Monitoring Program focused on meeting consent decree requirements of a 1998 lawsuit over Alabama's 1996 §303(d) Impaired Waters List. Because of the sheer number of waterbodies to be assessed statewide, it was difficult for ADEM's Watershed Management Approach and five year rotation cycle to be fully implemented. However, ADEM completed the requirements of the consent decree at the end of 2003. This has enabled ADEM to coordinate its monitoring efforts to a much greater degree. Sixty-eight wadeable stations are being monitored for multiple programs in 2005. Most §303 (d) monitoring is conducted within the ACT target basin group, allowing ADEM to combine the results of this program with those of the probabilistic basin assessment.

2.1.4 Monitoring Design

Indicator selection and sampling frequency: ADEM combined its Tier I or screening-level ALAMAP, NPS Basin-wide Screening Assessment, and §303(d) Monitoring Programs into one watershed-based, probabilistic monitoring program. Core indicators and sampling frequency were selected to meet minimum data requirements as outlined in Alabama's Listing and Assessment Methodology so that all waterbodies monitored during the pilot project can be categorized in Alabama's 2006 Integrated Report and listing/delisting decisions can be made to prioritize sites for §319 funding and BMP implementation.

Monitoring Units: The resulting comprehensive program was further modified from reach-based to watershed-based monitoring to more closely link watershed condition and assessment results. As recommended in the Integrated Water Quality Monitoring and Assessment Guidance, ADEM delineated the wadeable, flowing portions of the 2004 12-digit hydrologic unit codes (HUCs) into smaller monitoring units (MUs) that represent true watersheds. This system limited the variability in drainage area and waterbody type associated with the 12-digit HUCs. Since 2005, a total of six hundred and ten wadeable, flowing MUs have been delineated in the ACT (300), the EMT (126), and the BWC (183).

Human Disturbance Gradient: Monitoring watersheds in proportion to an environmental index or Human Disturbance Gradient (HDG) has been recently proposed as a method to limit error or bias associated with targeted sampling, a weakness of *ASSESS* identified during the review of the first monitoring cycle. The use of an HDG has also been recommended by the EPA to develop Tiered Aquatic Life Uses, to correlate suspected stressors to known levels of impairment, and consequently improve the overall assessment of water quality. Sampling MUs with relatively low and high potentials of impairment also provides a method of identifying the least- and most-impaired sites in support of the Ecoregional Reference Reach and §303(d) Monitoring Programs.

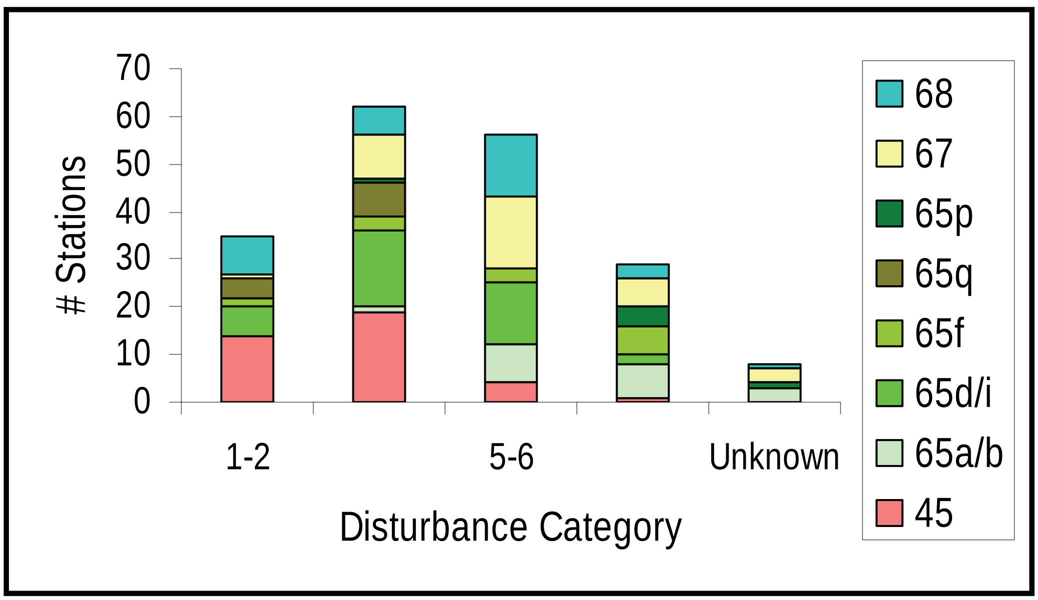
The Landscape Development Intensity Index (LDI) or disturbance gradient, used by the Florida Department of Environmental Protection, relates water quality conditions (physical, chemical, and biological) to human activity within a watershed (Fore 2004) using landuse data and a development-intensity measure derived from energy use per unit area (Brown and Vivas 2004). The Florida LDI was applied to the ACT flowing, wadeable MUs using the 2000 USEPA MRLC dataset, Departmental permit databases, population estimates, and the number of road crossings to place each MU into one of 8 Human Disturbance Gradient (HDG) categories (1=least potential for disturbance and 8=greatest potential for disturbance).

The current HDG lacks information pertaining to some common stressors in Alabama, including silviculture and animal husbandry. *Advantage of monitoring unit—can test and refine using stressor data*. See Table 2-1 and Figure 2-1..

Table 2-1 Number / % of total wadeable, flowing MUs in each HDG category

HDG Category	Total # Wadeable Flowing MUs	% Total MUs	# MUs Assessed
1	14	5%	6
2	14	5%	6
3	42	15%	8
4	69	25%	14
5	69	25%	14
6	42	15%	8
7	14	5%	6
8	14	5%	6
Total	**278**		**68**

Figure 2-1 Number of Monitoring Units Assessed by Disturbance Category and Bioregion.



Watershed and Reach Selection: All MUs within each category were randomly numbered using Arcview's random number generator function. Using the random number assigned, each MU was selected for assessment in numerical order. The number of sites selected for assessment in each category is in proportion to the total number of MUs in that category. A total of 190 MUs have been scheduled for assessment since 2005. These sites have represented the full gradient of conditions within eight of ADEM's established bioregions (Fig. 2-1). However, thirty-eight of the 190 MUs could not be assessed due to the severe drought conditions experienced throughout the state during 2006 and 2007. At least 50 MUs are assessed each year to estimate overall water quality throughout the basin group. Ninety-one watersheds were assessed in 2005 because of the sheer size of the ACT basin, the diversity of the watersheds, and to have a dataset large enough to develop assessment indices for the ACT.

Stations targeted for sampling by ADEM's Water Quality Branch, the Office of Education and Outreach, or one of Alabama's Clean Water Partnerships must be prioritized for monitoring to meet the multiple objectives and goals of the CWA. Using an HDG to categorize watersheds enables ADEM to coordinate targeted and probabilistic monitoring to maximize the efficiency and effectiveness of both monitoring designs and increase the accuracy of all assessments. Sixty-five targeted sites were incorporated into the basin assessment projects conducted during 2005-2007. Data from basin assessment stations will be used for use support assessments, TMDL and criteria development, Use Attainability Analyses, NPS Intensive Watershed Surveys, and education and outreach.

2.1.5 Core and Supplemental Indicators

Core indicators and sampling frequency were selected to meet data requirements as outlined in Alabama's Listing and Assessment Methodology so that the majority of waterbodies monitored each year can be categorized in Alabama's Integrated Report. The Ambient Monitoring Program was designed to provide the required data over the five year monitoring cycle. Sampling frequency and indicators collected at these sites differ from the other wadeable rivers and streams programs.

A primary objective of ADEM's Monitoring Strategy was to collect data to develop indicators and assessment criteria that link chemical, physical, and biological conditions within a wadeable stream reach to conditions throughout the stream's watershed. Criteria development requires extensive and intensive monitoring of chemical, physical, and biological indicators under a range of watershed conditions. To this end, ADEM's 2005 Surface Water Quality Monitoring Plan expanded its intensive monitoring efforts to include targeted, basin assessment, and ecoregional reference reaches.

All wadeable stream and river stations were visited monthly from March through October of 2005. Due to personnel and equipment limitations in ADEM's Central Chemical Laboratory, metals samples were collected four times during the sampling period, which meets the minimum data requirements for all wadeable rivers and streams in Alabama's Listing and Assessment Methodology. For all wadeable rivers and streams classified as "Outstanding Alabama Water", "Public Water Supply", "Swimming", and "Fish and Wildlife", the Alabama's current Listing and Assessment Methodology requires at least five pesticide (organochlorine and organophosphorus), chlorinated herbicides, and atrazine by immunoassay be collected at each station to fully assess each reach for the Integrated Assessment Report *if a biological community assessment has not been conducted*. Laboratory equipment limitations only allowed for two pesticide and atrazine samples to be collected at each station. ADEM's Laboratory currently does not have the capacity to conduct chlorinated herbicide analysis.

Intensive macroinvertebrate assessments were conducted at one-hundred and twenty seven stations statewide, one-hundred and twenty one of which are located within the ACT Basin Group. ADEM's screening-level macroinvertebrate assessment is essentially a subset of ADEM's intensive-level macroinvertebrate assessment. Therefore, conducting intensive macroinvertebrate assessments will enable ADEM to calibrate metrics resulting from both methods to intensive water quality sampling and watershed conditions and will provide data that can be used to develop new metrics.

This level of effort will be required during the entire five year monitoring cycle to build a database sufficient for accurate metric calibration and testing. Although ADEM has collected approximately one hundred and thirty macroinvertebrate samples annually since 1997, this effort represents a significant increase in the number of intensive samples that will need to be identified to genus level in the laboratory. Additional taxonomists and field personnel will be needed to fully implement the strategy and to refine ADEM's macroinvertebrate assessment criteria.

ADEM has been developing and evaluating periphyton bioassessment methods since 2002 to collect data to address nutrient TMDLs currently being developed throughout the state and to develop nutrient criteria for wadeable rivers and streams by EPA's 2008 deadline. The effort began as a 2002 104(b)(3) grant from USEPA Region 4 to test the ability of three periphyton bioassessment methods to verify and document nutrient enrichment problems at twenty-nine riffle-run segments with known or suspected nutrient enrichment impairments and to characterize reference conditions based on periphyton assessment data from twelve ecoregional reference reaches. Periphyton sampling in 2004 continued to address nutrient TMDL issues statewide, including low-gradient, sandy-bottomed streams. In 2005, ADEM received an extension on their 2002 104(b)(3) grant to refine their periphyton standard operating procedures based on training received during the 2004 USEPA Region 4 Periphyton Workshop, as well as the 2002 and 2004 sampling results. The grant extension also provided funding to conduct training of nine ADEM personnel to use the 2005 standard operating procedures. These methods were used to collect periphyton biomass as chlorophyll *a*, diatom community assessment samples, and to conduct Rapid Periphyton Surveys (RPS) at one hundred and twenty seven stations encompassing both riffle-run and low-gradient, sandy-bottomed stream reaches. This will provide ADEM with data to calibrate periphyton bioassessment samples to intensive chemical and physical parameters and watershed conditions and to compare with intensive macroinvertebrate assessment results.

One aspect of the periphyton standard operating procedures still under consideration is the timing and number of samples required to fully characterize nutrient conditions at any given stream reach. To help answer this question, monthly periphyton bioassessments were conducted at forty stations in the ACT basin group. The number was determined by chlorophyll *a* laboratory loading limits. The forty sites represent the most complete gradient in watershed condition for six of ADEM's established bioregions. The USEPA Region 4 has recognized the importance of this project for all Region 4 states and has set aside funding to process and identify eighty of the diatom samples collected during 2005 in the ACT Basin Group and one hundred and twenty eight samples collected in conjunction with the Cahaba River Intensive Survey. The diatom community assessment appears to have the greatest potential for addressing nutrient enrichment impairments, particularly in areas prone to scouring due to high percentage impervious surface. However, additional trained personnel and equipment will be required for this program to continue to develop and expand.

ADEM has been conducting fish IBI community assessments since 1997. The methods used were developed by the Geological Survey of Alabama (GSA) specifically for the Black Warrior and Cahaba River Basins (O'Neil and Shepard 1998). Personnel and equipment constraints have limited the number of fish community assessments conducted each year and criteria for the remaining basins have not yet been developed. The GSA has since refined its sampling protocols and is in the process of developing criteria. The GSA trained three ADEM personnel to use the revised protocols, which will be used to conduct fish IBI assessments during 2005. At a minimum, ADEM will conduct fish IBI assessments at the subset of forty stations where monthly periphyton assessments are conducted. These sites represent the most complete gradient in watershed condition for six of ADEM's established bioregions. The GSA is also working in the ACT Basin Group in 2005 and sampling efforts will be coordinated where possible.

Another important objective of the strategy is to collect data to address siltation TMDLs currently being developed throughout the state. To date, the completion of visually-based, qualitative habitat assessments, physical characterizations, and professional observations are the primary indicators of habitat degradation in wadeable rivers and streams.

Habitat assessments will be conducted at least once at all wadeable stations assessed statewide. This information will provide a good screening-level assessment of habitat impairments caused by siltation impairments. However, more quantitative measures will be needed to measure the extent of the impairment and to assess changes in habitat condition after TMDLs and BMPs have been implemented. ADEM has undertaken an initiative to train ADEM personnel to conduct Geomorphic Assessments as a measure of habitat degradation at wadeable rivers and streams. The effectiveness of this technique will be tested during 2005 at five segments on four streams in the ACT Basin Group listed for habitat degradation from siltation.

2.1.6 Data Analysis and Assessment

The development of indicators and assessment criteria was a primary objective of ADEM's Monitoring Strategy. Therefore, a very significant part of the 2005 ACT Basin Assessment Pilot Project and the 2005 Surface Water Quality Monitoring Plan will be to link results from chemical, physical, and biological indicator sampling to conditions throughout each stream's watershed. These analyses will include the following:

- Methods analysis, including optimal sampling frequencies, timing and number of samples collected, and redundancy among parameters;

- Calculation of method performance characteristics based on duplicate samples, samples collected at reference sites, and known levels of watershed disturbance;
- Development of stream classification (bioregions) based on biological community data; and,
- Development of indicators, criteria, and assessment indices based on correlations among chemical, physical, and biological indicators, and watershed conditions.

2.1.7 Reporting

Results of data analysis will be compiled and documented in a Methods Development Document. All necessary changes to sampling methods, protocols, and assessment indices and criteria will be incorporated into the next revision of the appropriate standard operating procedures manual and the Alabama Listing and Assessment Methodology document.

Once appropriate indicators have been selected and criteria and assessment indices have been established, data collected during 2005 at wadeable rivers and streams can be categorized and reported in Alabama's Integrated Assessment Report. Assessment results will also be documented in ADEM's 2005 basin assessment report, which summarizes data and assessment results on the basis of watershed or monitoring unit.

2.1.8 Programmatic Evaluation

Methods and programmatic evaluation is a primary objective of the 2005 ACT Basin Assessment Pilot Project. Analysis of the 2005 monitoring results will be compiled and documented in a Methods Development Document. All necessary changes to sampling methods and protocols will be incorporated into sampling conducted during the remainder of the five year monitoring cycle.

An important component of ADEM's Monitoring Strategy is a thorough review of data and assessment results from ADEM's five year monitoring cycle to address program weaknesses and changing data needs. Further program evaluation will be conducted in 2010, after the five year monitoring cycle is complete. Annual status reports on methods development will be completed and provided to USEPA Region 4 to document interim progress during the monitoring cycle.

2.1.9 Future Initiatives

A primary goal of the 2005 ACT Pilot Project was to develop and evaluate a monitoring strategy that can be used to assess wadeable rivers and streams statewide and to continue to implement the strategy over the five-year monitoring cycle. The development of indicators and assessment criteria will assist the Department to implement TMDLs and to set water quality standards and criteria. This will likely trigger a greater need for Intensive Surveys and Compliance Monitoring Programs to assess the effect of BMPs and TMDLs on water quality and to ensure that water quality standards are consistently being met. Over the next two five year monitoring cycles, additional personnel and funding resources will be needed to fully implement both phases of the monitoring strategy statewide. A summary of anticipated needs is provided below.

GIS Support: The use of watershed-based monitoring and human disturbance gradients are essential to the successful implementation of ADEM's Monitoring Strategy statewide. Minimum data requirements for Alabama's Listing and Assessment Methodology are determined by both waterbody type and water use classification. ADEM's Water Quality Branch delineated the ACT monitoring units by waterbody type based on Arcview coverages. Delineation of MUs in the remaining basin groups and refinement of the ACT MUs will require staff dedicated to GIS development and management of GIS data. Additionally, GIS coverage of Alabama waters by use-classification as well as waterbody type would greatly assist in the planning and implementation of ADEM's monitoring strategy.

The current HDG lacks information pertaining to some common stressors in Alabama, including silviculture and animal husbandry. The landuse information to calculate the HDG was developed in 1993 and has been shown to overestimate percent agriculture and underestimate percent urban as many cities continue to grow, including Montgomery and Auburn/Opelika in the ACT Basin. Factors that may mitigate or effect impacts from high-risk landuses, such as buffer zones, distance from source, riparian and channel gradients, have also not been factored into the current HDG. Up-to-date GIS coverages and tools that can incorporate this type of information would greatly improve the accuracy of the HDG as a predictive tool.

Increased intensive surveys and compliance sampling: The development of indicators and assessment criteria will increase the need for Intensive Surveys and Compliance Monitoring Programs to assess the effect of BMPs and TMDLs on water quality and to ensure that water quality standards are consistently being met. Long-term intensive surveys require annual sampling at a larger number of sites to accurately assess the cause and degree of impairment and trends in water quality. Multiple intensive chemical, physical, and biological indicators of water quality will have to be monitored for a minimum of five years. Additional staff and equipment will be needed to meet these challenges.

Laboratory capacity and equipment: Personnel and equipment limitations in ADEM's Central Chemical Laboratory limited the collection of some indicators required to fully assess wadeable rivers and streams for Alabama's Integrated Assessment Report during the 2005 pilot study. These included chlorophyll *a*, trace metals, pesticides, and herbicide sampling. New laboratory facilities are under construction, however, with completion scheduled for June 2006. Increased monitoring of low level metals analyses, particularly mercury in coastal plain streams, will be essential within the next few years. Other potentially important parameters for future analysis include endocrine disrupters and perfluorooctanoic acid (PFOA). PFOA has been manufactured in the Decatur area and an investigation is ongoing to determine the concentration and areal extent of the compound. It has been found in the soil, groundwater, surface water, and fish tissue but, its effects are not well known.

Biological taxonomists: Increased collection of intensive macroinvertebrate samples and fish IBI assessments will require additional trained taxonomists. To date, processing and identification of diatoms for ADEM's Periphyton Bioassessment Program have been completed by outside contractors with federal funding. ADEM will have to incorporate in-house processing and identification of diatom samples for the program to grow.

For more information on the Wadeable Rivers and Streams Monitoring Program contact Ms. Lisa Huff in ADEM's Montgomery Office at (334) 260 2752 or ehh@adem.state.al.us.

2.2 Ecoregions

Innate regional differences exist in climate, landform, soil, natural vegetation, and hydrology. These factors, in turn, affect nutrient regime, substrate characteristics, and the composition of biological communities within aquatic ecosystems. By defining relatively homogeneous ecological areas, ecoregions provide a geographic framework for more efficient management of aquatic ecosystems and their components (Hughes et al. 1986, Hughes 1985, and Hughes and Larsen 1988). The USEPA has recommended the development of ecoregional reference conditions as a scientifically defensible method of defining expected habitat, biotic, and chemical conditions within streams, rivers, reservoirs, and wetlands. Level IV ecoregions have been developed or are under development in 37 states nationwide. Griffith et al. (2001) delineated six Level III ecoregions in Alabama: Piedmont, Southeastern Plains, Ridge and Valley, Southwestern Appalachians, Interior Plateau, and the Southern Coastal Plain. Within these, they delineated 27 Level IV ecoregions.

ADEM has maintained an Ecoregional Reference Reach Monitoring Program since 1991 (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). ADEM's ecoregional reference database was analyzed during 2003 to develop assessment guidelines for ADEM's habitat assessments, screening-level macroinvertebrate assessments, and chemical parameters, including nutrient concentrations for 10 of the 29 subecoregions.

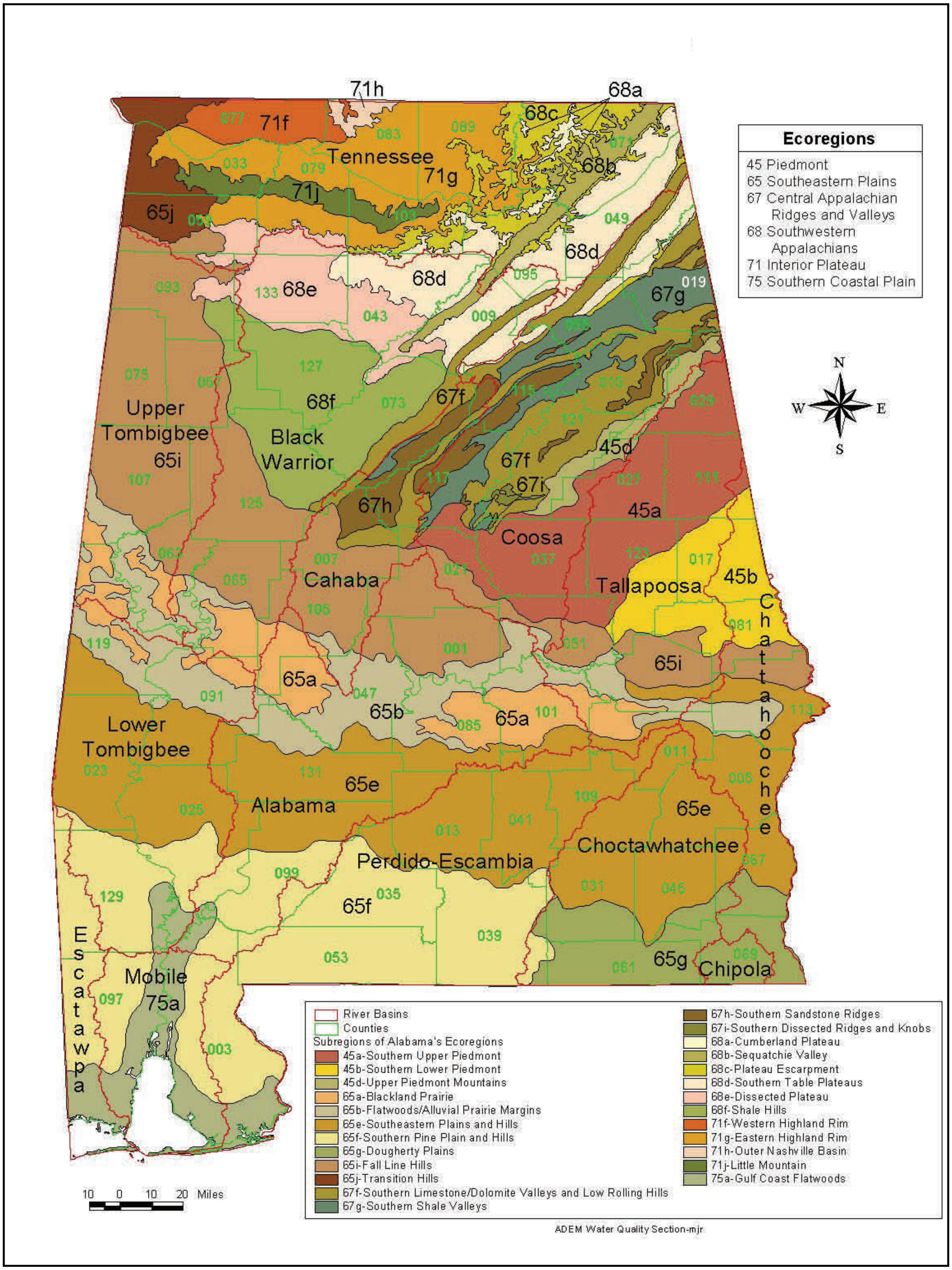
2.2.1 ADEM's Ecoregional Reference Reach Program: 1992-2004

Specific selection criteria were used to ensure that reference reaches were typical of the subecoregion and relatively unimpaired. Watersheds containing the highest percentage of natural vegetation were first located using topographic maps and land use information compiled by USEPA and local Soil and Water Conservation Districts. Departmental databases were used to ensure that potential reference watersheds do not contain any point source discharges, mining, or urban runoff, and minimal agricultural sources. Improved GIS capabilities have enhanced ADEM's ability to more accurately quantify land use within each of the reference reach watersheds. Field reconnaissance was then conducted to ground truth land use estimates. In situ field parameters were collected and visual macroinvertebrate surveys were conducted to screen for obvious impacts to chemical and biological conditions. Substrate composition, gradient, canopy cover, sinuosity, and habitat quality and availability were estimated to assess stream condition and comparability to other streams in the subecoregion. Intensive site assessments were then conducted to verify that the reaches were in relatively good condition.

Table 2-2 Alabama Ecoregional Reference Stations

Station	Stream Name	County	Ecoregion	River Basin	Latitude	Longitude
CYD-1	Chaney Creek	Dallas	65a	Alabama River	32.35439	-87.28939
SPD-1	Soapstone Creek	Dallas	65b	Alabama River	32.32220	-86.90630
SRC-1	Silver Creek	Clarke	65q	Alabama River	31.69517	-87.58156
SWFC-1	Swift Creek	Chilton	65i	Alabama River	32.72145	-86.69159
VLYD-1	Valley Creek	Dallas	65i	Alabama River	32.57499	-86.98474
WASP-1	Washington Creek	Perry	65a	Alabama River	32.56997	-87.39136
BLVC-1	Blevens Creek	Cullman	68d	Black Warrior River	34.26736	-87.07761
BRSL-3	Brushy Creek	Lawrence	68e	Black Warrior River	34.33068	-87.28578
HNMB-4	Hendrick Mill Branch	Blount	67f	Black Warrior River	33.87612	-86.56885
INMW-1	Inman Creek	Winston	68e	Black Warrior River	34.21525	-87.22447
MRTC-1	Marriott Creek	Cullman	68e	Black Warrior River	34.04211	-86.86283
SSB-1	South Sandy Creek	Bibb	65i	Black Warrior River	32.96994	-87.39775
TPSL-1	Thompson Creek	Lawrence	68e	Black Warrior River	34.34092	-87.47108
MAYB-1	Mayberry Creek	Bibb	67h	Cahaba River	33.07125	-86.93853
BCR-1	Adams Branch	Russell	65i	Chattahoochee River	32.42469	-85.26067
IHGR-1	Ihagee Creek	Russell	65d	Chattahoochee River	32.23850	-84.98069
BRH-1	Bear Creek	Houston	65g	Choctawhatchee River	31.20769	-85.54619
DRYB-1	Dry Creek	Barbour	65d	Choctawhatchee River	31.93467	-85.61036
PATC-1	Patrick Creek	Coffee	65d	Choctawhatchee River	31.43840	-86.11210
BERD-9	Bear Creek	DeKalb	68d	Coosa River	34.38094	-85.69789
CHEC-6	Cheaha Creek	Clay	45d	Coosa River	33.45275	-85.90273
CHOC-2	Choccolocco Creek	Cleburne	45d	Coosa River	33.82946	-85.58173
DRYC-2	Dry Creek	Calhoun	67h	Coosa River	33.84240	-85.59422
FRMS-9	Fourmile Creek	Shelby	67f	Coosa River	33.25649	-86.48980
JNSC-16	Jones Creek	Coosa	45a	Coosa River	32.90492	-86.29758
LCNE-1	Little Canoe Creek	Etowah	67f	Coosa River	33.97006	-86.17892
PNTC-11	Paint Creek	Coosa	45a	Coosa River	33.01838	-86.44741
SHLC-3	Shoal Creek	Cleburne	45d	Coosa River	33.72529	-85.60115
TCT-5	Talladega Creek	Talladega	45d	Coosa River	33.37847	-86.03008
WGFC-1	Weogufka Creek	Coosa	45a	Coosa River	33.07288	-86.24847
WLFS-9	Wolf Creek	St. Clair	67g	Coosa River	33.56883	-86.33817
ULCC-1	Ulcanush Creek	Clarke	65q	Lower Tombigbee River	31.78408	-88.10808
PPM-1	Poplar Creek	Marengo	65b	Lower Tombigbee River	32.27733	-87.60669
HLB-1	Halls Creek	Baldwin	65f	Mobile Bay Area	31.05264	-87.83701
BRE-1	Bear Creek	Escambia	65f	Perdido-Escambia River	31.03334	-86.70961
CLC-1	Clear Creek	Covington	65g	Perdido-Escambia River	31.12153	-86.37575
PYW-1	Pineywoods Creek	Crehshaw	65d	Perdido-Escambia River	31.58378	-86.46186
CHNE-18	Channahatchee Creek	Elmore	45a	Tallapoosa River	32.65024	-85.95085
CRHR-9	Cornhouse Creek	Randolph	45a	Tallapoosa River	33.21195	-85.51806
EMKT-14	Emuckfaw Creek	Tallapoosa	45a	Tallapoosa River	33.05527	-85.69489
HCR-1	Hurricane Creek	Randolph	45a	Tallapoosa River	33.17546	-85.59829
LBM-1	Long Branch	Macon	65i	Tallapoosa River	32.41319	-85.48119
LCC-1	Little Chattahospee Creek	Chambers	45b	Tallapoosa River	32.90761	-85.51100
LINB-1	Line Creek	Bullock	65a	Tallapoosa River	32.20881	-85.89750
BYTJ-1	Bryant Creek	Jackson	68d	Tennessee River	34.64658	-85.84303
INCL-1	Indiancamp Creek	Lauderdale	71f	Tennessee River	34.92425	-87.62108
BLBP-1	Blubber Creek	Pickens	65i	Upper Tombigbee River	33.14725	-88.17053
BRP-1	Bear Creek	Pickens	65i	Upper Tombigbee River	33.36961	-87.90364
CLKM-4	Clark Creek	Marion	65i	Upper Tombigbee River	34.08091	-88.02659
CTML-6	Cantrell Mill Creek	Lamar	65i	Upper Tombigbee River	34.04098	-88.03327
JNS-1	Jones Creek	Sumter	65a	Upper Tombigbee River	32.70161	-88.14775

Figure 2-2 Subregions of Alabama's Ecoregions



Through this process, a total of 594 locations have been investigated as potential reference reaches statewide. Information from these site visits identified 53 ecoregional reference reaches across the state. An additional 13 candidate reaches are currently being monitored to validate their selection. The program concentrated on wadeable streams and rivers, for which the USEPA and ADEM have developed rapid bioassessment protocols (Plafkin et al. 1989, Barbour et al. 1999, ADEM 1996, ADEM 1999, ADEM in press). Large river ecoregional reference reaches have been recently established on Sipsey Fork and Hatchet Creek to assess specific impacts to Locust Fork, Mulberry Fork, and the Cahaba River.

2.2.2 ADEM's Monitoring Strategy: Identifying Ecoregional Reference Reaches

In 2005, ADEM revised its monitoring strategy to assess wadeable rivers and streams using a watershed-based probabilistic monitoring design. A Human Disturbance Gradient (HDG) was developed to classify each watershed by its potential level of disturbance. By monitoring the watersheds in proportion to the number of watersheds in each HDG category, the monitoring strategy provides an estimate of overall water quality throughout the basin. Habitat assessments, biological assessments (macroinvertebrates, fish, and periphyton), and monthly water quality data collected at all sites are used to verify the high quality of sites within the least-impaired HDG categories. Additionally, because the HDG provides disturbance and landuse information for all stations assessed within the basin group, it will enable ADEM to document the "least-impaired" landuse characteristics to set criteria for reference reach status in each Ecoregion or Bioregion. Figure 2-2, shows Subregions of Alabama's Ecoregions, and Table 2-2 provides a list of Alabama's Ecoregional Reference Stations.

For more information on Alabama's Ecoregions, contact Ms. Lisa Huff in ADEM's Montgomery Office at (334) 260 2752 or ehh@adem.state.al.us.

2.3 Trend Stations

Sampling frequency presently occurs 3 times a year during the months of May, August, and October at most trend stations. Selected sites are sampled more Frequently. Figure 2-3, and Table 2-3 shows Alabama's Active Trend Stations (Ambient Monitoring).

A list of water quality survey reports can be found at www.adem.state.al.us.

For more information on Alabama's Trend Stations contact Mr. Johnathan Hall in ADEM's Montgomery Office at 334-271-7835or Jehall@adem.state.al.us.

Figure 2-3 Representation of Alabama's Active Trend Station Network

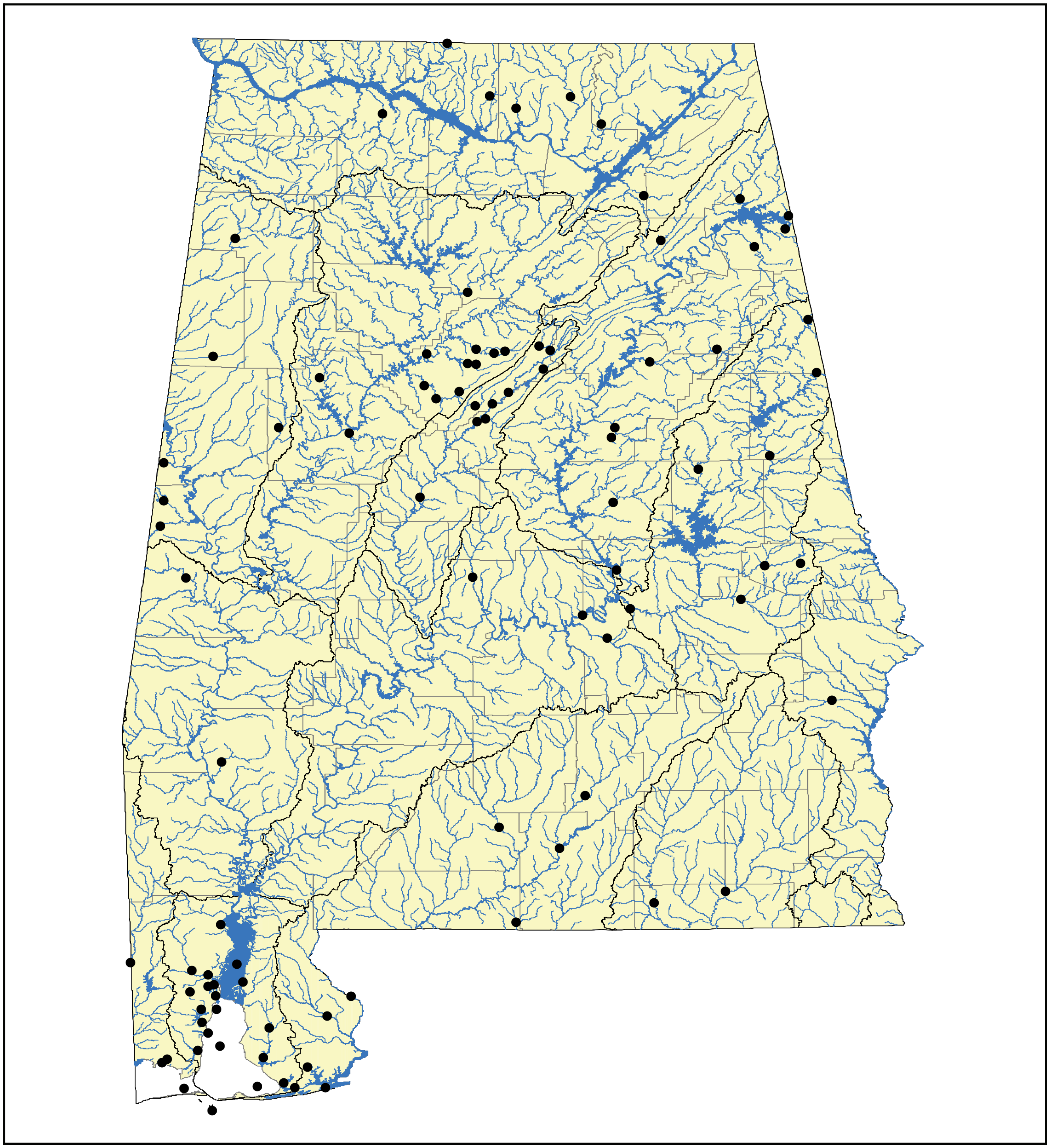


Table 2-3 Alabama's Active Trend Stations - Ambient Monitoring

Station	Stream Name	County	River Basin	Latitude	Longitude
CATM-3A	Catoma Creek	Montgomery	Alabama	32.30736	-86.29941
MULD-1	Mulberry Creek	Autauga/Dallas	Alabama	32.58278	-86.90361
WDFA-2A	Alabama River	Montgomery	Alabama	32.41142	-86.40836
FM1	Five Mile Creek	Jefferson	Black Warrior	33.59111	-86.80361
FM2	Five Mile Creek	Jefferson	Black Warrior	33.61111	-86.88556
FMCJ-1B	Five Mile Creek	Jefferson	Black Warrior	33.60191	-86.75527
H1	Hurricane Creek	Tuscaloosa	Black Warrior	33.22983	-87.46181
LFKJ-6	Locust Fork	Jefferson	Black Warrior	33.58726	-87.10933
MBFB-1	Mulberry Fork	Blount/Cullman	Black Warrior	33.87235	-86.92329
NRRT-1	North River	Tuscaloosa	Black Warrior	33.47980	-87.59681
VA1	Valley Creek	Jefferson	Black Warrior	33.38694	-87.06783
VALJ-8	Valley Creek	Jefferson	Black Warrior	33.44733	-87.12222
VC-5	Valley Creek	Jefferson	Black Warrior	33.41917	-86.96306
VI3	Village Creek	Jefferson	Black Warrior	33.54797	-86.92567
VLGJ-5	Village Creek	Jefferson	Black Warrior	33.62729	-87.05334
B-1	Buck Creek	Shelby	Cahaba	33.29694	-86.84264
C1	Cahaba River	St. Clair	Cahaba	33.60503	-86.54924
C2	Cahaba River	Shelby	Cahaba	33.41546	-86.74002
C3	Cahaba River	Jefferson	Cahaba	33.28400	-86.88193
CABB-1	Cahaba River	Bibb	Cahaba	32.94456	-87.13983
CABJ-8	Cahaba River	Jefferson	Cahaba	33.62283	-86.60007
CAHS-1	Cahaba River	Shelby	Cahaba	33.36350	-86.81320
LC1	Little Cahaba River	Jefferson	Cahaba	33.52128	-86.57939
SH1a	Shades Creek	Jefferson	Cahaba	33.35528	-86.89056
SFCB-1	South Fork Cowikee Creek	Barbour	Chattahoochee	32.01874	-85.29589
CHO09	Choctawhatchee River	Geneva	Choctawhatchee	31.15934	-85.78438
PEAG-2	Pea River	Geneva	Choctawhatchee	31.11200	-86.09937
BWCE-1	Big Wills Creek	Etowah	Coosa	34.09805	-86.03809
CHAC-1	Chattooga River	Cherokee	Coosa	34.29028	-85.50917
CHOC10	Choccolocco Creek	Calhoun	Coosa	33.60625	-85.79032
CHOT-1	Choccolocco Creek	Talladega	Coosa	33.54818	-86.09660
CO12	Little River	Cherokee	Coosa	34.28186	-85.67244
COSE-1	Coosa River	Elmore	Coosa	32.61396	-86.25498
HATC-1	Hatchet Creek	Coosa	Coosa	32.91684	-86.27030
SHIRTEE03	Shirtee Creek	Talladega	Coosa	33.21167	-86.27306
TERC-1	Terrapin Creek	Cherokee	Coosa	34.06294	-85.61227
TH1	Tallaseehatchee Creek	Talladega	Coosa	33.25606	-86.25825
WEIC-12	Coosa River	Cherokee	Coosa	34.20000	-85.44472
BLB-1	Bayou La Batre River	Mobile	Escatawpa	30.40590	-88.24810
BLBM-1	Bayou La Batre River	Mobile	Escatawpa	30.38670	-88.27000
E-1	Escatawpa River	Mobile	Escatawpa	30.86265	-88.41794

Table 2-3 Alabama's Active Trend Stations -Ambient Monitoring (Continued)

Station	Stream	County	Basin Name	Latitude	Longitude
LT12	Satilpa Creek	Clarke	Lower Tombigbee	31.74444	-88.02133
SUCS-1	Sucarnoochee Creek	Sumter	Lower Tombigbee	32.57390	-88.19420
BS1	Bon Secour River	Baldwin	Mobile	30.30221	-87.73575
Channel1a	Mobile Bay	Mobile	Mobile	30.62973	-88.03263
Channel2	Mobile Bay	Mobile	Mobile	30.46437	-88.01577
CKSM-3	Chickasaw Creek	Mobile	Mobile	30.80297	-88.14334
CS1	Chickasaw Creek	Mobile	Mobile	30.78389	-88.07306
CS2	Chickasaw Creek	Mobile	Mobile	30.73925	-88.04571
DGRM-1	Dog River	Mobile	Mobile	30.56510	-88.08780
DR1	Dog River	Mobile	Mobile	30.62845	-88.10166
FI1	Fish River	Baldwin	Mobile	30.54542	-87.79861
FR1	Fowl River	Mobile	Mobile	30.44417	-88.11306
IC1a	Intracoastal Waterway	Baldwin	Mobile	30.27930	-87.68700
MB1a	Intracoastal Waterway	Mobile	Mobile	30.27308	-88.17317
MB2a	Mobile Bay	Mobile	Mobile	30.17180	-88.04895
MB3a	Intracoastal Waterway	Baldwin	Mobile	30.28407	-87.85137
MO1A	Mobile River	Baldwin/Mobile	Mobile	30.83640	-87.94406
MO2	Mobile River	Mobile	Mobile	30.69137	-88.03646
MOBM-1	Mobile River	Mobile	Mobile	31.05556	-88.02083
TC1	Theodore Industrial Canal	Mobile	Mobile	30.53333	-88.12389
TENB-2	Tensaw River	Baldwin	Mobile	30.75291	-87.91987
TM1	Threemile Creek	Mobile	Mobile	30.73333	-88.07083
TMCM-3	Threemile Creek	Mobile	Mobile	30.70630	-88.15111
WB1	Weeks Bay	Baldwin	Mobile	30.41469	-87.82583
BKRE-1	Blackwater River	Escambia	Perdido-Escambia	31.02656	-86.71001
CNR-1a	Conecuh River	Covington	Perdido-Escambia	31.36128	-86.51968
PALC-2	Patsaliga Creek	Crenshaw	Perdido-Escambia	31.59590	-86.40407
PDBB-0	Perdido Bay	Baldwin	Perdido-Escambia	30.27968	-87.54948
PDBB-5	Perdido River	Baldwin	Perdido-Escambia	30.69047	-87.44026
SPLC-3	Sepulga River	Conecuh	Perdido-Escambia	31.45362	-86.78680
STXB-3	Styx River	Baldwin	Perdido-Escambia	30.60532	-87.54700
WO1A	Wolf Creek	Baldwin	Perdido-Escambia	30.37167	-87.63056
HILT-2	Hillabee Creek	Tallapoosa	Tallapoosa	33.06635	-85.87993
LTRR-1	Little Tallapoosa River	Randolph	Tallapoosa	33.49466	-85.33788
PPLL-2	Pepperell Branch	Lee	Tallapoosa	32.63470	-85.42540
SOGL-1	Sougahatchee Creek	Lee	Tallapoosa	32.62670	-85.58808
TA1	Tallapoosa River	Randolph	Tallapoosa	33.11679	-85.56079
TA2	Tallapoosa River	Cleburne	Tallapoosa	33.73272	-85.37217
TARE-1	Tallapoosa River	Elmore/Tallapoosa	Tallapoosa	32.43972	-86.19556
UPHM-3	Uphapee Creek	Macon	Tallapoosa	32.47751	-85.69554
BGNL-1	Big Nance Creek	Lawrence	Tennessee	34.67009	-87.31722
FLIM-2A	Flint River	Madison	Tennessee	34.74926	-86.44666
INDM-249	Indian Creek	Madison	Tennessee	34.69731	-86.70000
LIML-300	Limestone Creek	Limestone	Tennessee	34.75210	-86.82320
PRRJ-1	Paint Rock River	Jackson	Tennessee	34.62417	-86.30639
SCRL-2	Scarham Creek	Marshall	Tennessee	34.29843	-86.11664
TN04A	Elk River	Giles, TN	Tennessee	35.01415	-86.99465
BCTP-1	Bogue Chitto Creek	Pickens	Upper Tombigbee	33.09222	-88.30064
BDKS-48	Bodka Creek	Sumter	Upper Tombigbee	32.80679	-88.31213
BUTL-2A	Buttahatchee River	Marion	Upper Tombigbee	34.10597	-87.98869
LUXL-1	Luxapallila Creek	Lamar	Upper Tombigbee	33.57500	-88.08340
NXBS-50	Noxubee River	Sumter	Upper Tombigbee	32.91979	-88.29728
SPYG-3	Sipsey River	Tuscaloosa	Upper Tombigbee	33.25710	-87.77682

2.4 TMDL Program

The 2008 303(d) List is provided in the Appendix. For more information about the TMDL Program, contact Ms. Daphne Smart in ADEM's Montgomery Office at (334) 271-7827 or dsmart@adem.state.al.us

Table 2-4 provides the total number of TMDLs that have been developed and approved/ finalized by the ADEM Water Quality Branch and by Region 4 EPA during FY2006 and FY2007. Table 2-5 and 2-6 shows a list of the TMDL Program Initiatives and TMDL Standing as of December 31, 2007, respectively. Table 2-7 shows the current TMDL Development Plan.

Table 2-4 TMDL Development Progress FY2006 and FY2007

ADEM
• 3 TMDLs were Finalized and Approved by EPA Region 4 during FY06
• 10 TMDLs were Finalized and Approved by EPA Region 4 during FY07

Table 2-5 TMDL Program Initiatives for FY 2008

• Finalize all Consent Decree TMDLs (8 waterbodies)*
• Elk River Model and TMDL Development
• Draft TMDLs for Impaired Waters in accordance with the FY08 Workplan
• Provide assistance to EPA to finalize the Mobile Bay Water Quality Model

*Excludes TMDLs which will be developed by EPA

Table 2-6 Alabama's TMDL Standing as of December 31, 2007

Activity	ADEM	EPA	Total
Approved TMDLs (waterbody-pollutant combinations)	97*	45	146
Approved Delistings (total)	-	-	-
(1998 to December 31, 2007)	337	-	337
Final TMDLs Pending EPA Approval	-	-	-
Draft TMDLs Pending Finalization/Approval	8	1	9
Draft Delistings Pending Approval (includes Final/Approved TMDLs for each waterbody-pollutant combination)	35	-	35
TMDLs Withdrawn & Approved	1	-	1

*Including 4 jointly proposed by EPA and ADEM

Table 2-7 TMDL Development Plan for FY 2008 and FY 2009

FISCAL YEAR 2008					
Waterbody Name	**Waterbody ID (12-Digit HUC)**	**River Basin**	**County**	**Pollutant**	**When Will Draft TMDL Be Submitted to EPA?**
Alabama River	AL03150203-0703-101	Alabama	Wilcox	OE/DO	1st QTR FY08
Alabama River	AL03150203-0805-102	Alabama	Wilcox	OE/DO	1st QTR FY08
Alabama River	AL03150203-0805-103	Alabama	Wilcox	OE/DO	1st QTR FY08
Alabama River	AL03150203-0805-104	Alabama	Wilcox	OE/DO	1st QTR FY08
Alabama River	AL03150203-0805-105	Alabama	Wilcox	OE/DO	1st QTR FY08
Brindley Creek	AL03160109-0105-101	Black Warrior	Cullman	Nutrients	2nd QTR FY08
Brindley Creek	AL03160109-0105-102	Black Warrior	Cullman	Nutrients	2nd QTR FY08
Buxahatchee Creek	AL03150107-0502-100	Coosa	Chilton/Shelby	Nutrients	1st QTR FY08
Lake Neely Henry	AL03150106-0309-101	Coosa	Etowah	Nutrients	3rd QTR FY08
Lake Neely Henry	AL03150106-0309-101	Coosa	Etowah	pH	3rd QTR FY08
Lake Neely Henry	AL03150106-0309-101	Coosa	Etowah	OE/DO	3rd QTR FY08
Lake Neely Henry	AL03150106-0309-102	Coosa	Etowah	Nutrients	3rd QTR FY08
Lake Neely Henry	AL03150106-0309-102	Coosa	Etowah	pH	3rd QTR FY08
Lake Neely Henry	AL03150106-0309-102	Coosa	Etowah	OE/DO	3rd QTR FY08
Lake Neely Henry	AL03150106-0104-101	Coosa	Etowah	Nutrients	3rd QTR FY08
Lake Neely Henry	AL03150106-0104-101	Coosa	Etowah	pH	3rd QTR FY08
Lake Neely Henry	AL03150106-0104-101	Coosa	Etowah	OE/DO	3rd QTR FY08
Lake Neely Henry	AL03150106-0104-102	Coosa	Etowah	Nutrients	3rd QTR FY08
Lake Neely Henry	AL03150106-0104-102	Coosa	Etowah	pH	3rd QTR FY08
Lake Neely Henry	AL03150106-0104-102	Coosa	Etowah	OE/DO	3rd QTR FY08
Lake Logan Martin	AL03150106-0801-100	Coosa	St. Clair	Nutrients	3rd QTR FY08
Lake Logan Martin	AL03150106-0801-100	Coosa	St. Clair	OE/DO	3rd QTR FY08
Lake Logan Martin	AL03150106-0501-101	Coosa	St. Clair	Nutrients	3rd QTR FY08
Lake Logan Martin	AL03150106-0501-101	Coosa	St. Clair	OE/DO	3rd QTR FY08
Lake Logan Martin	AL03150106-0501-102	Coosa	St. Clair	Nutrients	3rd QTR FY08
Lake Logan Martin	AL03150106-0501-102	Coosa	St. Clair	OE/DO	3rd QTR FY08
Lay Lake	AL03150107-0401-100	Coosa	Talladega	Nutrients	3rd QTR FY08
Lay Lake	AL03150107-0401-100	Coosa	Talladega	OE/DO	3rd QTR FY08
Lay Lake	AL03150107-0101-102	Coosa	Talladega	Nutrients	3rd QTR FY08
Lay Lake	AL03150107-0101-102	Coosa	Talladega	OE/DO	3rd QTR FY08
Lay Lake	AL03150107-0808-102	Coosa	Talladega	Nutrients	3rd QTR FY08
Lay Lake	AL03150107-0808-102	Coosa	Talladega	OE/DO	3rd QTR FY08
Lake Mitchell	AL03150107-0601-100	Coosa	Chilton	Nutrients	3rd QTR FY08
Puppy Creek	AL/03170008-030_01	Escatawpa	Mobile	Nutrients	1st QTR FY08
Sougahatchee Creek Emb	AL03150110-0204-101	Tallapoosa	Lee	Nutrients	1st QTR FY08
Sougahatchee Creek Emb	AL03150110-0204-101	Tallapoosa	Lee	OE/DO	1st QTR FY08

Table 2-7 TMDL Development Plan for FY 2008 and FY 2009 (Continued)

FISCAL YEAR 2008					
Peperrell Branch	AL03150110-0201-700	Tallapoosa	Lee	Nutrients	1st QTR FY08
Flint River	AL06030002-0401-102	Tennessee	Madison	Pathogens	1st QTR FY08
Cotaco Creek	AL06030002-0603-102	Tennessee	Morgan	Pathogens	1st QTR FY08
West Fork Cotaco Cr.	AL06030002-0602-102	Tennessee	Morgan	Pathogens	1st QTR FY08
Poplar Spring Branch	AL03130004-0601-201	Chattahoochee	Houston	pH	1st QTR FY08 (delisting)
Hurricane Creek	AL03140201-0502-100	Choctawhatchee	Dale	Pathogens	2nd QTR FY08
Cypress Creek	AL03130012-0201-400	Chipola	Houston	Nutrients	3rd QTR FY08
Cypress Creek	AL03130012-0201-400	Chipola	Houston	OE/DO	3rd QTR FY08
Dowling Branch	AL03140201-0704-600	Choctawhatchee	Geneva	OE/DO	2nd QTR FY08
Dowling Branch	AL03140201-0704-600	Choctawhatchee	Geneva	Pathogens	1st QTR FY08
FISCAL YEAR 2009					
Waterbody Name	**Waterbody ID (12-Digit HUC)**	**River Basin**	**County**	**Pollutant**	**When Will Draft TMDL Be Sub-mitted to EPA?**
Beaver Creek	AL03140201-0602-201	Choctawhatchee	Houston	Nutrients	3rd QTR FY08
Beaver Creek	AL03140201-0602-201	Choctawhatchee	Houston	OE/DO	3rd QTR FY08
UT to Harrand Creek	AL03140201-1001-700	Choctawhatchee	Coffee	Nutrients	4th QTR FY08
UT to Harrand Creek	AL03140201-1001-700	Choctawhatchee	Coffee	Siltation	4th QTR FY08
UT to Jackson Lake (2-S)	AL03140103-0102-700	Perdido-Escambia	Covington	OE/DO	3rd QTR FY08
UT to Jackson Lake (2-S)	AL03140103-0102-700	Perdido-Escambia	Covington	Pathogens	3rd QTR FY08
UT to Jackson Lake (3-C)	AL03140103-0102-800	Perdido-Escambia	Covington	OE/DO	3rd QTR FY08
UT to Jackson Lake (3-C)	AL03140103-0102-800	Perdido-Escambia	Covington	Pathogens	3rd QTR FY08
Boggy Branch	AL03140106-0302-202	Perdido-Escambia	Escambia	OE/DO	3rd QTR FY08
Boggy Branch	AL03140106-0302-202	Perdido-Escambia	Escambia	Zinc	3rd QTR FY08
Boggy Branch	AL03140106-0302-202	Perdido-Escambia	Escambia	Chlorides	3rd QTR FY08
Brushy Creek	AL03140106-0302-101	Perdido-Escambia	Escambia	OE/DO	4th QTR FY08
Rocky Creek	AL03140303-0302-101	Perdido-Escambia	Butler	Unknown toxicity	3rd QTR FY08
Sipsey River	AL03160107-0306-100	Upper Tombigbee	Pickens/Greene	Metals(Fe)	3rd QTR FY08
Elk River	AL06030004-0105-101	Tennessee	Limestone/ Lauderdale	pH	4th QTR FY08
Elk River	AL06030004-0105-101	Tennessee	Limestone/ Lauderdale	Nutrients	4th QTR FY08
Three Mile Branch	AL03150201-0104-302	Alabama	Montgomery	Pesticides (Dieldrin)	4th QTR FY08
Catoma Creek	AL03150201-0309-100	Alabama	Montgomery	Pathogens	2nd QTR FY08
Boggy Branch	AL03170008-0402-400	Escatawpa	Mobile	Metals (Fe)	4th QTR FY08
Collins Creek	AL03170008-0402-700	Escatawpa	Mobile	Pathogens	4th QTR FY08
Bayou La Batre	AL03170009-0102-100	Escatawpa	Mobile	Pathogens	4th QTR FY08
Threemile Creek	AL03160204-0504-101	Mobile	Mobile	Pathogens	4th QTR FY08
Threemile Creek	AL03160204-0504-102	Mobile	Mobile	Pathogens	4th QTR FY08
Threemile Creek	AL03160204-0504-103	Mobile	Mobile	Pathogens	4th QTR FY08
Toulmins Spring Branch	AL03160204-0504-300	Mobile	Mobile	Pathogens	4th QTR FY08
UT to Threemile Creek	AL03160204-0504-500	Mobile	Mobile	Pathogens	4th QTR FY08
Bolton Branch	AL03160205-0202-300	Mobile	Mobile	Pathogens	4th QTR FY08
Eslava Creek	AL03160205-0202-400	Mobile	Mobile	Pathogens	4th QTR FY08
UT to Bon Secour River	AL03160205-0310-702	Mobile	Baldwin	Pathogens	4th QTR FY08
Bon Secour Bay	AL03160205-0104-200	Mobile	Baldwin	Pathogens	4th QTR FY08
Purgatory Creek	AL03160103-0204-202	Upper Tombigbee	Marion	pH	4th QTR FY08
Purgatory Creek	AL03160103-0204-203	Upper Tombigbee	Marion	pH	4th QTR FY08

Table 2-7 TMDL Development Plan for FY 2008 and FY 2009 (Continued)

FISCAL YEAR 2009					
Bassett Creek	AL03160203-0601-100	Lower Tombigbee	Clarke	Pathogens	4th QTR FY08
Mud Creek	AL03160109-0201-102	Black Warrior	Cullman	Organic Enrichment/ DO	4th QTR FY09
Lost Creek	AL03160109-0403-103	Black Warrior	Walker	Siltation Other habitat alterations	4th QTR FY09
Black Branch	AL03160109-0404-500	Black Warrior	Walker	Metals pH Siltation Other habitat alterations	4th QTR FY09
Lost Creek	AL03160109-0405-102	Black Warrior	Walker	Siltation Other habitat alterations	4th QTR FY09
Wolf Creek	AL03160109-0503-101	Black Warrior	Walker	Siltation Other habitat alterations	4th QTR FY09
Ryan Creek	AL03160110-0502-100	Black Warrior	Cullman	Pathogens	4th QTR FY09
Dry Creek	AL03160111-0203-100	Black Warrior	Blount	Nutrients Ammonia Organic Enrichment/ DO Pathogens	4th QTR FY09
Newfound Creek	AL0316011-0406-101	Black Warrior	Jefferson	Biology	4th QTR FY09
Mud Creek	AL03160112-0105-101	Black Warrior	Jefferson	pH Siltation	4th QTR FY09
Big Yellow Creek	AL03160112-0201-101	Black Warrior	Tuscaloosa	Metals	4th QTR FY09
North River	AL03160112-0404-102	Black Warrior	Fayette Tuscaloosa	Nutrients Siltation Other habitat alterations	4th QTR FY09
Lee Branch	AL03150202-0103-300	Cahaba	Shelby	Pathogens	4th QTR FY09
Buck Creek	AL03150202-0202-101	Cahaba	Shelby	Pathogens	4th QTR FY09
Cahaba Valley Creek	AL03150202-0202-401	Cahaba	Shelby	Pathogens	4th QTR FY09
Barbour Creek	AL03130003-1307-100	Chattahoochee	Barbour	Siltation	4th QTR FY09
Mobile Bay	AL03160205-0104-100	Mobile	Mobile	Pathogens	4th QTR FY09

2.5 Summaries of Designated Use Support

Table 2-8 and Table 2-9 show the Size of Rivers and Streams Impaired by causes and sources respectively. For more information about Designated Use Support contact Mr. John Pate in ADEM's Montgomery Office at (334) 270-5662 or jtp@adem.state.al.us

Table 2-8 Size of Rivers and Streams Impaired by Causes

Rivers and Streams	Size of Water Impaired	
Ammonia	32.14	miles
Chlorides	0.22	miles
Metals (Aluminum)	24.17	miles
Metals (Arsenic)	19.56	miles
Metals (Chromium)	29.24	miles
Metals (Copper)	1.54	miles
Metals (Cyanide)	12.43	miles
Metals (Iron)	69.97	miles
Metals (Lead)	31.00	miles
Metals (Mercury)	485.57	miles
Metals (Zinc)	0.22	miles
Nutrients	275.09	miles
Organic Enrichment - CBOD	132.09	miles
Organic Enrichment - NBOD	132.09	miles
Pathogens	375.66	miles
Pesticides (Chlordane)	2.04	miles
Pesticides (DDT)	18.77	miles
Pesticides (Dieldrin)	24.29	miles
pH	38.43	miles
Priority Organics (PCBs)	42.22	miles
Siltation (Habitat Alteration)	622.91	miles
Toxicity	9.26	miles
Turbidity	22.59	miles
Unknown	36.80	miles
Unknown Toxicity	31.81	miles
Total	2,470.11	miles

Table 2-9 Size of Rivers and Streams Impaired by Sources

Rivers and Streams	Size of Impaired Waters
Agriculture	441.23 miles
Atmospheric Deposition	91.5 miles
Collection System Failure	61.22 miles
Contaminated Sediments	65.2 miles
Feedlots	8.46 miles
Flow Regulation/Modification	4.21 miles
In Place contaminants	3.75 miles
Industrial	60.21 miles
Land Development	172.75 miles
Municipal	476..07 miles
Natural	66.73 miles
Non-irrigated crop production	115.49 miles
On-site wastewater systems	5.15 miles
Pasture Grazing	407.29 miles
Surface Mining	114.72 miles
Surface Mining-Abandoned	489.72 miles
Unknown Source	633.2 miles
Urban Runoff/Storm Sewers	478.21 miles

2.6 Industrial River Monitoring

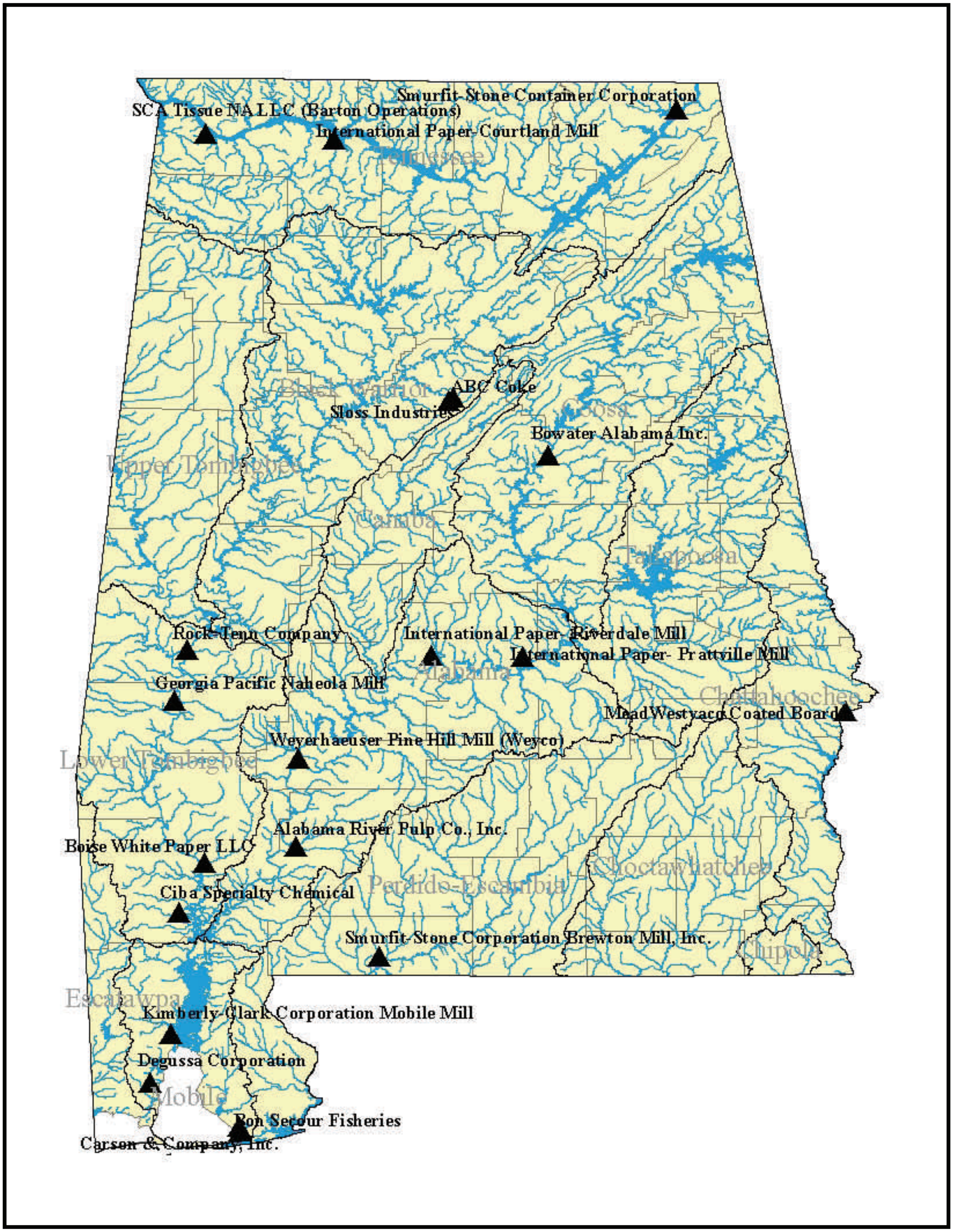
The Industrial River Monitoring Program is a water quality monitoring program with the participation of twenty (20) facilities located within various river basins. The purpose of the river monitoring program is to assess the impact of the facilities discharge on the receiving streams. Each facility's NPDES permit contains specific monitoring requirements which may include parameters such as pH, DO, H_2O Temperature, BOD_5, etc. Most of the facilities which collect this type of information are pulp and paper mills although other types of industries are included. Much of the sampling takes place during the months May through September when critical water quality conditions are likely. This information was particularly useful in assessing the effects of the drought during the summer and fall of 2007. Table 2-10 and Figure 2-3 show industrial facilities that conduct river monitoring.

For more information about Industrial River Monitoring contact Ms. Carla Crews in ADEM's Montgomery Office at (334) 271-7804 or Ccrews@adem.state.al.us

Table 2-10 Industrial River Monitoring

Facility Name	NPDES #	Facility Type	Parameters Sampled	Receiving Stream Name	Number of Stations	River Basin	City	County
ABC Coke	AL0003417	Iron and Steel Manufacturer	Stream Temperature, pH, Turbidity, Total Cyanide, Available Cyanide, Stream Depth	Five Mile Creek	2	Warrior	Birming-ham	Jefferson
Alabama River Pulp Co., Inc.	AL0025968	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Alabama River	5	Alabama	Claiborne	Monroe
Boise White Paper LLC	AL0002755	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Tombigbee River	6	Lower Tom-bigbee	Jackson	Clarke
Bon Secour Fisheries	AL0003298	Seafood Process-ing	Stream Temperature, pH, DO, Salinity	Bon Secour River	3	Mobile Bay	Bon Se-cour	Baldwin
Bowater Alabama Inc.	AL0003158	Paper Mill	D.O. (at 5 foot depth),Sample Time, Stream Temperature and pH	Coosa River	17	Coosa	Coosa Pines	Talladega
Carson & Company, Inc.	AL0048194	Seafood Process-ing	Stream Temperature, pH, DO, Salinity	Bon Secour River	3	Mobile Bay	Bon Se-cour	Baldwin
Ciba Specialty Chemical	AL0003093	Chemical Plant	Stream Temperature, pH, DO, Chloride,	Tombigbee River	6	Lower Tom-bigbee	McIntosh	Washing-ton
Degussa Corporation	AL0023272	Chemical Plant	D.O. (at half -meter increments from 0.5 to a depth of 4.5 meters), Salinity, Con-ductivity, BOD5, Stream Temperature and pH	Theodore Industrial Barge Canal or Middle Fork Deer River	8	Mobile	Theodore	Mobile
Georgia Pacific Naheola Mill	AL0003301	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Tombigbee River	2	Lower Tom-bigbee	Penning-ton	Choctaw
International Paper-Courtland Mill	AL0000396	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Tennessee River	5	Tennessee	Courtland	Lawrence
International Paper- Prattville Mill	AL0003115	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Alabama River	10	Alabama	Prattville	Autauga
International Paper- Riverdale Mill	AL0003018	Paper Mill	D.O. (at 5 foot depth)	Alabama River	1	Alabama	Selma	Dallas
Kimberly-Clark Corporation Mobile Mill	AL0002801	Paper Mill	D.O. (at 5 foot depth), Conductivity, pH and Temperature (both ambient & stream)	Mobile River	5	Mobile	Mobile	Mobile
MeadWestvaco Coated Board (non-continuous)	AL0000817	Paper Mill	D.O. (at 5 foot depth), Stream Tempera-ture and pH	Chattahoochee River	12	Chattahoochee	Cottonton	Russell
MeadWestvaco Coated Board (continuous)	AL0000817	Paper Mill	D.O. (at 5 foot depth), Stream Tempera-ture and pH	Chattahoochee River	4			
Rock-Tenn Company	AL0002828	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Tombigbee River	2	Lower Tom-bigbee	Demopo-lis	Marengo
SCA Tissue NA LLC (Barton Opera-tions)	AL0074667	Paper Mill	D.O. (at 5 foot depth), Stream Tempera-ture and pH	Tennessee River	3	Tennessee	Cherokee	Colbert
Sloss Industries	AL0003247	Iron and Steel Manufacturer	Stream Depth, Stream Temperature, pH, Hardness, Turbidity, Total Cyanide, Avail-able Cyanide	Five Mile Creek	2	Warrior	Birming-ham	Jefferson
Smurfit-Stone Container Corporation	AL0022314	Paper Mill	D.O. (at 5 foot depth), Stream Tempera-ture and pH	Tennessee River	6	Tennessee	Stevenson	Jackson
Smurfit-Stone Corporation Brewton Mill, Inc.	AL0002682	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature, Color and pH	Conecuh River	3	Perdido-Escambia	Brewton	Escambia
Weyerhaeuser Pine Hill Mill (Weyco)	AL0002674	Paper Mill	D.O. (at 5 foot depth), Stream Tempera-ture and pH	Alabama River	8	Alabama	Pine Hill	Wilcox

Figure 2-4 Representation of Industrial River Monitoring



Chapter 3 Lakes and Reservoirs

3.1 Lake Water Quality Assessment

3.1.1 Background

Section 314 (a) (2) of the Clean Water Act, as amended by the Water Quality Act of 1987, requires states to conduct assessments of publicly-owned lake water quality and report the findings as part of the biennial §305(b) Water Quality Report to Congress. The assessment process is conducted through the use of federal and matching funding, including that available pursuant to Sections 106 and 319 of the Act.

The Department has defined publicly-owned lakes/reservoirs as those that are of a multiple-use nature, publicly accessible, and exhibit physical/chemical characteristics typical of impounded waters. Lakes designated strictly for public water supply, privately owned lakes, or lakes managed by the Alabama Department of Conservation and Natural Resources (ADCNR) strictly for fish production are not included in this definition. Lakes currently meeting the above definition are included in the tables that follow.

In 1985, the need for information on the trophic state of Alabama's publicly-owned lakes led to the initial survey, conducted by the ADEM with the assistance of the U.S. Environmental Protection Agency Region IV. During the survey, limited baseline data was collected and used to rank the lakes according to trophic condition.

In 1989, Clean Lakes Program funds enabled the ADEM to conduct required water quality assessments of thirty-four (34) publicly-owned lakes in the State and submit collected information as part of the 1990 Water Quality Report to Congress. Trophic state index (TSI) values calculated from data gathered for the water quality assessments indicated potentially significant increases when compared to the TSI values derived from the study conducted in 1985.

In 1990, the Reservoir Water Quality Monitoring (RWQM) Program was initiated by the Field Operations Division of ADEM. Objectives of the program are as follows:

a) to develop an adequate water quality database for all publicly-owned lakes in the State;
b) to establish trends in lake trophic status that can only be established through long-term monitoring efforts; and,
c) to satisfy the requirement of Section 314(a)(1) of the Water Quality Act of 1987 that states conduct assessments of the water quality of publicly-owned lakes and report the findings as part of their biennial "Water Quality Report to Congress".

Acquiring this information enables the ADEM to determine lake water quality and identify lakes in which water quality may be deteriorating. Should deterioration in water quality be indicated by collected data, more intensive study of the lake can be instituted to establish the causes and extent of the deterioration.

From 1990-1992, thirty-one publicly-owned lakes in the State were monitored at least once. Lakes indicated to be use-threatened or impaired from previously collected data were monitored annually. Additional funding received in 1991 through the Clean Lakes Program allowed the expansion of the Program to include all of the thirty-two (32) publicly-owned lakes in the State, with the exception of those in the Tennessee River system. These reservoirs are monitored through the TVA Reservoir Vital Signs Program.

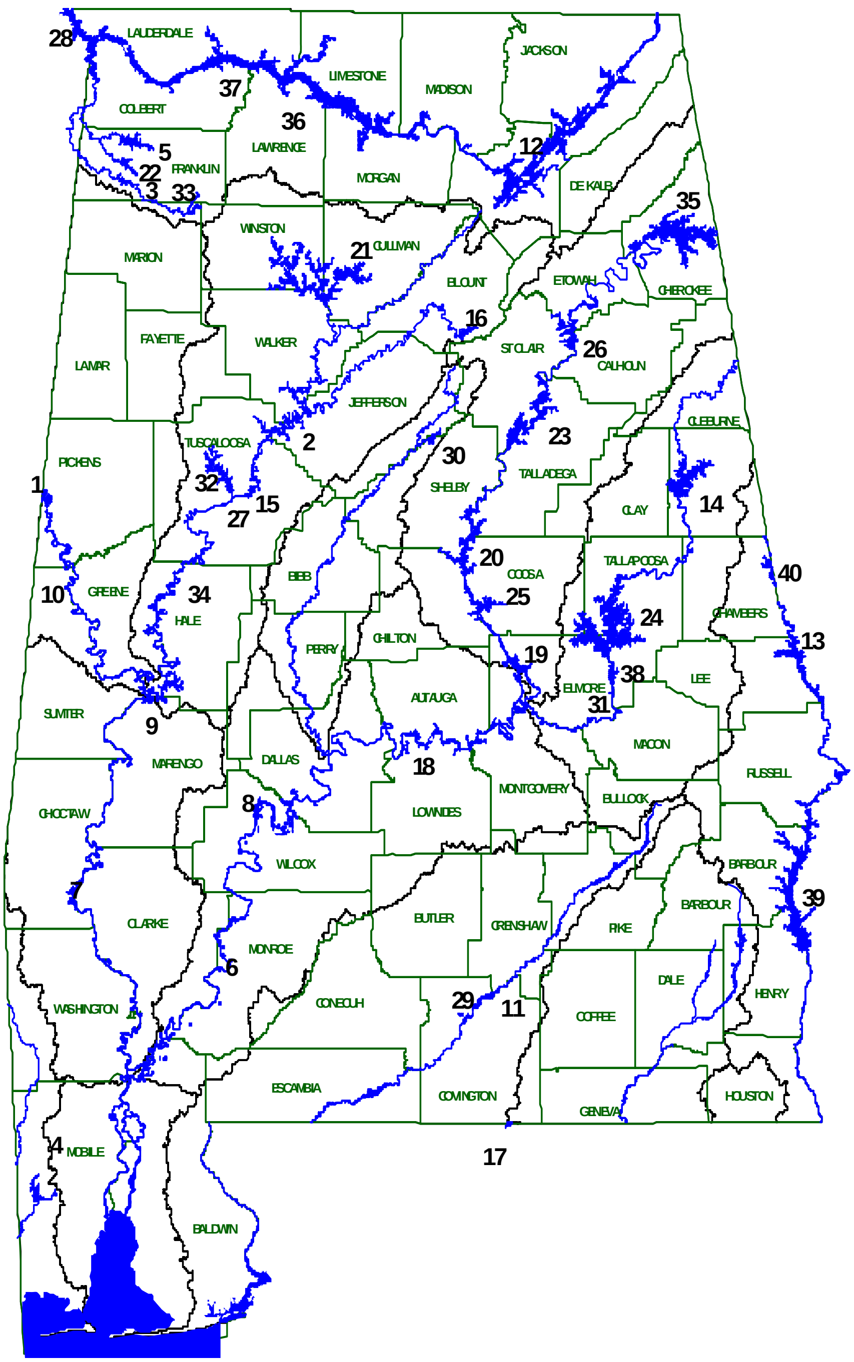
Beginning in 1994, the frequency of reservoir monitoring in the RWQM Program was increased to a minimum of once every two years so that the water quality database and trends in trophic status could be more rapidly developed. Lakes indicated to be use-threatened or impaired continued to be monitored annually. Realignment of the reservoir sampling schedule was also initiated in 1994 so that reservoir sampling by basin could be instituted.

In 1997, intensive monitoring of reservoirs by basin was initiated, with spring season sampling for the RWQM Program discontinued to allow allocation of resources toward this effort. Intensive monitoring consists of monthly sampling of multiple mainstem and tributary embayment stations in each reservoir from April-October. Reservoirs intensively monitored to date are as follows:

a) Coosa and Tallapoosa River Basin reservoirs, 1997;
b) Black Warrior River Basin reservoirs, 1998;
c) Chattahoochee and Conecuh River Basin reservoirs, 1999;
d) Coosa, Tallapoosa, and Alabama River Basin reservoirs, 2000;
e) Tombigbee and Escatawpa reservoirs, 2001;
f) Black Warrior River Basin reservoirs, 2002;
g) Tennessee River Basin tributary embayments, 2003;
h) Chattahoochee, Perdido-Escambia, and Choctawhatchee River Basins, 2004; and,
i) Coosa, Tallapoosa, and Alabama River Basin reservoirs, 2005.
j) Tombigbee and Escatawpa reservoirs, 2006
k) Black Warrior River Basin reservoirs, 2007

Initiated in 1989, water quality monitoring of lakes of the Tennessee River system continues through the Tennessee Valley Authority (TVA) Reservoir Vital Signs Monitoring Program. The Program provides results of its monitoring activities to the ADEM on an annual basis through Program reports. Activities of the Program are based on the examination of appropriate physical, chemical, and biological indicators in the forebay, mid-region, and headwater areas of each lake. Objectives of the Program are to provide basic information on the "health" or integrity of the aquatic ecosystem in each TVA lake and to provide screening level information describing how well each reservoir meets the "fishable" and "swimmable" goals of the Clean Water Act. Figure 3-1 shows Publicly Accessible Reservoirs of Alabama.

Figure 3-1 Publicly Accessible Reservoirs of Alabama



1) Aliceville
2) Bankhead
3) Bear Creek
4) Big Creek
5) Cedar Creek
6) Claiborne
7) Coffeeville
8) Dannelly
9) Demopolis
10) Gainesville
11) Gantt
12) Guntersville
13) Harding
14) Harris
15) Holt
16) Inland
17) Jackson
18) Jones Bluff
19) Jordan
20) Lay
21) Lewis Smith
22) Little Bear Creek
23) Logan-Martin
24) Martin
25) Mitchell
26) Neely Henry
27) Oliver
28) Pickwick
29) Point A
30) Purdy
31) Thurlow
32) Tuscaloosa
33) Upper Bear Creek
34) Warrior
35) Weiss
36) Wheeler
37) Wilson
38) Yates
39) W.F. George
40) West Point

For more information about Lakes and Reservoirs, contact Ms. Gina LoGiudice in ADEM's Montgomery Office at (334) 260-2783 or glogiudice@adem.state.al.us.

3.2 Trophic Status

In the RWQM Program, the ADEM uses Carlson's trophic state index (TSI) for determination of the trophic state of Alabama lakes. Carlson suggests the use of chlorophyll a concentrations in calculations of the trophic state of lakes during the summer months. Using chlorophyll a concentrations to determine trophic state is considered to give the best estimate of the biotic response of lakes to nutrient enrichment when phytoplankton is the dominant plant community.

Carlson's TSI provides the limnologist and the public with a single number that serves as an indicator of trophic status of a lake but does not necessarily define it. Lakes with a TSI of seventy (70) or greater are generally considered to be hypereutrophic and in need of regulatory action appropriate for protection and restoration. A TSI of fifty (50) to seventy (70) indicates eutrophic conditions in a lake. Trophic state index values from forty (40) to fifty (50) indicate mesotrophic conditions. Oligotrophic conditions are indicated by TSI values less than forty (40).

The number and surface area of lakes for each trophic classification appear in Table 3-1, which was developed using current monitoring data.

A trophic state ranking of Alabama lakes appears in Table 3-2. TSI graphs or Alabama reservoirs are found in Figures 3-2 thru 3-32.

Table 3-1 Trophic Status of Significant Publicly Owned Lakes

	Number of Lakes	Acreage of Lakes
Total	40	420,277
Assessed	40	420,277
Oligotrophic	4	60,730
Mesotrophic	11	38,051
Eutrophic	25	321,496
Hypereutrophic	0	0
Dystrophic	0	0
Unknown	0	0

Table 3-2 Reservoir and Lake Trophic Status

Trophic State Designation	Index	Reservoir	River Basin	*August TSI Value	August TSI Year	**Average TSI Value
Eutrophic	1	Neely Henry	Coosa	66	2007	64
	2	Weiss	Coosa	65	2007	63
	3	Lay	Coosa	64	2007	59
	4	Logan Martin	Coosa	63	2007	59
	5	Warrior	Warrior	63	2007	53
	6	Jordan	Coosa	62	2007	56
	7	Mitchell	Coosa	62	2007	58
	8	Wilson	Tennessee	62	2007	59
	9	Wheeler	Tennessee	61	2007	60
	10	West Point	Chattahoochee	60	2007	54
	11	Claiborne	Alabama	58	2007	55
	12	Pickwick	Tennessee	58	2007	57
	13	Upper Bear	Tennessee	58	2007	60
	14	Woodruff	Alabama	58	2007	57
	15	W.F. George	Chattahoochee	58	2007	55
	16	Bear	Tennessee	57	2007	58
	17	Dannelly	Alabama	57	2007	57
	18	Aliceville	Tombigbee	56	2006	57
	19	Guntersville	Tennessee	56	2007	55
	20	Gainesville	Tombigbee	54	2006	53
	21	Holt	Warrior	54	2007	52
	22	Oliver	Warrior	54	2007	53
	23	Coffeeville	Tombigbee	52	2006	52
	24	Gantt	Perdido Escambia	52	2007	47
	25	Purdy	Cahaba	51	2007	58
Mesotrophic	26	Harding	Chattahoochee	49	2007	52
	27	Yates	Tallapoosa	49	2007	44
	28	Demopolis	Tombigbee	48	2006	51
	29	Thurlow	Tallapoosa	48	2007	37
	30	Big Creek	Escatawpa	47	2006	50
	31	Harris	Tallapoosa	47	2007	48
	32	Jackson	Perdido Escambia	46	2007	44
	33	Tuscaloosa	Warrior	45	2007	42
	34	Point A	Perdido Escambia	42	2007	47
	35	Cedar	Tennessee	41	2007	43
	36	Little Bear	Tennessee	41	2007	46
Oligotrophic	37	Smith	Warrior	35	2007	42
	38	Inland	Warrior	31	2007	37
	39	Bankhead	Warrior	24	2007	49
	40	Martin	Tallapoosa	24	2007	40

*Analytical holding times for chlorophyll a (used in calculating TSI) in 2005 were exceeded, therefore the reported values are estimated
**Average values (1985-present) from dam forebay stations during August/September.
***Average values may not reflect a lake's current trophic state.
Oligotrophic < 40; Mesotrophic 40-49; Eutrophic 50-69; Hypereutrophic > 69

Alabama River Basin

Figure 3-2 Woodruff Reservoir

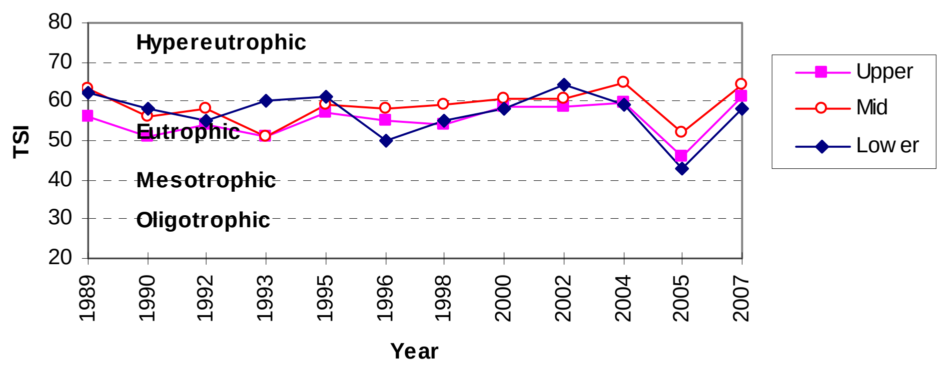


Figure 3-3 Dannelly Reservoir

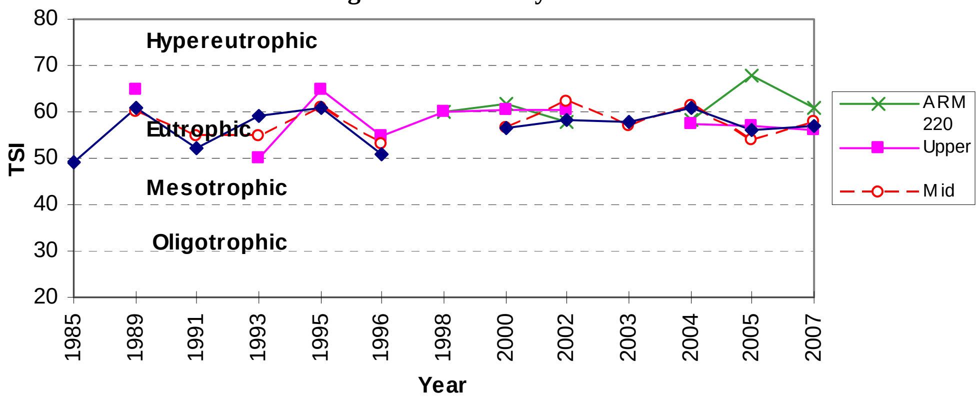
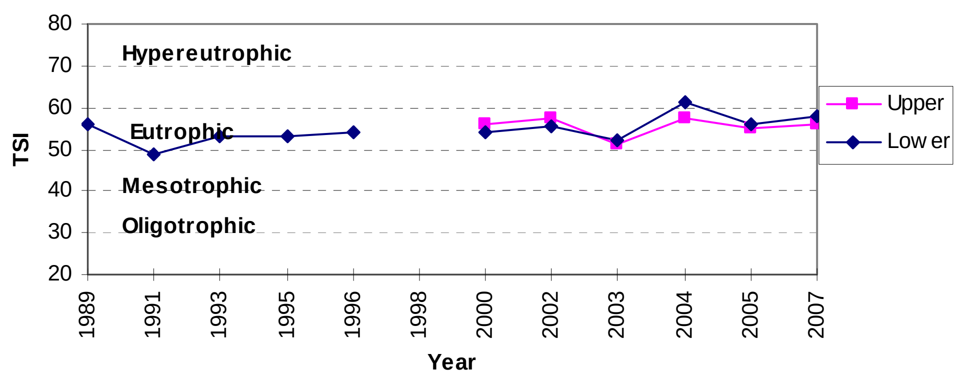
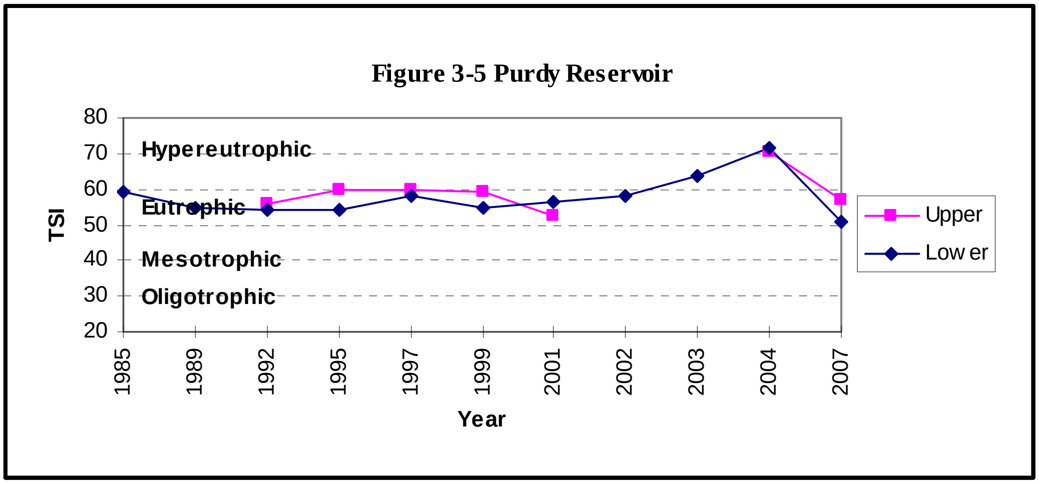


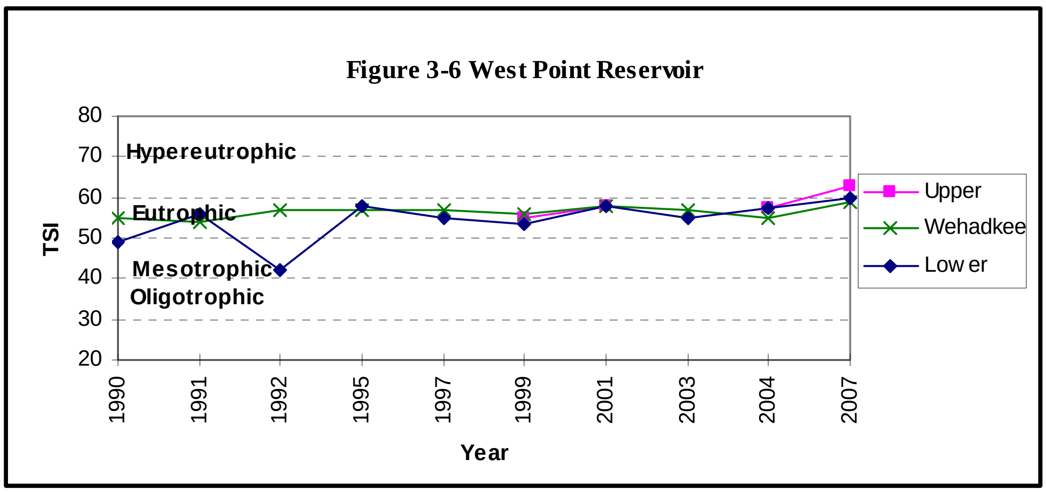
Figure 3-4 Claiborne Reservoir

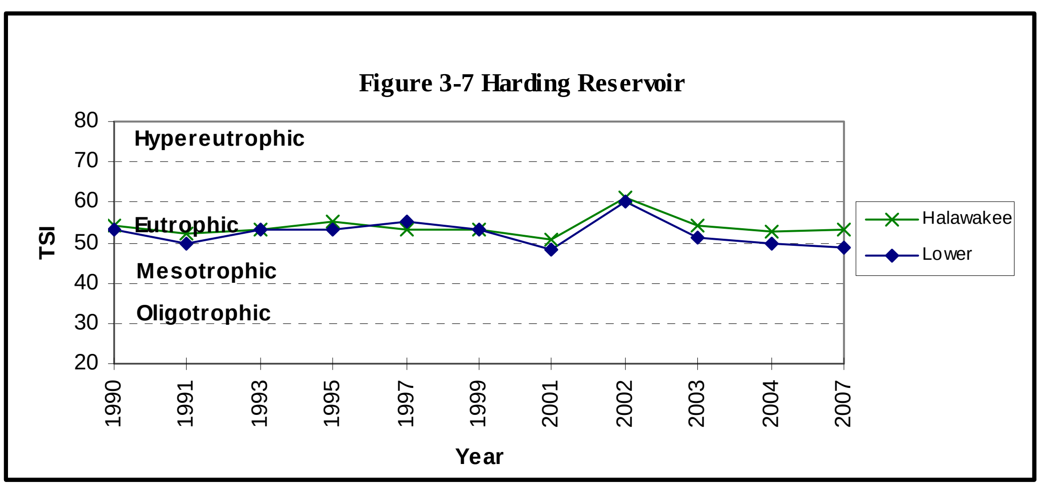


Cahaba River Basin



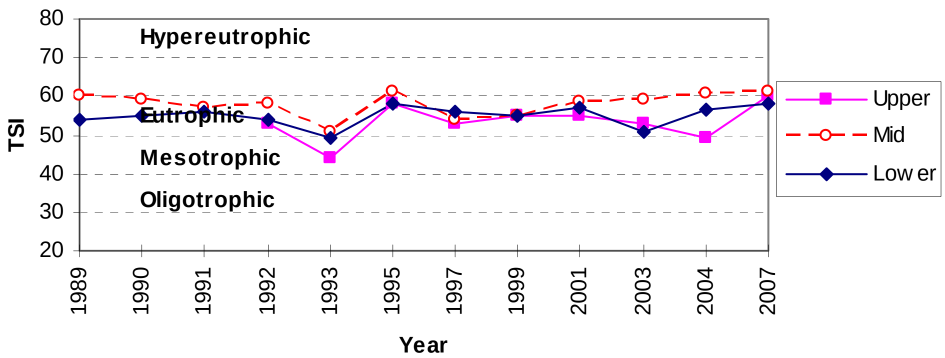
Chattahoochee River Basin





Chattahoochee River Basin

Figure 3-8 Walter F. George Reservoir



Coosa River Basin

Figure 3-9 Weiss Reservoir

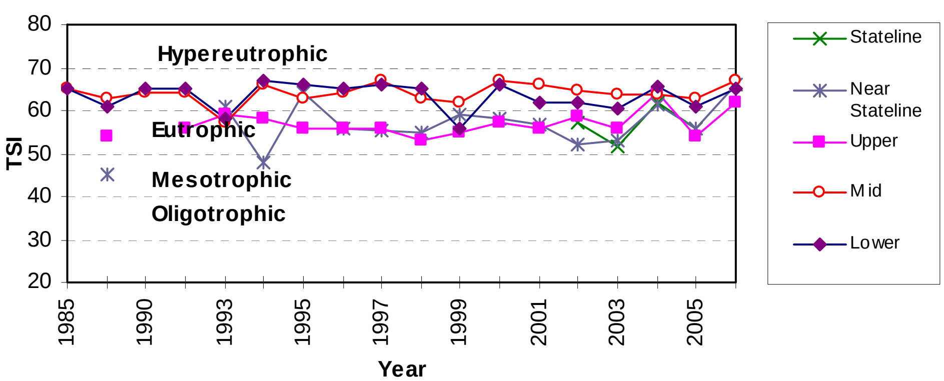


Figure 3-10 Neely Henry Reservoir

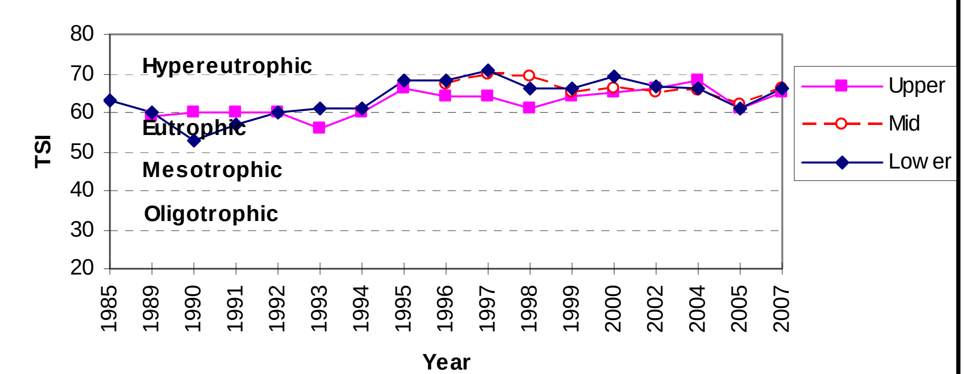


Figure 3-11 Logan Martin Reservoir

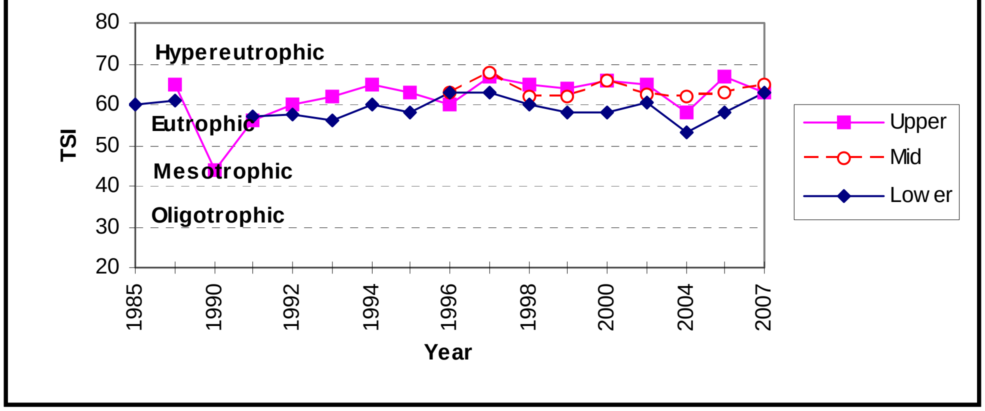


Figure 3-12 Lay Reservoir

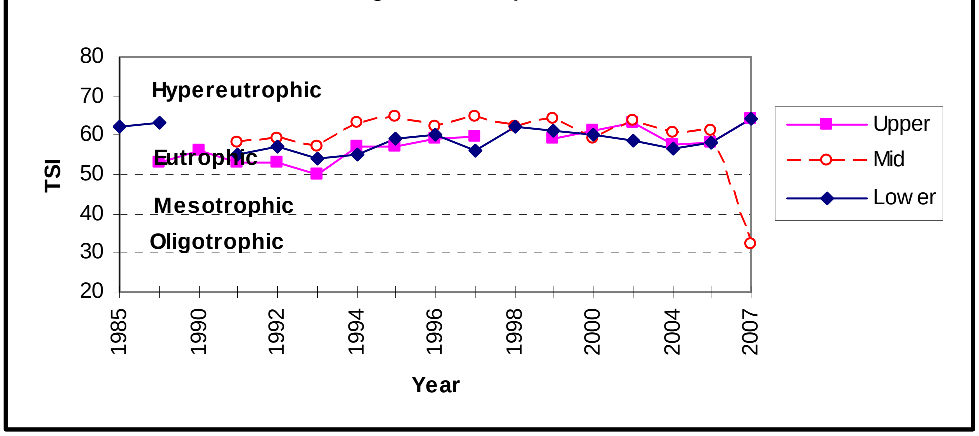


Figure 3-13 Mitchell Reservoir

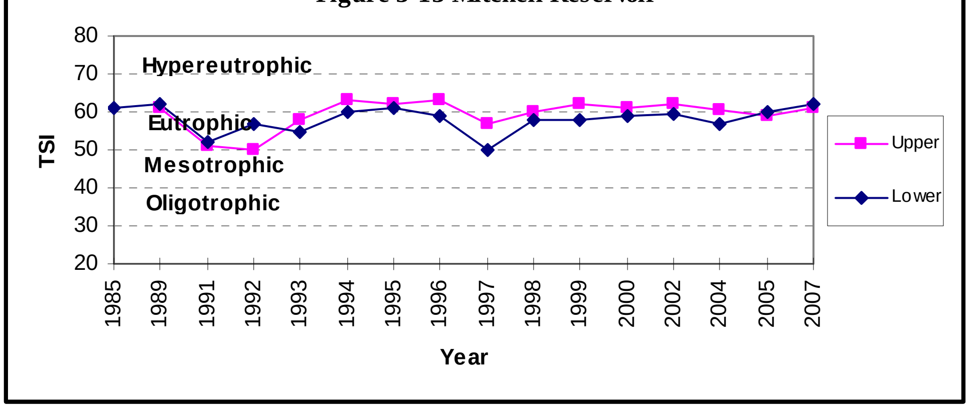
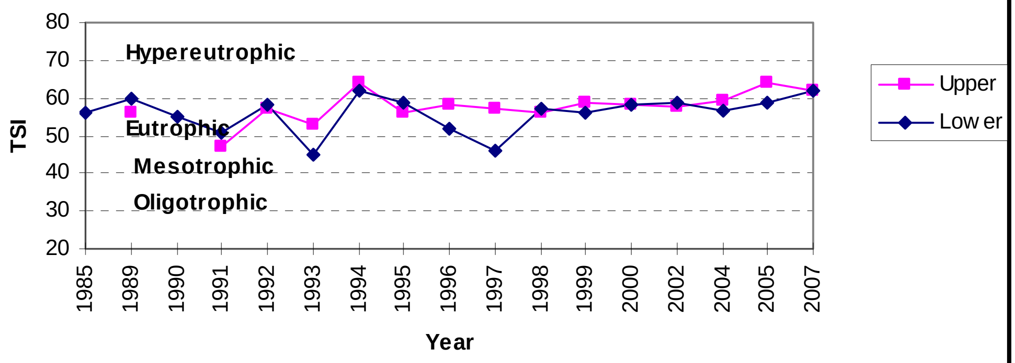
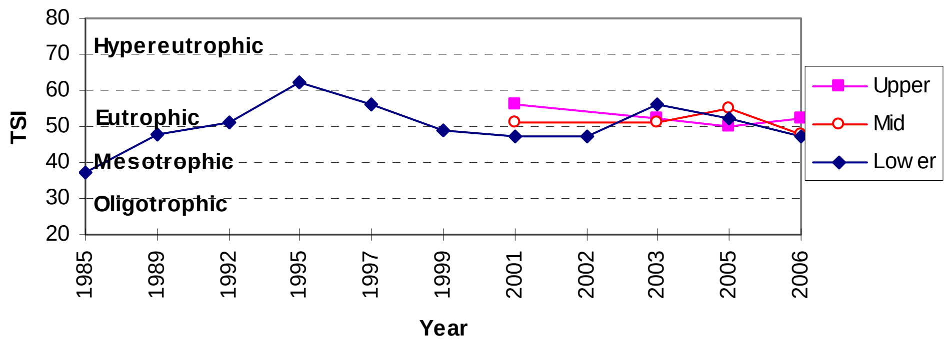


Figure 3-14 Jordan Reservoir



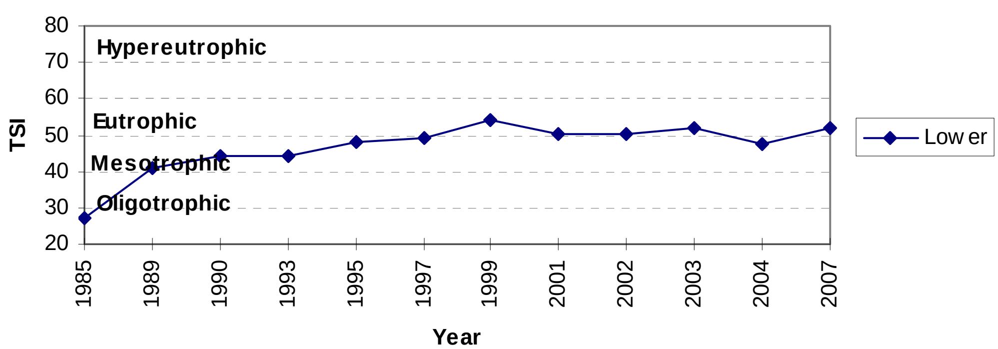
Escatawpa River Basin

Figure 3-15 Big Creek Reservoir



Perdido Escambia River Basin

Figure 3-16 Gantt Reservoir



Perdido Escambia River Basin

Figure 3-17 Point A Reservoir

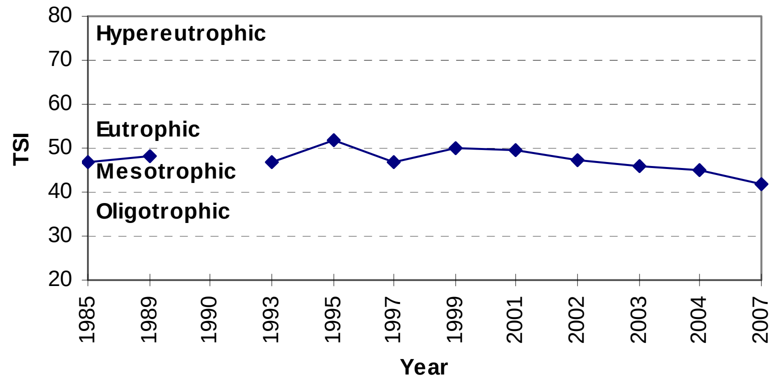
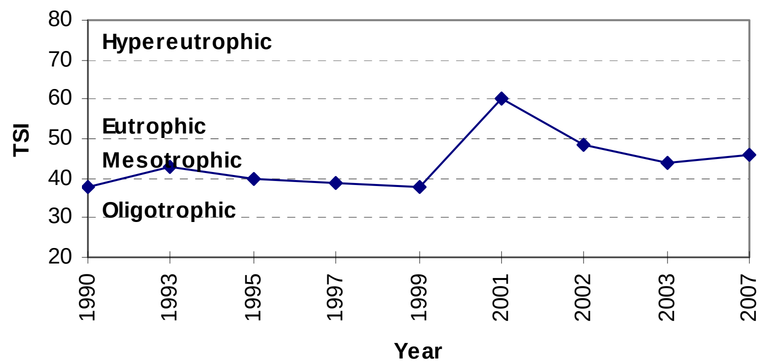
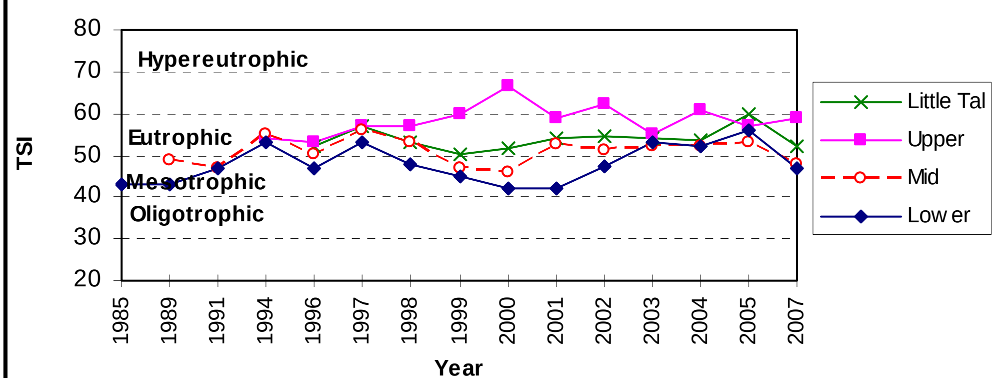


Figure 3-18 Lake Jackson



Tallapoosa River Basin

Figure 3-19 Harris Reservoir



Tallapoosa River Basin

Figure 3-20 Martin Reservoir

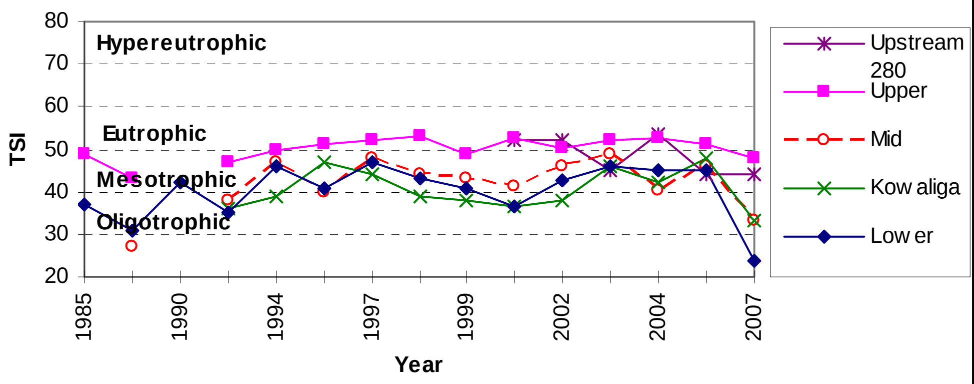
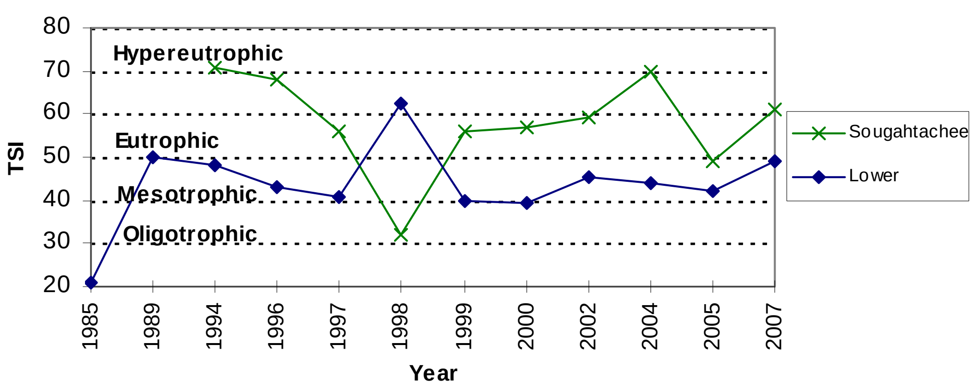
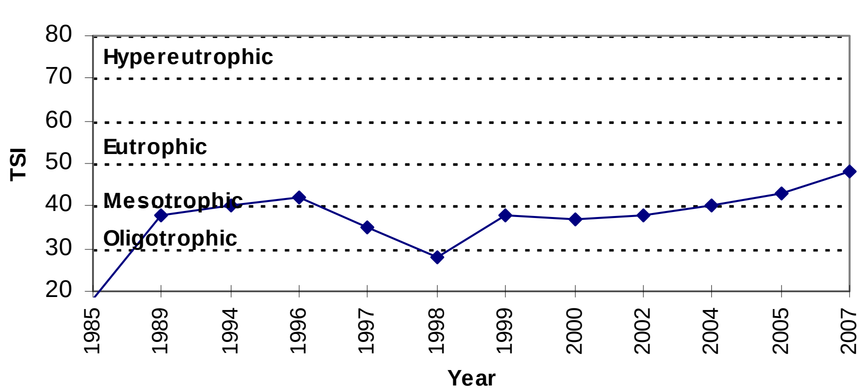


Figure 3-21 Yates Reservoir



Tombigbee River Basin

Figure 3-22 Thurlow Reservoir



Tombigbee River Basin

Figure 3-23 Aliceville Reservoir

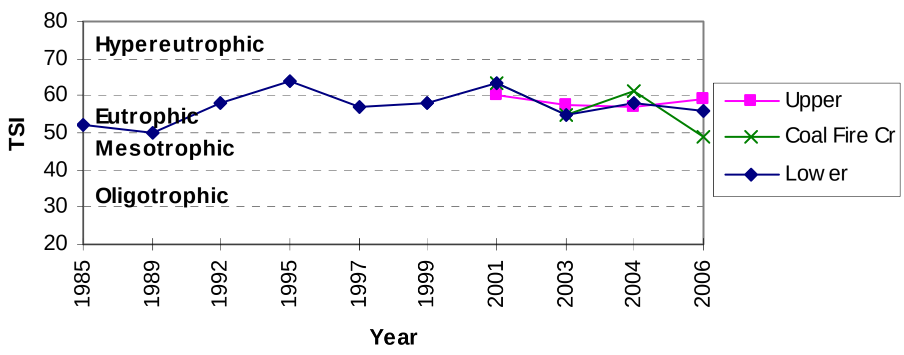
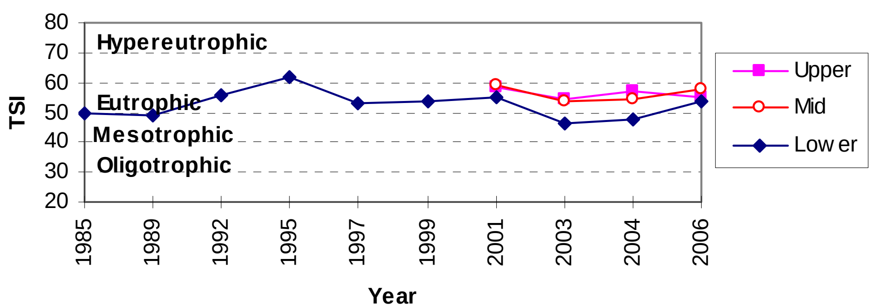
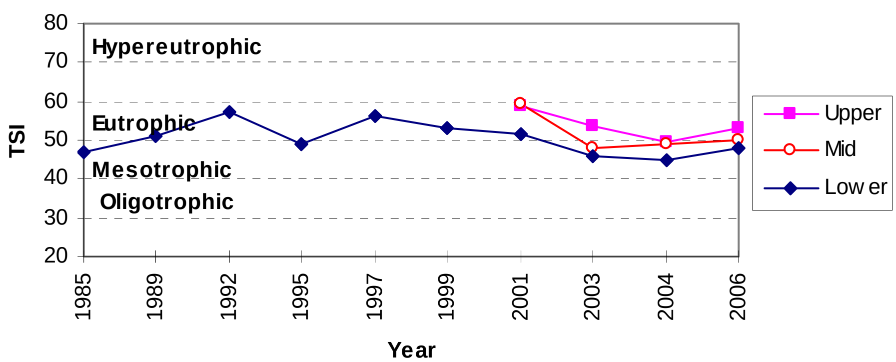


Figure 3-24 Gainesville Reservoir



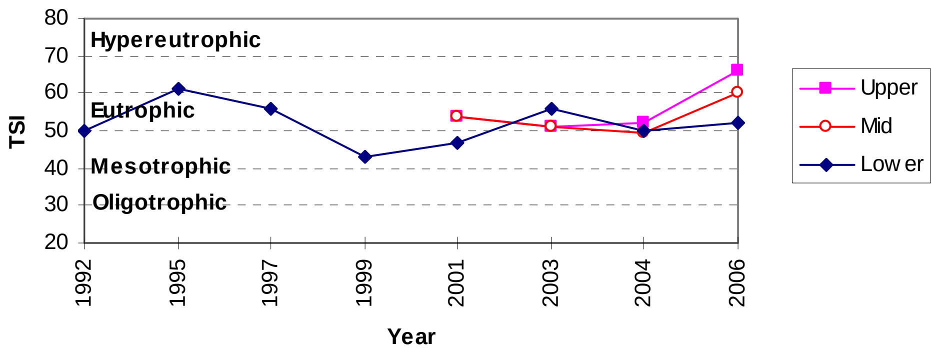
Tombigbee River Basin

Figure 3-25 Demopolis Reservoir



Tombigbee River Basin

Figure 3-26 Coffeeville Reservoir



Warrior River Basin

Figure 3-27 Inland Reservoir

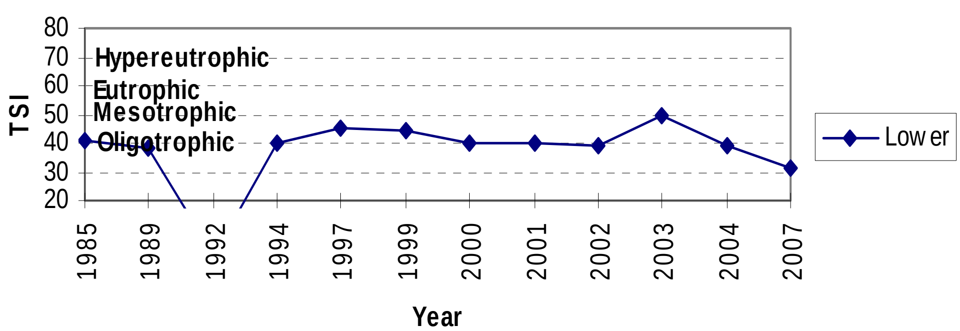
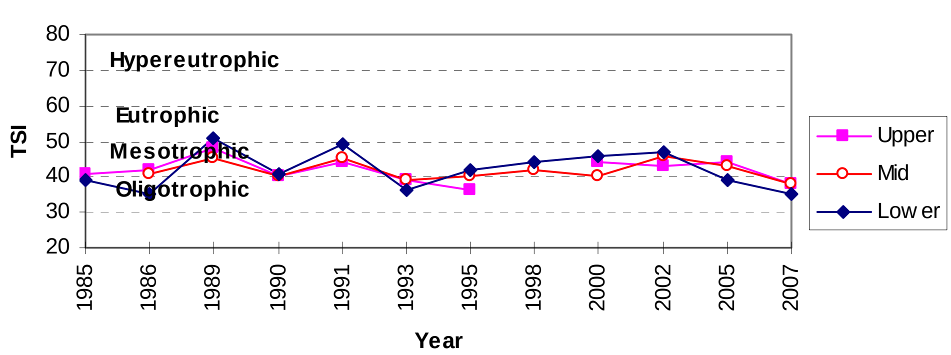


Figure 3-28 Smith Reservoir



Warrior River Basin

Figure 3-29 Tuscaloosa Reservoir

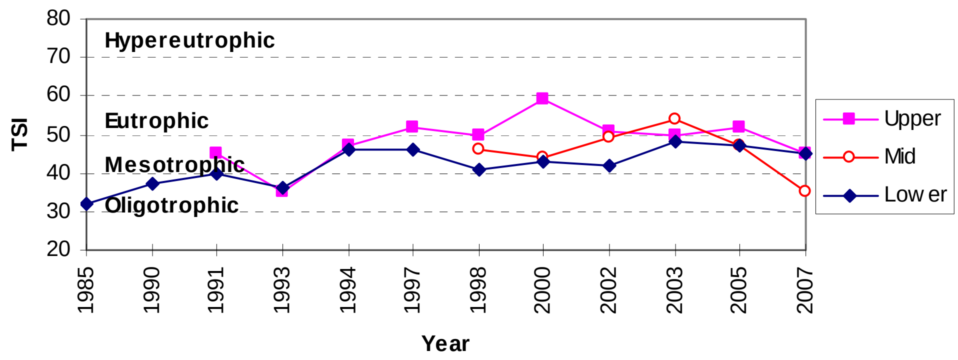


Figure 3-30 Bankhead Reservoir

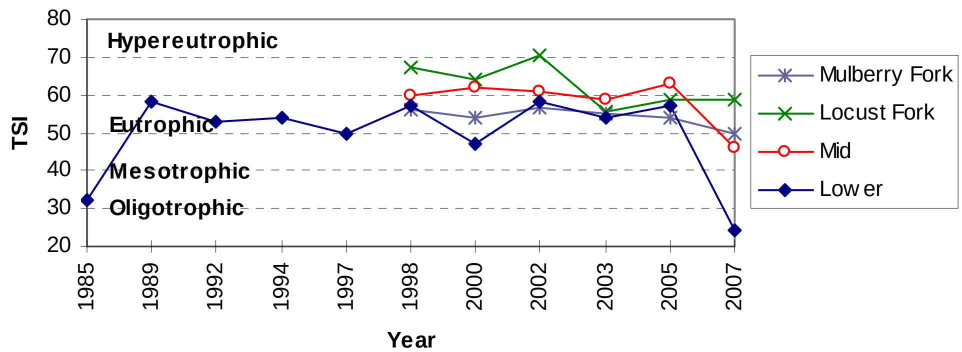
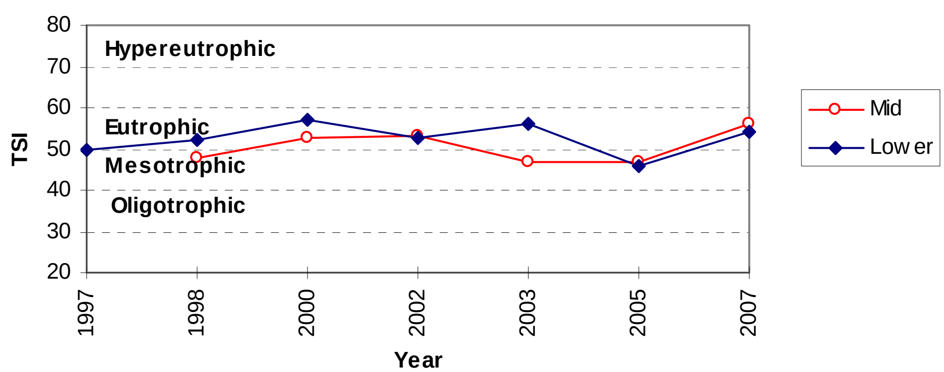


Figure 3-31Oliver Reservoir



Warrior River Basin

Figure 3-32 Holt Reservoir

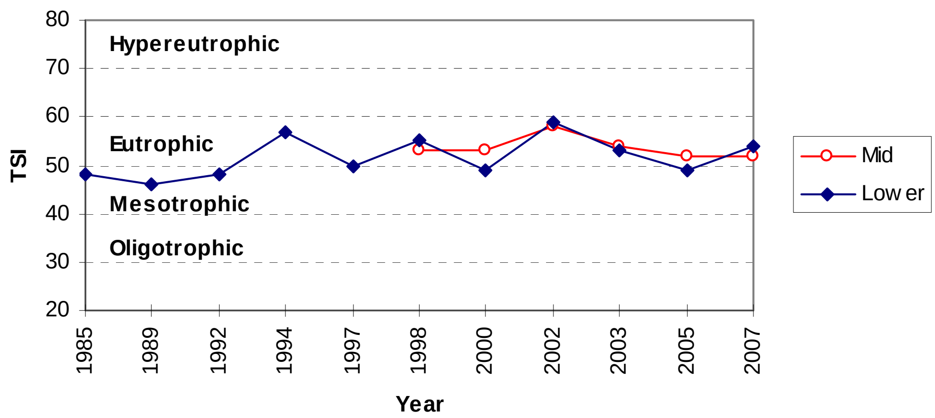
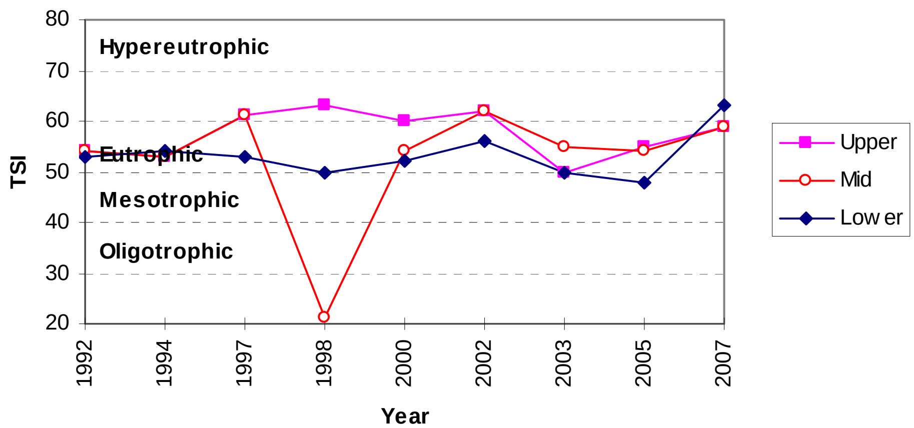


Figure 3-33 Warrior Reservoir



3.3 Control Methods

The ADEM has not defined control methods specifically for lakes. Instead, the pollution controls of ADEM's Point Source Program (NPDES permitting) and the Nonpoint Source Program are applicable for all of the State's surface waters.

3.4. Restoration Efforts

Water quality data collected by the RWQM Program enabled the ADEM to determine lakes in need of Clean Lakes Program Phase I Diagnostic/Feasibility Studies. All Clean Lakes Program Phase I Diagnostic/Feasibility Studies were conducted through cooperative agreements between ADEM and Auburn University. A list of the Clean Lakes Program Projects of Alabama appears in Table 3-3. Table 3-4 shows State Owned and Operated Public Fishing Lakes.

Table 3-3 List of Clean Lakes Program Projects

Name of Project	Type of Project	Federal Funding ($)	Problems Addressed	Management Measures Proposed or Undertaken
West Point Reservoir	Phase I	100,000	Diagnostic/ Feasibility	See Report
W.F. George Reservoir	Phase I	70,000	Diagnostic/ Feasibility	See Report
Neely Henry Reservoir	Phase I	92,000	Diagnostic/ Feasibility	See Report
Weiss Reservoir	Phase I	142,583	Diagnostic/ Feasibility	See Report
Smith Reservoir	Phase I	93,000	Diagnostic/ Feasibility	See Report

Table 3-4 State Owned and Operated Public Fishing Lakes

County	County Fishing Lakes	Acres
Barbour	Barbour County Lake	75
Bibb	Bibb County Lake	100
Chambers	Chambers County Lake	183
Clay	Clay County Lakes	74
Coffee	Coffee County Lake	80
Crenshaw	Crenshaw County Lake	53
Dale	Dale County Lake	92
Dallas	Dallas County Lake	100
DeKalb	DeKalb County Lake	120
Escambia	Escambia County Lake	184
Fayette	Fayette County Lake	60
Geneva	Geneva County Lakes	65
Lamar	Lamar County Lake	68
Lee	Lee County Lake	130
Madison	Madison County Lake	105
Marion	Marion County Lake	37
Monroe	Monroe County Lake	94
Pike	Pike County Lake	45
Walker	Walker County Lake	163
Washington	Washington County Lake	84
Totals	20 State Fishing Lakes	1,061

3.5. Impaired Lakes

The Size of Rivers and Streams Impaired by Causes appears in Table 3-5. Size of Rivers and Streams Impaired by Sources appears in Table 3-6.

Water quality data collected by the RWQM Program, Clean Lakes Program Phase I Studies, TVA Reservoir Monitoring Program, and ADEM intensive reservoir surveys were used for determination of use support status. Available data from each reservoir was examined for repeated violations of specific water quality criteria established by the ADEM and evaluated with adherence to the Guidelines For Preparation of the State Water Quality Assessments (305 (b) Reports). Waters affected by health advisories related to fish consumption were determined to be either partially supporting or not supporting. This determination was dependent upon whether advisories specified limited consumption or no consumption of a particular species as directed in the guidelines mentioned above.

Table 3-5 Size of Rivers and Streams Impaired by Causes

Reservoirs and Lakes	**Size of Water Impaired**
Metals (Hg)	73,331 acres
Nutrients	49,919 acres
Organic Enrichment/DO	45,826 acres
Pesticides (DDT)	85 acres
pH	12,702 acres
Priority Organics (PCBs)	32,196 acres
Total	214,059 acres

Table 3-6 Size of Rivers and Streams Impaired by Sources

Reservoirs and Lakes	**Size of Impaired Waters**
Atmospheric Deposition	6,592 acres
Contaminated sediments	32,694 acres
Flow regulation/modification	57,790 acres
Industrial	13,198 acres
Municipal	12,276 acres
Non-irrigated crop production	4,200 acres
Pasture grazing	2,300 acres
Upstream sources	53,570 acres
Urban runoff/storm sewers	22,499 acres
Total	205,119 acres

3.6. Toxic Effects on Lakes

Lake-specific monitoring information for toxic pollutants is limited. Point source control efforts are directed at the source of toxic pollutants through NPDES permitting programs. Total lake acres affected by toxicants appear in Table 3-7. Lake acreage monitored for toxicants consists of lakes for which fish have been collected and analyzed through the ADEM Fish Tissue Monitoring Program and the TVA Reservoir Program. Lake acreage with elevated levels of toxicants consists of lake areas upon which health advisories have been instituted that relate to consumption of fish contaminated with certain priority pollutants.

Fish will continue to be collected from major lakes, rivers, and certain waterbodies of concern and analyzed for toxic pollutants as part of the ADEM Fish Tissue Monitoring Program. Fish tissue sampling results are contained in the Fish Tissue Monitoring section of Part V Public Health Information.

3.7 Acid Effects on Lakes

The number and acreage of lakes affected by acidity appear in Table 3-8. The number and acreage of lakes affected by sources of high acidity appear in Table 3-9. No reservoirs monitored by the ADEM have been determined to be impacted by high acidity based on data collected through the RWQM Program. However, the following reservoirs are considered vulnerable to acidity based on low alkalinities and pH values observed in monitoring data that were near limits of specific ADEM water quality criteria: Big Creek; Inland; Jackson; Point A; Smith; and Tuscaloosa. Low pH values measured in Big Creek, Jackson, and Point A Reservoirs are determined to be of natural origin and are considered unlikely to cause adverse impacts. In the case of both Smith and Tuscaloosa Reservoirs, mining activities in the watershed were also considered in determining the vulnerability of the reservoirs to acid effects.

Table 3-7 Total Reservoir Size Affected by Toxicants

Waterbody	Size Monitored for Toxicants	Size with Elevated Levels of Toxicants
Rivers (miles)	-	-
Lakes (acres)	339,406	66,832
Estuaries (sq. miles)	-	-
Coastal waters (miles)	-	-
Freshwater wetlands (acres)	-	-
Tidal wetlands (acres)	-	-

Table 3-8 Lakes Affected By Acidity

	Number of Lakes	Acreage of Lakes
Assessed for Acidity	41	481,757
Impacted by High Acidity	0	0
Vulnerable to Acidity	6	33,030

Table 3-9 Sources of High Acidity in Lakes and Reservoirs

Source	Number of Lakes Impacted	Acreage of Lakes Impacted
Acid Deposition	0	0
Acid Mine Drainage	0	0
Natural Sources	0	0
Other (list)	0	0

3.8. Trends

Status of Trends for Lakes and Reservoirs appears in Table 3-10. Trends were determined by reviewing three (3) or more years of water quality data from multiple sources, if available, for each reservoir during the period 1985 to 2003.

The reservoirs considered to be degrading were listed based on data collected through the RWQM Program.

Assignment of a particular reservoir to the “Stable” category does not necessarily indicate desirable water quality but only that the water quality appears stable.

Future data collection is critical in further establishing trends in water quality of reservoirs in the State.

Table 3-10 Status of Trends for Lakes and Reservoirs

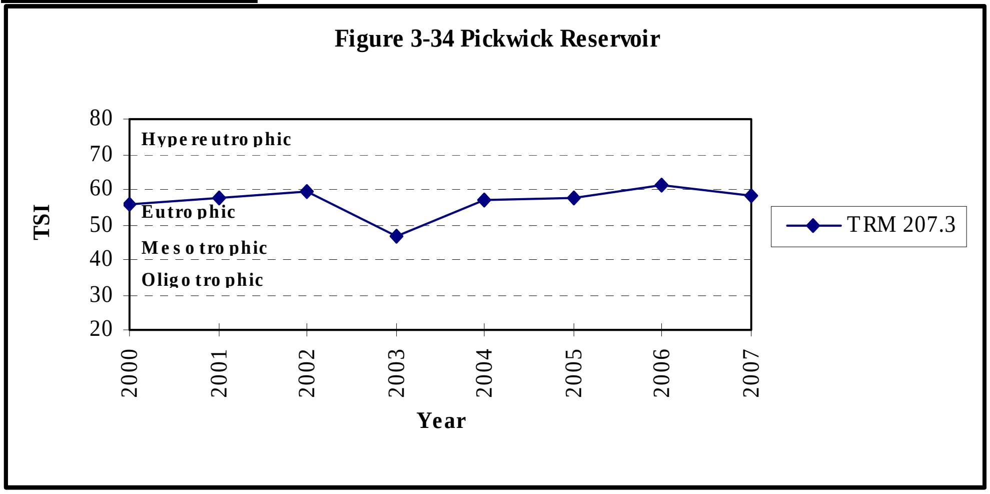
	Number of Lakes	Acreage of Lakes
Assessed for Trends	40	425,748
Improving	0	0
Stable	39	424,786
Degrading	1	962
Trend Unknown	0	0

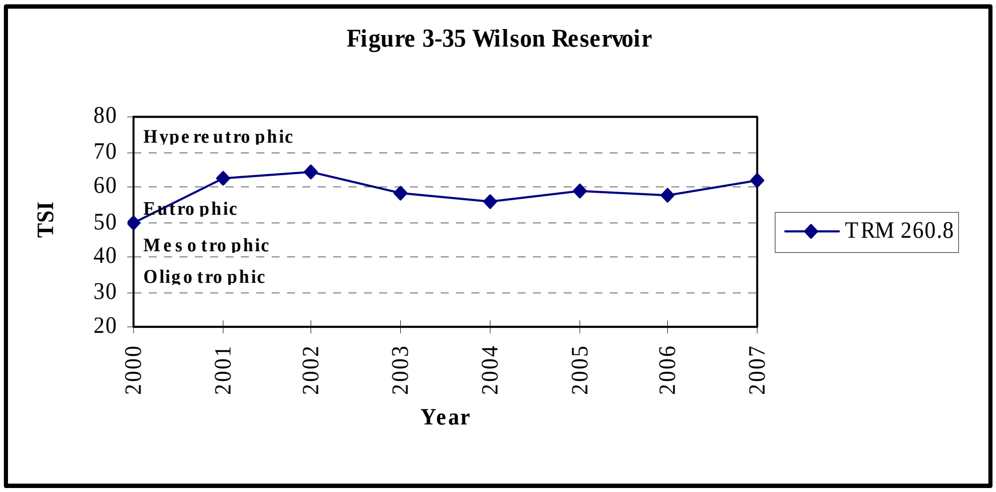
3.9 TVA Lakes

For certain lakes and reservoirs in Alabama there are waterbody-specific nutrient criteria. Nutrients may vary significantly lake-to-lake, and may vary from year to year depending on such factors as rainfall and hydraulic retention time. See Water Quality Criteria Applicable to Specific Lakes, ADEM Administrative code 335-6-10-.11. Tropic Status for TVA Reservoirs in Alabama appear in Figures 3-34 thru 3-40.

For more information about TVA Lakes, contact Mr. Johnathan Hall in ADEM’s Montgomery Office at (334) 334-271-7835 or Jehall@adem.state.al.us.

Tennessee River Basin





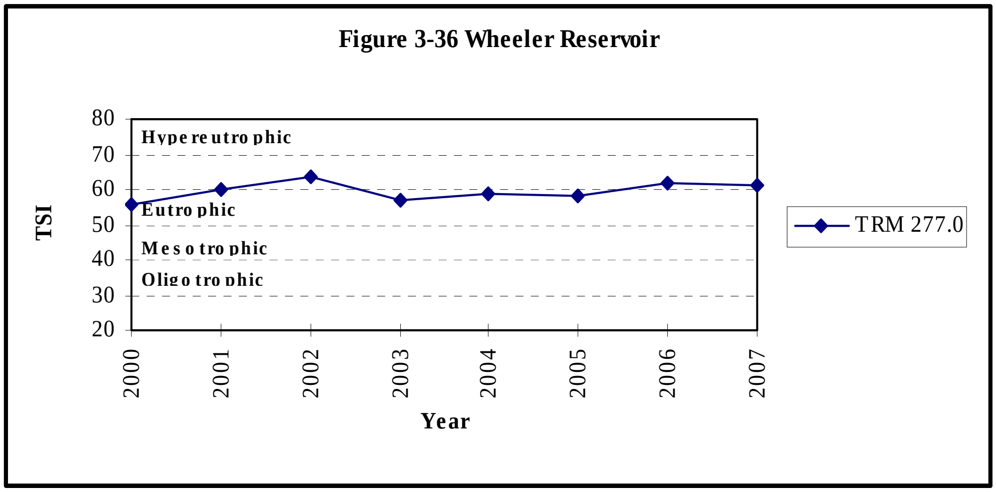


Figure 3-37 Guntersville Reservoir

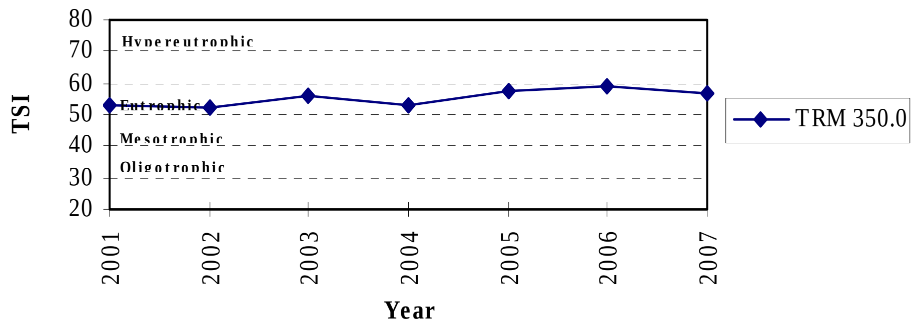


Figure 3-38 Cedar Creek Reservoir

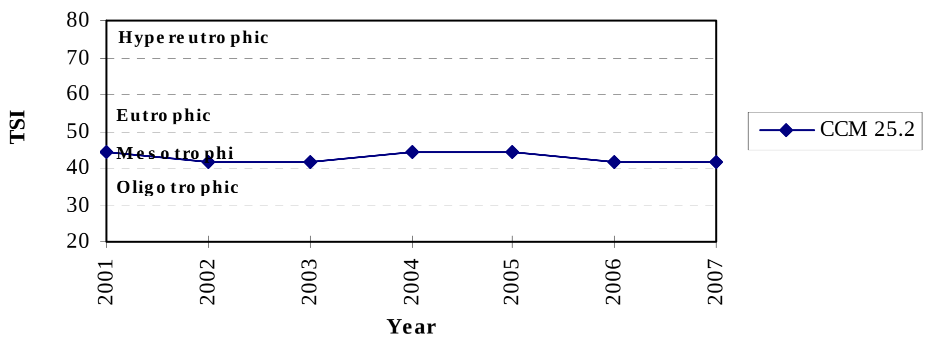
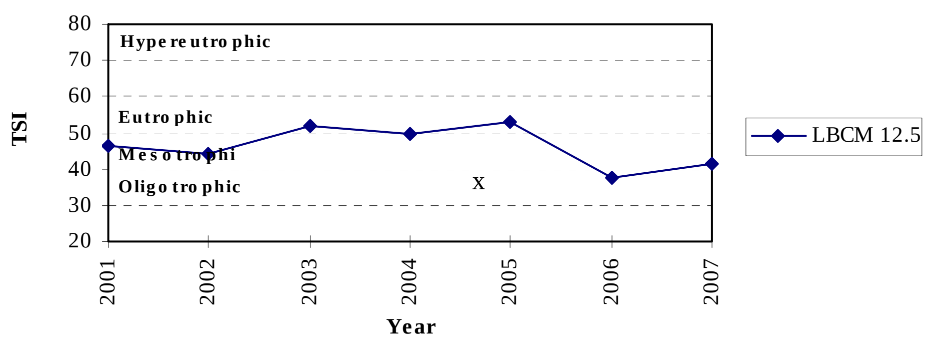


Figure 3-39 Little Bear Creek Reservoir



Chapter 4 Wetlands

4.1 Alabama Wetland Management Programs

Alabama's coastal counties contain approximately 271,000 acres of wetlands, based upon ADEM's 305(b) report for 2002. This acreage represents 12.5% of the total acreage of the designated Alabama Coastal Nonpoint Pollution Control Program (ACNPCP) Management Area. Alabama recognizes the function of coastal wetlands and the important role they play to reduce Nonpoint Source (NPS) impacts and improve coastal water quality.

In addition, approximately 400,000 acres of coastal streams and estuarine waters, comprising 18% of the ACNPCP Management Area, are contained within the geographic area of Mobile and Baldwin counties. These coastal waters possess a large number of wetland, riparian and shoreline vegetative buffers that serve to reduce NPS impacts. The 6th largest watershed area in the United States drains into this deltaic and estuarine complex contained within the southwestern region of Alabama.

4.2 Coastal Wetlands

Alabama manages its wetland, riparian areas and adjacent buffers as important resources that provide for protection of habitat and water quality. Alabama's awareness of these resources, has resulted in the development of watershed oriented projects and programs that have proactively incorporated CZARA-§6217 (g) guidance management measures within the ACNPCP Management Area. ADEM's Mobile Branch and Coastal staff have also participated in the development and approval of two coastal mitigation banks, totaling over 1,900 wetland acres that service the ACNPCP Management Area.

Additionally, ADEM, ADCNR, and the ACNPCP have coordinated with the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and the Mississippi Department of Marine Resources to develop regionalized wetland functional assessment tools as Hydro-Geomorphic (HGM) guidebooks for the standardized assessment of wetland functions for Coastal Alabama. ADEM also coordinates through the ACNPCP to present best available wetland-related technologies in the form of technical studies, workshops, and conferences, which are made available to state and federal regulatory staff, consultants, and the general public. Recent accomplishments have included the presentation of the Alabama Coastal *Wetland Rapid Assessment Procedure (WRAP) Workshop* and the *Alabama Coastal Wetland Plant Identification Workshop*. In April of 2006 the ADEM sponsored the State's first regional *Alabama Stream and Wetlands Restoration Conference*.

For more information about Alabama's Wetlands Programs, contact Mr. Scott Hughes at in ADEM's Montgomery at (334) 271-7700 or ash@adem.state.al.us, Mr. Greg Lein at the

Alabama Department of Conservation and Natural Resource's at (334) 242-7998 or glein@dcnr.state.al.us, or Mr. Scott Brown in ADEM's Mobile Office at (334) 432-6533 or jsb@adem.state.al.us.

Chapter 5 Groundwater

5.1. Overview of State Groundwater Protection Programs

Many of the elements of Alabama's groundwater programs listed in Table 5-1 are managed by subdivisions within the Alabama Department of Environmental Management (ADEM), including the Land, Field Operations, and Water Divisions. The Groundwater Branch in the Water Division provides the hydrogeological support for these programs. Other programs related to groundwater management and protections are managed by other state and federal agencies. The on-site sewage program is managed by the Alabama Department of Public Health and the Class II Underground Injection Control Program is managed by the State of Alabama Oil and Gas Board. Groundwater quantity issues are addressed by the Alabama Department of Economic and Community Affairs Office of Water Resources. Other groundwater monitoring and regulatory programs are managed by the Geological Survey of Alabama and the Alabama Surface Mining Commission. The U.S. Environmental Protection Agency (EPA) provides oversight on all federally funded and delegated groundwater programs.

5.2 Coordination of State Groundwater Programs

The State of Alabama recognizes that there is a need to coordinate management of groundwater programs and as a result set up the Groundwater Programs Advisory Committee (GWPAC) in 1994 to aid in completing the requirements of EPA's Core Comprehensive State Groundwater Protection Program (CSGWPP). The ADEM Groundwater Branch and the GWPAC continue to work toward a fully integrated CSGWPP. This work includes coordinating groundwater regulatory programs and addressing program refinements identified during the CSGWPP core review process.

Meetings of the GWPAC have not been held since 2004; however one will be scheduled for 2008. This committee includes representatives of other state and federal agencies, consultants, water system representatives, and others who work in groundwater related fields. The meetings are used to provide groundwater program information, receive feedback and coordinate groundwater projects. A subcommittee of agencies involved in area wide groundwater monitoring programs was formed in late 1997. This subcommittee is working to maximize resources to provide the best monitoring coverage of the state.

5.3 Significant State Groundwater Program Developments

Table 5-1 shows a Summary of State Groundwater Protection Programs. The following items summarize some of the recent groundwater developments that are underway in Alabama:

Table 5-1 Summary of State Ground Water Protection Programs

Programs or Activities	**Check**	**Implementation Status**	**Responsible State Agency (1)**
Active Sara Title III Program	X	Fully established	EPA/ADEM/FOD/EMA
Ambient ground water level monitoring program	X	Fully established	GSA
Aquifer vulnerability assessment	X	Fully established Being updated	ADEM/GWB
Aquifer mapping	X	Fully established	GSA
Aquifer characterization	X	Fully established	GSA
Brownfield Redevelopment & Voluntary Cleanup Program Regulations	X	Fully established	ADEM/HWB
Dry Cleaner Trust Fund Program	X	Fully Established	ADEM/HWB
EPA-Endorsed Core Comprehensive State Groundwater Protection Program	X	Fully established	ADEM/GWB
Ground water discharge permits	X	Established in UIC Regulations	ADEM/UIC
Ground water Best Management Practices			
Ground water Legislation			
Ground water classification	X	Established in UIC Reg Definition	ADEM/UIC
Ground water quality standards			
Ground Water Use	X	Fully established	ADECA/WRD
Interagency coordination for ground water protection initiatives	X	Continuing efforts	ADEM/GWB
Non-point source controls	X	Ongoing education	ADEM/FOD
NPDES Permits for Land Application Sites	X	Fully established	ADEM/MUN/IND
Pesticide State Management Plan	X	Under Review	ADAI
Pollution Prevention Program	X	Fully established	ADEM/OEO
Resource Conservation and Recovery Act (RCRA) Primacy	X	Fully established	ADEM/HWB
Source Water Assessment Program	X	Fully established	ADEM/WSB
State Ground Water Program	X	Statute Based program	ADEM/GWB
State Superfund	X	Fully established	ADEM/LD
State RCRA Program incorporating more stringent requirements than RCRA Primacy	X	Fully established	ADEM/HWB
State Septic System Regulations	X	Fully established	ADPH
Subtitle D Solid Waste Program	X	Fully established	ADEM/SWB
Underground Storage Tank Installation Requirements	X	Fully established	ADEM/GWB
Underground Storage Tank Remediation Fund	X	Fully established	ADEM/GWB
Underground Storage Tank Registration Program	X	Fully established	ADEM/GWB
Underground Injection Control Program	X	Fully established	ADEM/GWB/OGB
Vulnerability Assessment for Drinking Water/Wellhead Protection	X	Fully established	ADEM/GWB
Well Abandonment Regulations	X	WSB Regs & Guidelines	ADEM/WSB/GWB
Wellhead Protection Program (EPA-approved)	X	Fully established	ADEM/WSB
Well Installation Regulations	X	Fully established	ADEM/WSB

(1) ADEM = Alabama Department of Environmental Management, FOD = Field Operations Division, GWB = Ground Water Branch, WSB = Water Supply Branch, LD = Land Division, HWB = Hazardous Waste Branch, OEO = Office of Education and Outreach, SWB = Solid Waste Branch, MUN = Municipal Section, IND = Industrial Section, GSA = Geological Survey of Alabama, ADPH = Alabama Department of Economic and Community Affairs, Office of Water Resources, EPA = Environmental Protection Agency, EMA = Emergency Management Agency

- Implementation of the Source Water Assessment Program within the ADEM Water Supply Branch regulations.
- Implementation of guidance for Risk Based Corrective Action (RBCA) with respect to releases from structures and/or facility's other than Underground Storage Tanks. This guidance was also revised in 2007.
- Implementation of revised guidance for Risk Based Corrective Action (RBCA) with respect to releases of petroleum fuels from Underground Storage Tanks.
- Initiation of transferring all documentation from the files to a FileNet Program allowing these files to be accessible to the public.
- The deadline for UST upgrades with spill, overfill and corrosion protection was December 22, 1998. Tanks should have been upgraded, replaced with a new system or permanently closed by this date. The compliance rate with these regulations is increasing with continuing enforcement of these requirements.
- A contract was signed with the Geological Survey of Alabama, in September 1997, to revise a series of 13 Aquifer Vulnerability Reports. These reports are being revised by updating geologic names and terms to match the most recent state mapping, revising vulnerability maps from 1:250,000 scale to 1:100,000 scale, revising the vulnerability rating methods, update information on public supply wells and to include text, maps and figures in an electronic CDROM format and GIS Interactive maps. Area 13 (Baldwin and Mobile Counties), Area 10 (Washington, Choctaw and Clarke Counties), Area 5 (Coosa, Cleburne, Clay, Randolph, Tallapoosa, Chambers and Lee Counties), Area 11 (Covington, Escambia, Monroe, Clarke, Butler and Crenshaw Counties), and Area 4 (Jefferson, St. Clair, Calhoun, Talladega and Shelby Counties) were completed prior to 2006. In 2006, Area 2 (Blount, Cherokee, DeKalb, Etowah, Jackson and Marshall Counties) and Area 7 (Bibb, Dallas, Hale, Perry and Wilcox Counties) has completed the review process and should be available in the near future.
- Regulations have been developed by ADEM and implemented to deal with Concentrated Animal Feeding Operations (CAFOS). Hydrogeologic site evaluations and groundwater monitoring requirements have been included in the regulations as part of siting and operation requirements for CAFO lagoons and land application sites.
- The U.S. Geological Survey has completed the National Water Quality Assessment that includes significant parts of Alabama's Mobile River and Lower Tennessee River Basins.
- The Alabama Department of Public Health has completed its on-site sewage regulations that went into effect on March 9, 2006.

5.4 Summary of Groundwater Contamination Sources

5.4.1 Reporting Area

Previous 305B reports have documented the Physiographic Provinces of the Highland Rim, Cumberland Plateau, Coastal Plan, and Alabama Valley and Ridge. The Alabama Department of Environmental Management has selected the Piedmont Upland physiographic section in Alabama for evaluation during the 2008 reporting period. This completes the total physiographic and geographic coverage of Alabama. The only aquifer in the reporting area is limited to the water-bearing igneous and metamorphic rocks. None of the igneous and metamorphic rocks in the study area are considered a major aquifer because of small yields.

Counties included in the reporting area in whole or part are Calhoun, Chambers, Chilton, Clay, Cleburne, Coosa, Elmore, Lee, Randolph, Talladega and Tallapoosa. Data contained in Table 5-2 and 5-3 were queried and retrieved by county. Some overlap of data from physiographic provinces highlighted in previous 305B report is shown for the above mentioned counties that do not lie wholly within the report's selected physiographic section.

5.4.2 Data Review and Compilation

Hydrogeologists from the ADEM Groundwater Branch are assigned to the major groundwater regulatory programs as part of the Comprehensive State Groundwater Protection Program. The information contained in Table 5-2, Groundwater Contamination Summary, was researched from ADEM's electronic databases and prepared by the hydrogeologists assigned to each of the programs listed under the Source type column.

5.4.3 Superfund CERCLIS and DOD Sites

ADEM's Land Division works with EPA and the Department of Defense to manage these types of sites. There are no Department of Defense facilities located within the reporting area. There is one facility identified within the reporting area listed on the National Priority List (NPL). Compounds such as dissolved solids, metals and nitroaromatics are associated with the NPL site are present and make remediation problematic. The CERCLIS sites are sites where State and Federal Funds have been used to conduct preliminary and secondary assessments by ADEM and EPA. There are no CERCLIS sites within the reporting area

5.4.4 Underground Storage Tank Program

The largest category of sites listed in Table 5-2 is Underground Storage Tanks (UST). These sites are managed by the ADEM Groundwater Branch. Assessment and clean up of eligible sites are funded through the State UST Trust Fund. Many of the cleanups listed include free product, source and soil removals. Active groundwater remediation systems are also included. Most of these cleanups involve gasoline releases, but also includes releases of diesel and fuel oils. These petroleum fuels include soluble compounds such as Benzene, Ethyl Benzene, Toluene, and Xylene (BTEX), Polynuclear Aromatic Hydrocarbons (PAH's), Methyl Tertiary Butyl Ether (MTBE), and lead that affects groundwater quality. Monitoring for MTBE at UST sites has been required since 1996. A monitoring effort from all public water supplies for MTBE was conducted in 2000 and continues to be under the Water Quality Regulations.

5.4.5 Hazardous Waste Management Program (RCRA)

There are eleven (11) hazardous waste sites managed under the Resource Conservation and Recovery Act (RCRA) identified in the study area. The ADEM Land Division's Hazardous Waste Branch manages this site. This site included extensive assessment, permitting and reporting requirements. Compounds such as chlorinated volatile organic compounds and BTEX associated with hazardous waste generated by the facility are present in many instances and have properties that make remediation problematic.

Table 5-2 Ground Water Contamination Summary

Source Type	Number of Sites	Number of sites that are listed and/or have confirmed releases	Number with confirmed ground water contamination	Contaminants	Number of Site Investigations (optional)	Number of sites that have been stabilized or have had the source removed	Number of sites with corrective action plans (optional)	Number of sites with active remediation (optional)	Number of sites with cleanup completed (optional)
NPL	1	1	1	Dissolved Solids, metals, Nitroaromatics	2				
CERCLIS (non-NPL)									
DOD/DOE									
Brownsfield & VCP Sites	6	6	6	VOCs, Metals	2	3	1		2
Drycleaning Trust Fund	2	2	2	Chorinated VOCs		2			
UST	245	245	245	BTEX, MTBE, PAHs					
RCRA Corrective Action	11	11	11	Chorinated VOCs, Petroleum Hydrocarbons (BTEX, MTBE, PAHs)	12	10	11	10	
Underground Injection	30	0	0						
State Sites	10	9	9	VOCs, Fluoride	9	7	2	1	1
Solid Waste	3	3	3	Metals					
Totals	308	277	277		25	22	14	11	3

Hydrogeologic Setting: Piedmont Upland Physiographic Section (Northern Piedmont Upland and Southern Piedmont Upland)Map Available: See Figure 5-1 Date Reporting Period: 2006-2007

Table 5-3 Basic Tables by Category, Totals, Overall by categories, by County - Alabama, 2005

	Water withdrawals (Mgal/d)															
	Public Supply		Commer-cial	Domestic	Industrial		Thermoelectric		Mining		Livestock	Aquaculture		Irrigation	Total	
County	Fresh	Saline	Fresh	Fresh	Fresh	Saline	Fresh	Saline	Fresh	Saline	Fresh	Fresh	Saline	Fresh	Fresh	Saline
Calhoun	19.76	0	0	0.83	1.1	0	0	0	0.19	0	0.12	0	0	0	22	0
Chambers	0	0	0	0.58	0	0	0	0	0	0	0.08	0	0	0.16	0.82	0
Chilton	2.55	0	0	0.58	0	0	0	0	0.32	0	0.09	0	0	0.56	4.1	0
Clay	0	0	0	0.39	0	0	0	0	0	0	0.14	0	0	0	0.53	0
Cleburne	0	0	0	0.72	0.71	0	0	0	0	0	0.17	0	0	0	1.6	0
Coosa	0	0	0	0.28	0	0	0	0	0.11	0	0.03	0	0	1.92	2.34	0
Elmore	2.17	0	0	0.38	0	0	0	0	0.21	0	0.1	0	0	0.29	3.15	0
Lee	0.77	0	0	0.7	0	0	0	0	0.26	0	0.04	0.05	0	0.69	2.51	0
Randolph	0	0	0	0.53	0	0	0	0	0	0	0.23	0	0	1.79	2.55	0
Talladega	6.36	0	0	1.26	1.26	0	0	0	0.75	0	0.13	0	0	0.17	9.93	0
Tallapoosa	0	0	0	0.28	0	0	0	0	0	0	0.05	0.03	0	0.05	0.41	0
Total:	31.61	0	0	6.53	3.07	0	0	0	1.84	0	1.18	0.08	0	5.63	49.94	0

Source: Tom Littlepage, Alabama Department of Economic & Community Affairs, 2008

5.4.6 Alabama Brownfield & Voluntary Cleanup Program

The ADEM's Land Division administers the Brownfield Redevelopment and Voluntary Cleanup Program pursuant to the Alabama Land Recycling and Redevelopment Act, Code of Alabama 1975, § 22-30E-4 (ADEM Admin. Code Rule 335-15-x-.xx). The program provides a mechanism for the implementation of a cleanup program that encourages applicants to voluntarily assess, remediate and reuse rural and urban areas with actual or perceived contamination. There are six sites managed under the Alabama Brownfield and Voluntary Cleanup Program within the study area. Compounds such as Volatile Organic Compounds (VOCs) and metals are associated with these sites.

5.4.7 Alabama Drycleaning Trust Fund Program

The ADEM's Land Division administers the Alabama Drycleaning Environmental Response Trust Fund (DERTF) Program pursuant to the Alabama Drycleaning Environmental response Trust Fund Act, Code of Alabama, 1975, § 22-30D-1 et. seq (ADEM Admin. Code Rule 335-16-x-.xx). The program established: (1) performance standards for facilities brought into use after May 24, 2003, (2) a schedule for the retrofit of facilities that were in existence prior to May 24, 2000, (3) criteria required for reporting a suspected release or site discovery, and (4) requirements for initial investigation, assessment, and remediation of contamination. There are two facilities managed under the Alabama Drycleaning Trust Fund in the study area. The compounds associated with these sites are volatile organic compounds associated with chlorinated solvents.

5.4.8 Underground Injection Control Program

The Underground Injection Control (UIC) program is managed by the ADEM Groundwater Branch. Each Class V UIC facility in the State is required to operate under an individual performance based discharge permit issued by the UIC Program. The UIC program reviews permit applications; issues individual performance based discharge permits for all Class V facilities; and inspects and tracks Class V facilities for compliance. In this reporting area, permits are issued to Class V facilities for the subsurface injection of treated wastewater from various industrial and commercial activities, and for the injection of materials intended to aid remediation at existing contamination sites. Some types of activities that are permitted and regulated by the UIC Program include discharges from clustered on-site sewage WWTPs, coal washing operations at coal mines, poultry processors, Laundromats, truck and car washes, and other industrial or commercial activities. State Underground Injection Control regulations prohibit the discharge from a class V injection well from causing an exceedance of MCLs in receiving groundwater. Class I and Class IV UIC wells are prohibited in the State of Alabama and Class II injection wells are managed by the State of Alabama Oil and Gas Board. One Class III operation is located in the State, outside of this reporting area.

5.4.9 State Groundwater Program

State Groundwater Program sites are those that are not regulated by established programs such as RCRA, UST, UIC, CERCLA, Drycleaner Trust Fund Program or the Brownfield &

Voluntary Cleanup Program. Sites such as releases from bulk petroleum storage facilities, pipelines, and otherwise unregulated chemical spills are assessed and remediated using the authority of the Alabama Water Pollution Control Act (AWPCA). Releases from these sites are in many cases reported by the responsible party through company initiated environmental audits or are discovered as a result of real-estate assessments during property transactions. Other groundwater incidents are discovered and reported to the Department by citizens or discovered through inspections. Assessment and cleanup of these sites is required to be conducted by the responsible party. Many types of contaminant releases have been addressed by this program. There are 10 facilities managed under the State Groundwater Program.

5.4.10 Solid Waste Program

There are three (3) solid waste facilities managed under the Solid Waste Program within the study area. The ADEM Land Division's Solid Waste Branch manages these sites, and includes extensive assessment, permitting and reporting requirements. Analytical data associated with these sites documents that metals are the constituents of concern at these sites

5.4.11 Ambient Monitoring Network

Aquifer monitoring data listed in Table 5-3 was evaluated for counties in the study area. The monitoring data were obtained from the Geological Survey of Alabama (GSA) and from ADEM's computer databases. The GSA maintains an ambient groundwater level monitoring network throughout the state. Four hundred ninety (400) sites are monitored in the fall for water levels. Fifty of these water level sites are springs. Twenty five (25) sites are located within the Piedmont Physiographic Section of Alabama. Twenty four (24) of these sites are wells, one (1) is a spring where discharge measurements are made.

5.5 Summary of Groundwater Quality

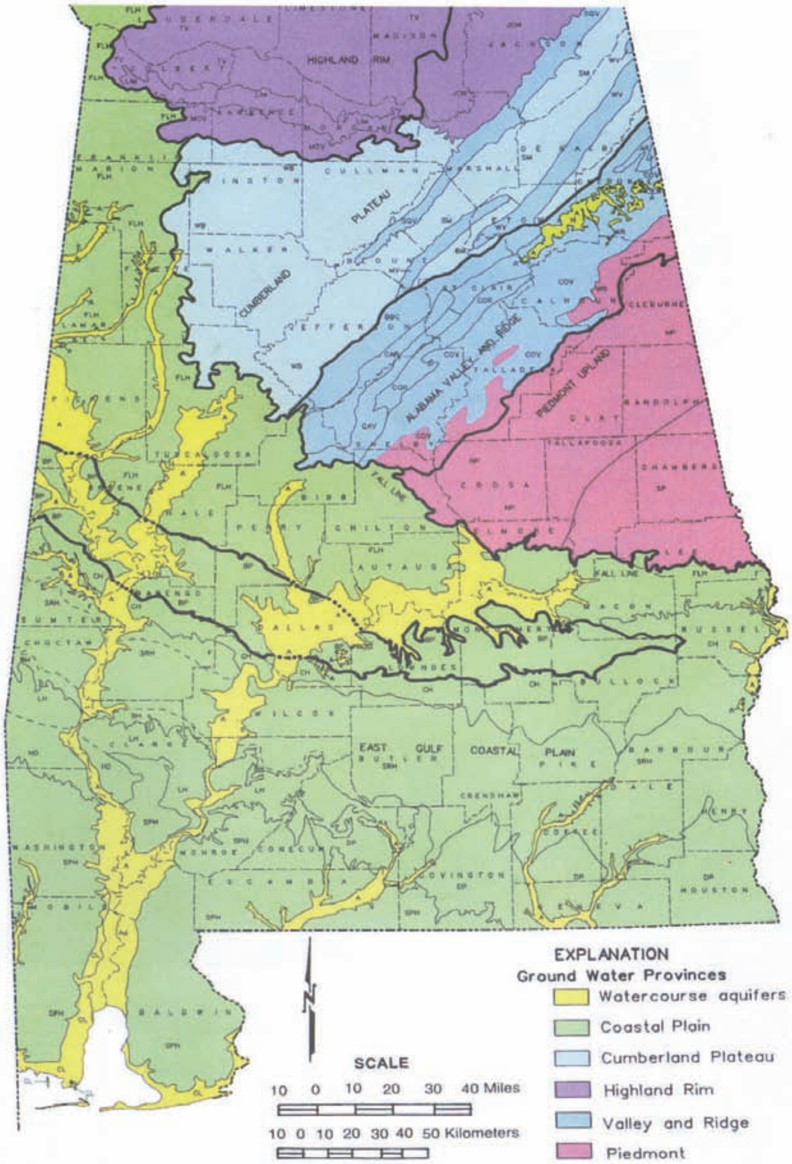
5.5.1 Physiography

The physiographic section in this 305(b) Report is the Piedmont Upland. The Piedmont Upland Section is divided into two districts (the Northern Piedmont Upland district and the Southern Piedmont Upland district). Eleven counties in Alabama contain one or both of these districts. The counties are Calhoun, Chambers, Chilton, Clay, Cleburne, Coosa, Elmore, Lee, Randolph, Talladega ad Tallapoosa (see Figure 5-1).

Northern Piedmont Upland District

The Northern Piedmont Upland district is characterized by well-dissected upland developed on metamorphosed sedimentary and igneous rocks. The land surface ranges from about 1,100 feet above sea level in north Cleburne County to about 500 feet above sea level in the south near Mitchell Lake. Talladega Mountain forms a prominent northeastward-trending ridge that includes Cheaha Mountain (2,407 feet above sea level), the highest point in Alabama. All of Clay County, most of Cleburne, Randolph, and Coosa Counties, most of Tallapoosa County west of the Tallapoosa River, and the northwestern corner of Chambers County are in the Northern Piedmont Upland district. Surface drainage in the district generally is south to the Tallapoosa River and southwest to the Coosa River.

Figure 5-1 Alabama Ground Water Provinces



Ground water provinces are regions characterized by certain kinds of aquifers.

Figure 5-2 Generalized Geology of the Piedmont in Alabama

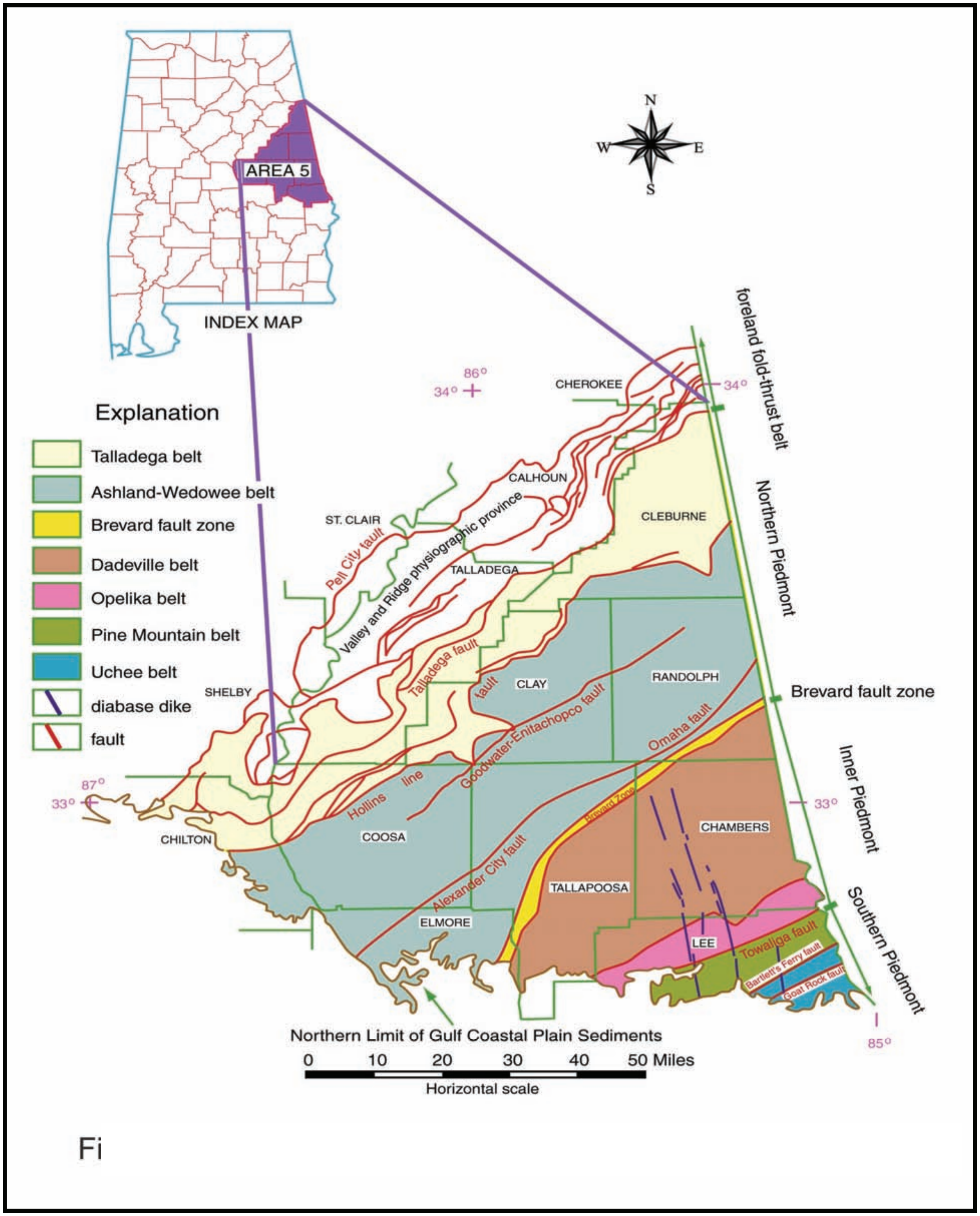
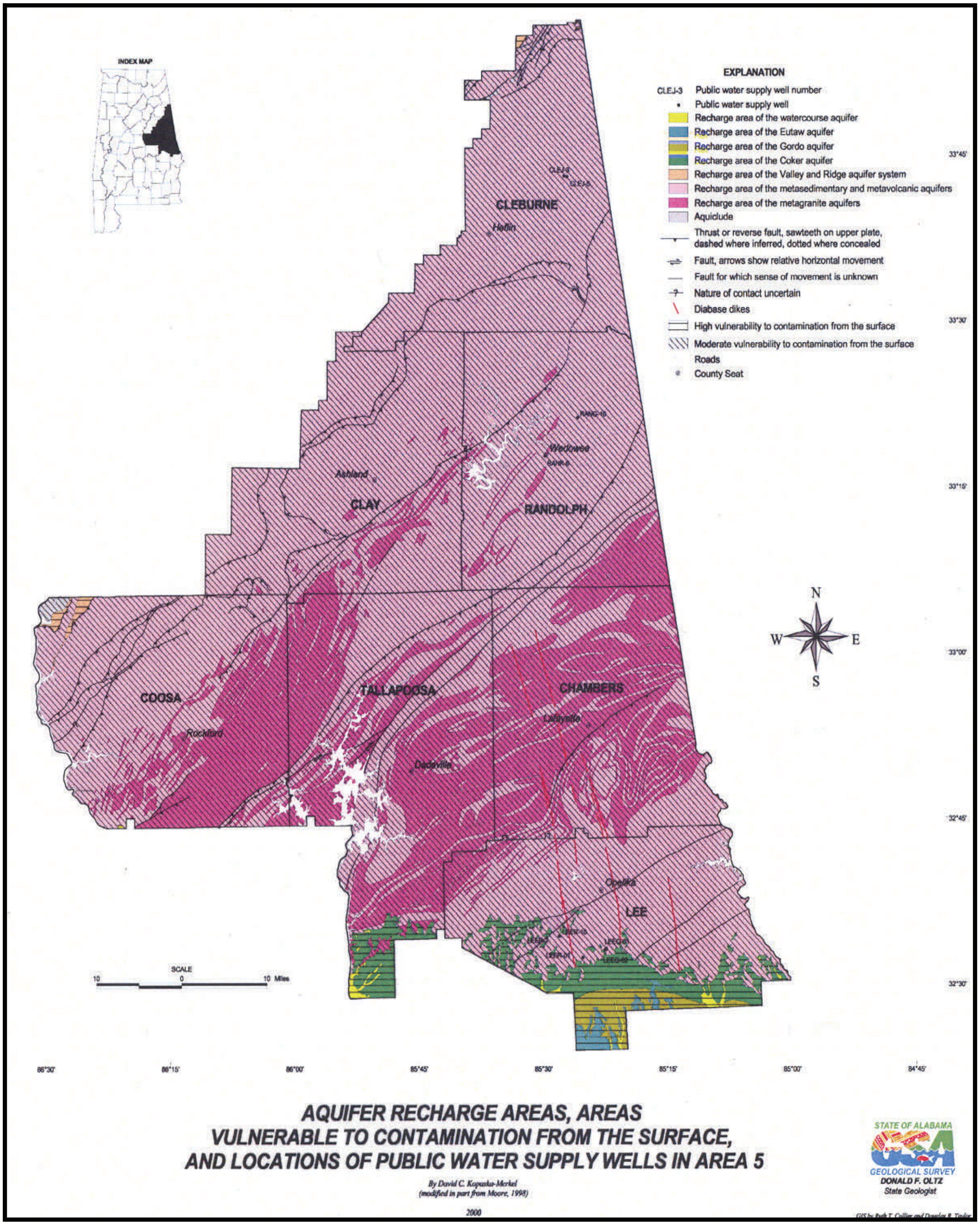


Figure 5-3 Aquifers in Area 5



Southern Piedmont Upland District
The Southern Piedmont Upland district is characterized by a rolling topography indicative of a dissected peneplain of advanced erosional maturity. The land surface of the district ranges in altitude from about 500 to 900 feet above sea level and averages about 800 feet above sea level. Most of Chambers and Lee Counties, the southeastern part of Randolph County, and most of Tallapoosa County east of the Tallapoosa River are in this district. Surface drainage in the district generally is southwestward to the Tallapoosa River and southeastward to the Chattahoochee River.

5.5.2 Geology

The Piedmont is underlain by igneous and metamorphic rocks, whose age, structure, and stratigraphic relations are not well understood. The Piedmont region is subdivided into three major tectonic belts: the Northern, Inner, and Southern Piedmonts. Each of these can be subdivided into two belts. The Northern Piedmont contains the Talladega and Ashland-Wedowee belts, the Inner Piedmont contains the Dadeville and Opelika belts, and the Southern Piedmont contains the Pine Mountain and Uchee belts (Figure 5-2). Each tectonic belt is distinct in terms of rock type associations and metamorphic grade and is separated from the others by regional synmetamorphic to postmetamorphic fault zones. The rocks in the Piedmont are predominantly clastic sediments that have been altered by several stages of regional metamorphism to slate, schist, phyllite, quartzite, gneiss, and marble. In some areas, these rocks have been intruded by mafic and felsic igneous rocks.
Several major faults and lines of metamorphic discontinuity cut the metamorphic units. The Talladega fault separates the Piedmont from the Valley and Ridge Province to the northwest. The Hollins line fault, Alexander City-Omaha fault system, and Goodwater-Enitachopco fault system, are major faults or metamorphic discontinuities in the northern part of the Piedmont. These structures are interpreted as major structural discontinuities resulting from the movement of metamorphic rock of one grade over that of another grade. The Brevard fault zone, Towaliga Fault zone, and Goat Rock fault zone are major structural features in the southern half of the study area. The Brevard and Goat Rock faults dip to the southeast and the Towaliga fault zone dips to the northwest.
Bedrock is exposed at the surface in some areas, but most of the Piedmont is covered by regolith. regolith, also known as saprolite, is is decomposed untransported material that has weathered from the Bedrock extends to depths of 50 to 100 Feet in many parts of the Piedmont.

Talladega Belt
The Talladega belt is underlain by low-rank metamorphosed sedimentary rocks that form a continuous northeast-southwest-oriented belt 8 to 22 miles wide. The Talladega belt consists predominantly of slate and phyllite with some marble, dolomite, and quartzite of the Hillabee Greenstone, Talladega Group, Heflin Phyllite, Sylacauga Marble Group, and Kahatchee Mountain Group. Foliations in the rocks generally dip southeastward at angles of 30 to 60 degrees.

Ashland-Wedowee Belt
The Ashland-Wedowee belt is underlain by high-grade metasedimentary rocks that include the Higgins Ferry, Poe Bridge Mountain, Hatchet Creek, Mad Indian, Wedowee, and Emuckfaw

Groups. Metavolcanic rocks include amphibolite and ultramafic rocks. Foliations of the metasedimentary rocks generally dip southeastward from 30 to 90 degrees.

Metagranite comprises about one-third of the Ashland-Wedowee belt. The Elkahatchee Quartz Diorite Gneiss, the largest granitic mass in Alabama, is 6 to 10 miles wide and 40 miles long. Associated granitic intrusions occur along strike into Clay and Randolph Counties. Granitic rocks consist of the minerals microcline, orthoclase, plagioclase, quartz, biotite and muscovite. A belt of metagranite (the Kowaliga Gneiss) crops out about 5 miles southeast of the Elkahatchee Quartz Diorite Gneiss.

Dadeville Belt
The Dadeville Belt consists primarily of micaceous gneiss and schist and some hornblende gneiss. The micaceous gneiss contains scattered feldspathic porphyroblasts and feldspathic bands. The Dadeville Belt contains scattered metagranite units, and a series of ultramafic rocks have intruded the micaceous and hornblende gneisses in some areas.

Opelika Belt
The Opelika belt is located immediately to the southeast of the Dadeville belt and is about 5 to 6 miles wide. The Opelika belt consists primarily of biotite gneiss and augen gneiss, and includes some granite gneiss and migmatites in southeastern Chambers County. Diabase dikes cut across the belt about 2.5 miles northeast of Auburn.

Pine Mountain Belt
The rocks of the Pine Mountain belt crop out southeast of the Opelika belt in Lee County. Foliation planes of the metamorphic rocks dip southeastward, and consist predominantly of garnetiferous-biotite schist and quartz-muscovite schist with some granite gneiss, biotite augen gneiss, quartzites, and dolomite marble.

Uchee Belt
The rocks of the Uchee belt crop out in Lee County southeast of the Pine Mountain belt. These rocks are predominantly biotite and hornblende gneiss and granite gneiss. Mylonitization is common in the granitic gneiss and may have been caused by movement on the Goat Rock fault.

5.5.3 Hydrogeology of Major Aquifers

The igneous and metamorphic rocks of the Piedmont in the study area typically yield small quantities of water. These aquifers are unconfined heterogeneous two-component systems consisting of fractured crystalline bedrock and overlying regolith. Primary porosity in the metamorphic rocks generally is less than 1 percent; secondary fracture porosity in bedrock locally greatly exceeds primary bedrock porosity. Regolith porosity values may approach 50 percent. The basal portions of regolith zones generally are the most productive aquifers. However, these productive aquifers generally are separated from one another by surface drainage divides, and adjacent basins tend not to be hydraulically connected. The Piedmont is divided into four aquifers and aquifer systems: the metagranite aquifers, the metasedimentary and metavolcanic aquifers, and the mafic igneous aquifers.

Metagranite Aquifers

The metagranite aquifers include a heterogeneous group of granitic and metagranitic rocks in the southern part of the Northern Piedmont (Ashland-Wedowee belt) and the Inner Piedmont (Dadeville belt). The metagranite aquifers occupy nearly a quarter of the area of the Piedmont, including high-yield zones in the vicinity of Rockford, near Dadeville, and in northern Elmore County. The “felsic intrusive” and “gneiss” components of the metagranite aquifers are characterized by relatively low well yields (median yields of 6 and 7 gpm, respectively). The “metamorphic mafic-ultramafic” hydrogeologic unit has a relatively high median yield of 15 gpm. Wells completed in metagranite of the Elkahatchee Quartz Diorite Gneiss and associated rocks of the Ashland-Wedowee belt range from less than 100 to more than 500 feet in depth. The Metagranite aquifers in the Ashland-Wedowee belt are tapped by many wells for industrial use and at recreation sites, schools, churches, and camps, but are not used as municipal water supplies owning to small yields.

The average thickness of regolith overlying metagranite aquifers of the Dadeville belt is about 50 feet. Wells developed in saturated regolith may yield as much as 50 gpm but generally yield less than 10 gpm. Well depths range from 35 to 500 feet. The Dadeville belt is tapped by many wells for industrial use and at recreation sites, schools, churches, and camps, but is not used as a municipal water supply owing to small yields.

Metasedimentary and Metavolcanic Aquifers

The metasedimentary and metavolcanic aquifers occupy about three-quarts of the Piedmont and are the most geologically diverse of the three Piedmont aquifer groups. Metasedimentary and Metavolcanic aquifers are found in all six Piedmont tectonic belts. The metasedimentary and metavolcanic aquifers classified by Guthrie and others (1994) as “phyllite+quartzite+slate,” “schist,” “metagraywache,” “dolomite marble,” and “mylonite” hydrogeologic units. High-yield zones are more common in the Southern Piedmont (southeast of the Brevard Zone) than in the Northern Piedmont, but do not correspond to particular rock types or hydrogeologic units. Instead, high-yield zones develop in regional fracture systems that crosscut hydrogeologic unit boundaries and even metamorphic belts.

Median well yields of different kinds of metasedimentary and metavolcanic aquifers range from 9 gpm for mylonite to 10 gpm for phyllite+quartzite+slate and dolomite marble. Phyllite+quartzite+slate yield significantly more water than do gneiss or felsic intrusive rocks of the metagranite aquifers. Public-supply wells completed in the Talladega belt range from 100 to 540 feet in depth and yield less than 30 gpm. Wells in the Hillabee Greenstone have been used as a public source of water in the past, but are no longer used for that purpose because of small yields (generally less than 10 gpm). The metasedimentary and Metavolcanic in the Ashland –Wedowee belt is tapped by many wells for industrial use and at recreation sites, schools, churches, and camps, but is not used for municipal water supply owing to small yields. Rocks in the Opelika belt do not yield sufficient quantities for water for public supplies, but do supply water to some domestic wells.

Wells in the Pine Mountain belt generally yield less than 25 gpm each, but one well yielded more than 2,000 gpm. This well may penetrate either solution cavities in dolomite or large fractures in quartzite. The towns of Auburn, Smiths, and Beauregard have wells completed in rocks of the Pine Mountain belt. Beauregard maintains three wells for water supply. A spring that discharges from carbonate rocks of the Pine Mountain belt was used at one time as an emergency water supply by Opelika. Auburn and Opelika now uses surface water as their

principal water supply. No public-supply wells tap rocks of the Uchee belt.
Mafic Igneous Aquifers
The mafic igneous aquifers consist of intrusive dikes composed of Diabase that trend north to north-northwest and crop out in Lee and Chambers Counties. Because the mafic igneous aquifers are extremely restricted in aerial extent, they are only locally important sources of groundwater. However, the bedrock of the mafic igneous aquifers weathers readily, hence relatively high-yield wells can be completed locally in these aquifers. No public-supply wells tap the mafic igneous aquifers

5.5.4 General Statement of Groundwater Quality and Vulnerability

The source of recharge to aquifers is precipitation, mostly rain supplemented by occasional snow. Average annual precipitation for the Piedmont area is about 52 inches per year, but a large part runs off during and directly after rainstorms. Chandler (1076) estimated recharge to aquifers in the study area to be about 6 inches per year. Because some aquifer recharge areas are narrow, precipitation falling on the recharge area of one aquifer may contribute indirectly to recharge of adjacent aquifers.

Aquifer vulnerability is a difficult concept to evaluate in the Piedmont area owing to the complexity and variability of the geology and aquifers involved. Piedmont aquifers are moderately vulnerable to contaminants from both surface and subsurface sources in their outcrop areas. Piedmont aquifers are unconfined, which means that they are readily accessible to contaminants introduced at or near the land surface, even where the aquifers are buried by soil or unsaturated regolith.

For more information about Groundwater, contact Mr. Whit Slagle in ADEM's Montgomery Office at (334) 271-7831 or cws@adem.state.al.us

Chapter 6 Coastal Waters

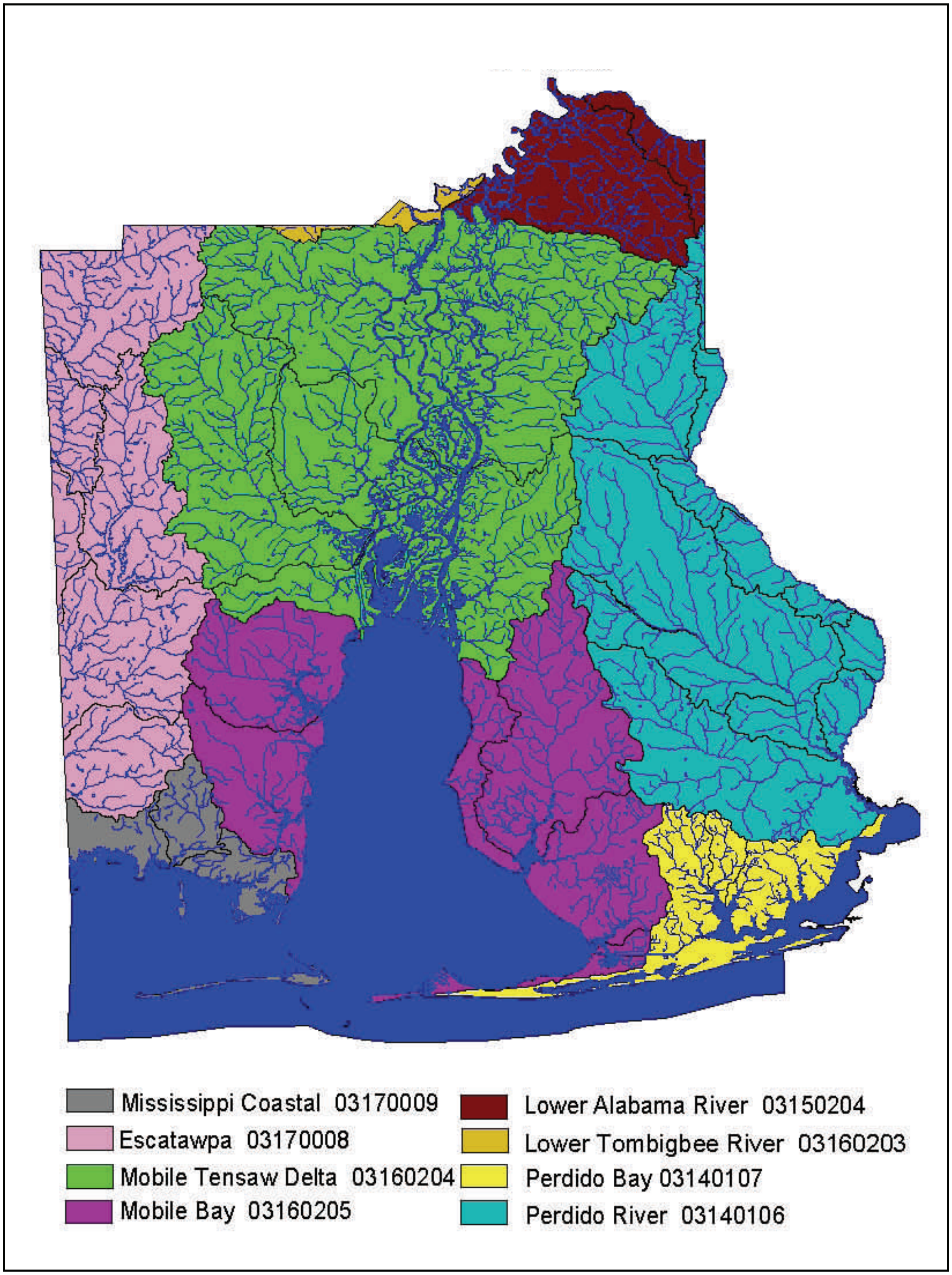
6.1 Alabama Coastal Nonpoint Pollution Control Program (ACNPCP)

In June 1998, the NOAA-Office of Coastal and Resource Management (OCRM) and USEPA awarded conditional approval to the Alabama Coastal Nonpoint Pollution Control Program (ACNPCP). Since achieving conditional approval, ADEM has developed the ACNPCP, seeking full program approval, in order to ensure that program components are implemented to the maximum extent practicable. The approved ACNPCP Management Area is inclusive of the subwatersheds of the Escatawpa, Mobile-Tensaw, and Perdido Sub-Basins, that are contained within the geo-political boundaries of Baldwin and Mobile Counties. Figure 6-1, on page, depicts the ACNPCP Management Area.

ADEM continues to work with ADCNR-State Lands, NOAA-OCRM, USEPA and other State and federal agencies to coordinate the Alabama Coastal Nonpoint Pollution Control Program (ACNPCP). ADEM submitted the, ACNPCP: 2003 Submission Documentation; Response to NOAA/EPA Conditional Approval Items; July 31, 2003, wherein the State described new and expanded program components that demonstrate an approvable ACNPCP. This submission included a 250 page description of the Program with over 500 supporting documents, which include statewide and coastal projects and programs that have been developed or tailored to address the ACNPCP management measures. This documentation was augmented by the submission of the ACNPCP: Response to “Final Administrative Changes” Guidance; ACNPCP 2003 Submission Support Document; October 31, 2003, that provided the enforcement policy, long term strategy and implementation planning documentation requested by the federal review agencies to
complete their approval review process. The State is in the process of implementing it’s approach and 12 supporting projects that address the joint NOAA/EPA Interim Decision Document for Unapproved Conditions of ACNPCP (February 16, 2005), which outlines recommended actions to help the State gain federal approval and allow full program implementation. Figure 6-1 shows the ACNPCP Management Area.

The ACNPCP utilizes partnerships with Federal, State and Local agencies, businesses, organizations and decision makers to influence the implementation of items necessary to achieve program approval and operation. The ACNPCP has facilitated the development of a broad-based Technical Advisory Committee (TAC), the Coastal Alabama Nonpoint Source Resources Matrix (Matrix) and the Coastal Alabama Clean Water Partnership. The ACNPCP also works with the ADEM-319 program to address nonpoint source pollution management program needs and issues. These various forums are being utilized to enhance coordination and cooperation regarding coastal water quality resources management. NOAA-OCRM, USEPA, ADEM-319, ADCNR-State Lands, and many other agency environmental partners have helped to further administrative coordination and interagency cooperation.

Figure 6-1 ACNPCP Management Area



ADEM is currently engaged in many ongoing projects pertinent to the ACNPCP that monitor and promote the effectiveness of nonpoint source pollution controls, CZARA-§6217 management measures and program approval criteria. ADEM submitted the Monitoring Plan for the ACNPCP; Mobile and Baldwin Counties, Alabama. This plan incorporates monitoring activities being conducted through ADEM, within the ACNPCP Management Area. ADEM staff continue extensive field monitoring efforts to conduct specific Land Use Category (LUC) BMP Surveys, Targeted Water Quality Studies, inspections of construction and mining operations, and Targeted Watershed Studies within the ACNPCP Management Area. The ACNPCP has concluded Targeted BMP Survey's for Marina and Agriculture LUCs, as well as Alabama's first Riparian Reference Reach and Regional Curve Study for the lower Coastal Plain. ADEM has also conducted the Targeted Water Quality Studies for designated Marinas and Agriculture high density sub-watershed areas, in order to acquire baseline water quality data associated with these land uses, for the coastal waterbodies of Southwest Alabama. The data from many of these activities are utilized to develop GIS information database and mapping applications that support the ACNPCP.
For more information about Alabama's Coastal Nonpoint Pollution Control Program, contact Randy C. Shaneyfelt in ADEM's Mobile Office at (251) 450-3408 or email: rcs@adem.state.al.us

6.2 Coastal Assessment

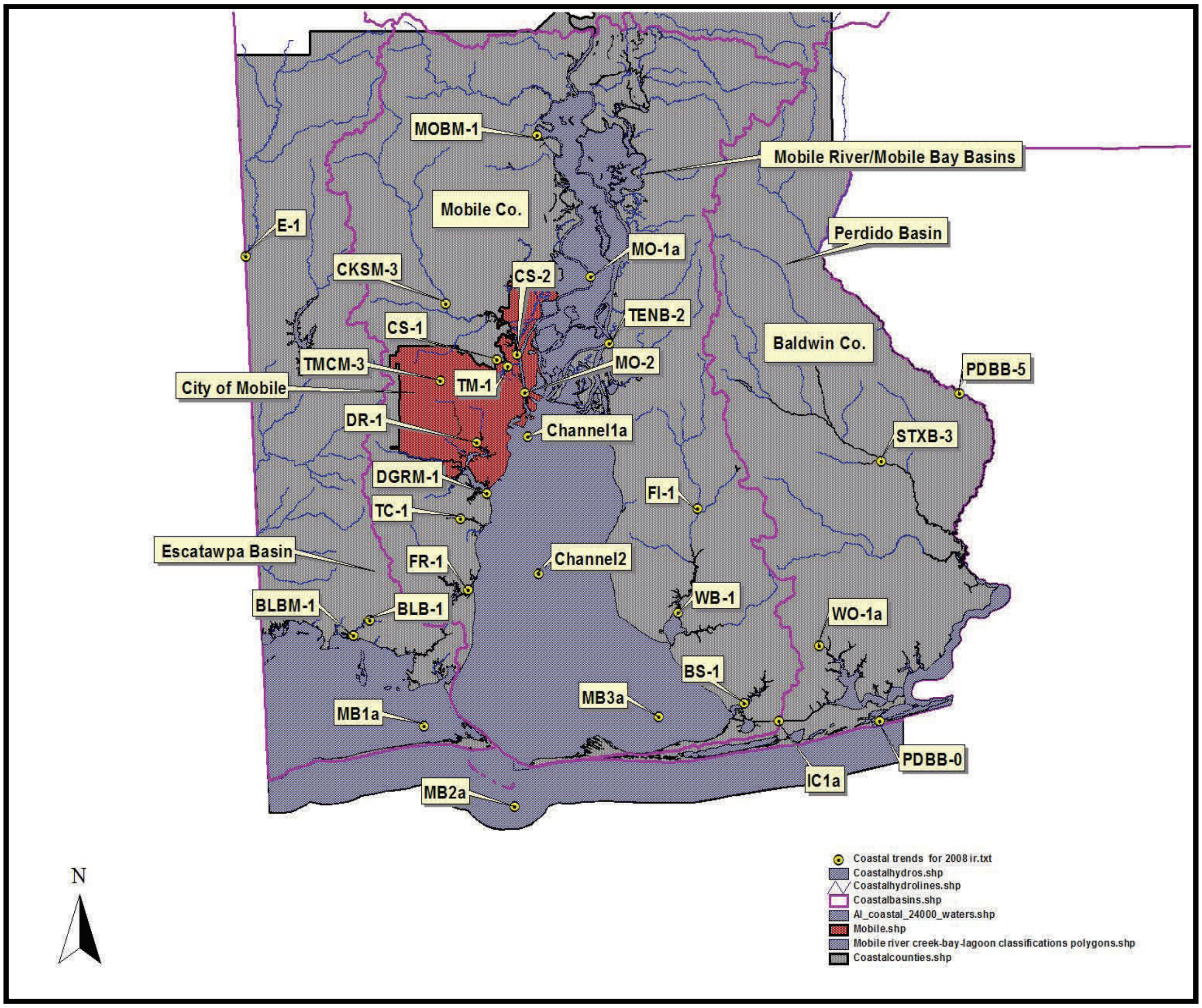
6.2.1 Eutrophication

Hypoxic and anoxic conditions are common in Alabama's coastal waters and are generally most prevalent during the summer months. Naturally occurring conditions combine to result in frequently stressed water quality conditions marked by stratification with low dissolved oxygen. These conditions include: relatively shallow water depths found in all of Alabama's open bays and sounds; low average wind and tidal energies; variable fresh water inflow; and constricted tidal passes. This persistent pattern of hypoxia manifests itself in "Jubilees", an infrequently occurring summer condition in Mobile Bay that results when winds blowing from the mainland drive surface waters from shore, causing deeper, poorly oxygenated water to move into the shallows. Fish, shrimp and crabs get caught in the poorly oxygenated water and generally rise to the surface in stress. The Jubilee phenomenon was first recorded in 1821 indicating that its underlying causes are naturally occurring. At this time it has not been determined if anthropogenic sources exacerbate those underlying causes.

6.2.2 Habitat Modification

Alabama's coastal counties are experiencing tremendous population growth. Statistics indicate that the population of Baldwin County increased from 115,266 in 1994 to 132,828 in 1998 and 140,415 in 2000. Between 1990 and 2000, the Baldwin County population increased by 42.9%. The population of Mobile County increased from 393,826 in 1994 to 399,429 in 1998 to 399,843 in 2000. Between 1990 and 2000, the Mobile County population increased by 5.6%. Much of that growth is occurring within Alabama's defined coastal area, particularly in Baldwin County where there has been explosive growth in the beach communities of Orange

Figure 6-2 Active Coastal Trend Stations



Beach and Gulf Shores and on the Eastern Shore of Mobile Bay. The area of west Mobile, inside and outside of the current city boundary, is undergoing rapid commercial and residential development. Sedimentation from erosion at the numerous construction sites and the increased post development storm water runoff have placed a heavy burden on the receiving streams in the area increasing the incidence of flooding and stream bank erosion. All of Alabama's estuarine waters are being affected by this population growth..

Applications to the Department for coastal permits and certifications are growing, particularly in terms of complexity. Many of these applications propose projects that would have significant adverse impacts to coastal resources if approved as proposed. Projects having direct and significant adverse wetland impacts are routinely reviewed by Department personnel pursuant to the provisions of ADEM Administrative Code R.335-8 (Coastal Program) and Section 404 of the Clean Water Act. Generally, permits are issued for projects having wetland impacts only if all of the following conditions are satisfied.: the activity is related to an existing or approved water dependent use, or use of regional benefit or related to an approved beach nourishment, shoreline stabilization or marsh creation, restoration or enhancement project,

Table 6-1 Actve Coastal Trend Stations

Station	Station Location	Latitude	Longitude
BLB-1	Bayou La Batre @ AL Hwy 188	30.40556	-88.24806
BLBM-1	Bayou La Batre in channel next to light approx. 0.4 miles upstream of mouth	30.38670	-88.27000
BS-1	Bon Secour River at Oyster Bay Canal	30.30139	-87.73542
Channel1a	Mobile ship channel just south of Arlington ship channel @ channel marker 76	30.63637	-88.03165
Channel2	Mobile ship channel south of Galliard Island @ channel marker 51	30.46424	-88.01657
CKSM-3	Chickasaw Creek @ State Highway 158	30.80297	-88.14334
CS-1	Chickasw Creek on north side U.S. Hwy 43 Bridge Crossing	30.73258	-88.07330
CS-2	Chickasaw Creek on north side of CSX RR Crossing @ confluence with Mobile River	30.73911	-88.04561
DR-1	Dog River @ Luscher Park Boat Launch near I-10	30.62861	-88.10139
DGRM-1	Dog River in main channel at State Highway 163	30.56510	-88.08780
E-1	Escatawpa River @ U.S. Hwy 98 (Moffat Road) near Mississippi/Ala state line	30.86241	-88.41769
FI-1	Fish River @ State Hwy 104	30.54542	-87.79861
FR-1	Fowl River @ State Hwy 193	30.44403	-88.11333
IC1a	Intracoastal Waterway @ State Highway 59	30.27930	-87.68700
MB1a	Intracoastal Waterway on east side of Portersville Bay @ buoy 25	30.27308	-88.17317
MB2a	Mobile ship channel just south of Sand Island Light House in the Gulf of Mexico @ buoy 10	30.17180	-88.04895
MB3a	Intracoastal Waterway in Bon Secour Bay @ channel marker 127	30.28407	-87.85137
MO-1a	Mobile River @ CSX RR Crossing	30.83667	-87.94472
MO-2	Mobile River @ Government Street (Bankhead Tunnel)	30.69083	-88.03556
MOBM-1	Mobile River @ APCO water intake (near Bucks @ doppler gage)	31.01370	-88.01853
PDBB-0	Perdido Bay approx. 0.25 mile upstream of State Highway 182 bridge	30.27968	-87.54948
PDBB-5	Perdido River @ Duck Place Rd. on AL/FL line (off State Highway 112)	30.69047	-87.44026
STXB-3	Styx River @ Baldwin County Rd. 87 (near Elsanor)	30.60532	-87.54700
TC-1	Theodore Industrial Canal @ State Hwy 193 (Rangeline Road)	30.53333	-88.12389
TENB-2	Tensaw River approx. 0.3 mile downstream of power line crossing (near Blakely Park and Steam Mill Landing)	30.75291	-87.91987
TM-1	Three Mile Creek between U.S. Hwy 43 & RR Crossing	30.72403	-88.05903
TMCM-3	Three Mile Creek @ Spring Hill Ave.	30.70630	-88.15111
WB-1	Weeks Bay @ U.S. Hwy 98 (Marina)	30.41470	-87.82575
WO-1a	Wolf Creek @ Swift Church Road (Baldwin Co. Rd. 12)	30.37361	-87.63250

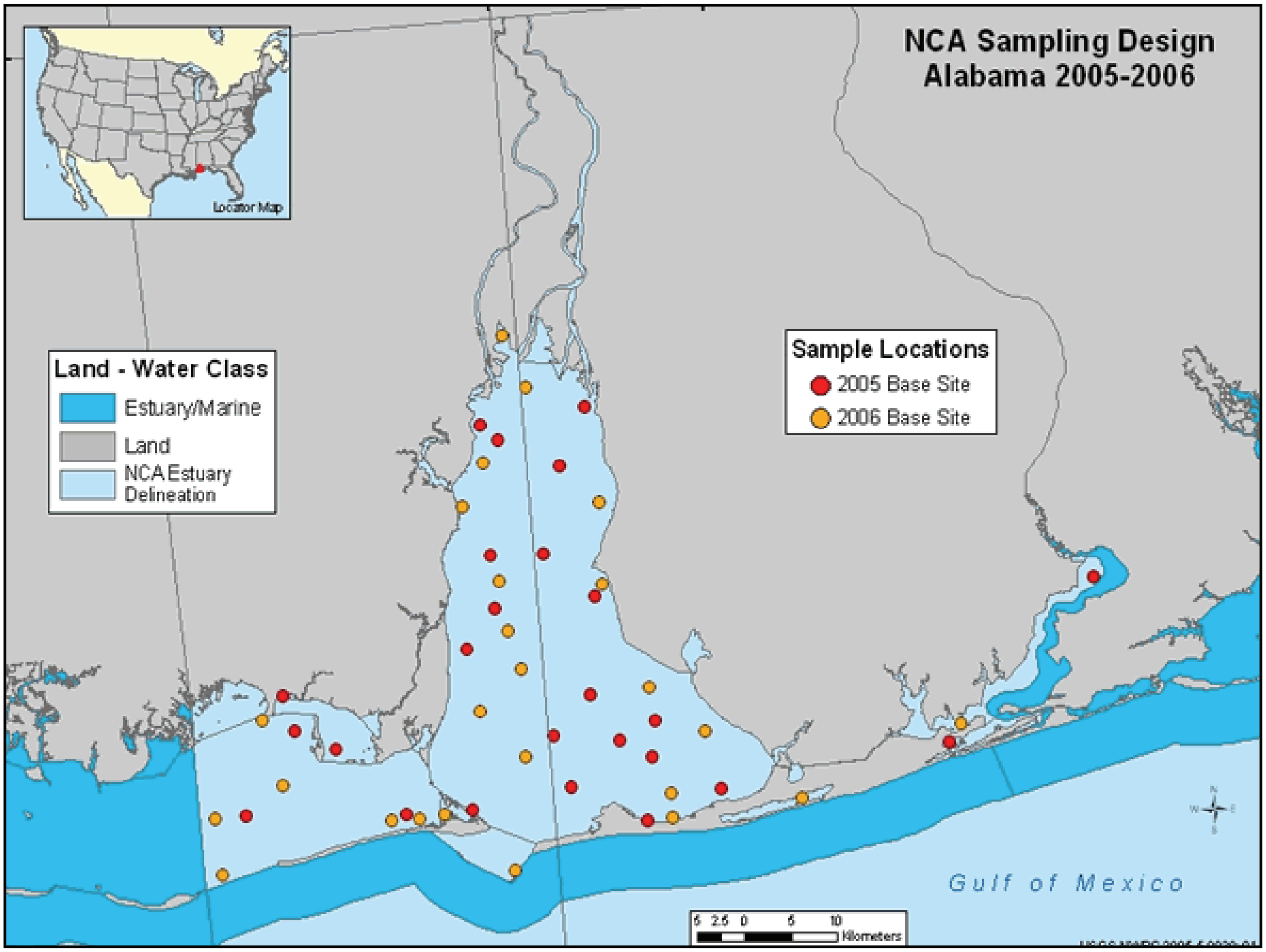
Table 6-2 Coastal Alamap Conventional Parameter Sampling Summaries

2006 NCA: DO, Ph, & Temperature Summary
• Dissolved Oxygen Violations were 40% (20 of 50 stations) with 5.0mg/L as criteria
• Dissolved Oxygen Violations were 22% (11 of 50 stations) with 4.0 mg/L as criteria
• Ph Violations were 0% (0 of 50 stations) below 6 or above 8.5 pH
• Temperature violations were 2% (1 of 50 stations) above 90F (32.2C)
2004 NCA: DO, Ph, & Temperature Summary
• Dissolved Oxygen Violations were 18% (9 of 50 stations) with 5.0mg/L as criteria
• Dissolved Oxygen Violations were 8% (4 of 50 stations) with 4.0 mg/L as criteria
• Ph Violations were 0% (0 of 50 stations) below 6 or above 8.5 pH
• Temperature violations were 2% (1 of 50 stations) above 90F (32.2C)
2003 NCA and ALAMAP-C: DO, Ph & Temperature Summary
• Dissolved Oxygen Violations were 8.9% (10 of 112 stations) with 5.0 mg/L as criteria
• Dissolved Oxygen Violations were 6.3% (7 of 112 stations) with 4.0 mg/L as criteria
• pH violations were 0% (0 of 112 stations below 6 or above 8.5pH)
• Temperature violations were 0% (0 of 112 stations above 90°F)
2002 NCA and ALAMAP-C: DO, Ph, &Temperature Summary
• Dissolved Oxygen Violations were 17% (19 of 112 stations) with 5.0mg/L as criteria
• Dissolved Oxygen Violations were 3.6% (4 of 112 stations) with 4.0mg/L as criteria
• pH violations were 0.9% (1 of 112 stations)
• Temperature violations were 5.4% (6 of 112 stations)
2001 NCA and ALAMAP-C: DO, pH & Temperature Summary
• Dissolved Oxygen Violations were 9.0% (15 of 166 Stations) with 5.0 mg/L as criteria
• Dissolved Oxygen Violations were 4.8% (8 of 166 Stations) 1
• pH violations were 0% (0 of 166 Stations above 8.5)
• Temperature violations were 0% (0 of 166 Stations)
2000 NCA and ALAMAP-C: DO, pH & Temperature Summary
• Dissolved Oxygen Violations were 11% (15 of 140 Stations) with 5.0 mg/L as criteria
• Dissolved Oxygen Violations were 2.1% (3 of 140 Stations) 1
• pH violations were 5.7% (8 of 140 Stations above 8.5)
• Temperature violations were 1% (2 of 140 Stations)

Table 6-2 Coastal Alamap Conventional Parameter Sampling Summaries (Continued)

1999 Coastal ALAMAP DO, pH & Temperature Summary
• Dissolved Oxygen Violations were 7.9% (7 of 89 Stations) with 5.0 mg/L as criteria
• Dissolved Oxygen Violations were 4.5% (4 of 89 Stations) 1
• pH violations were 5.6% (5 of 89 Stations above 8.5)
• Temperature violations were 19% (17 of 89 Stations), {8.9% (8 of 89) were in shallow waters of the Mobile River Delta, 10.1% (9 of 89) were in the Perdido Bay system} due to drought conditions.
1998 Coastal ALAMAP DO, pH & Temperature Summary
• Dissolved Oxygen Violations were 8.8% (6 of 68 Stations) with 5.0 mg/L as criteria
• Dissolved Oxygen Violations were 1.5% (1 of 68 Stations) 1
• pH violations were 2.9% (2 of 68 Stations above 8.5)
• Temperature violations were 8.8% (6 of 68 Stations)
1997 Coastal Alamap DO, pH & Temperature Summary
• Dissolved oxygen violations were 6.1% (8 of 131 stations)
• pH violations were 4.6% (6 of 130 stations above 8.5 pH s.u.)
• Temperature violations were1.5% (2 of 130)
1996 Coastal Alamap DO, pH & Temperature Summary
• Dissolved oxygen violations were 0.0%
• pH violations were 2.7% (3 of 112 stations less than 6.5 pH s.u.)
• Temperature violations were 0.0%
1995 Coastal Alamap DO, pH & Temperature Summary
• Dissolved oxygen violations were 17.2% with 5.0 mg/L as criteria (20 of 109 stations)
• Dissolved oxygen violations were 6.0% (7 of 109 stations) 1
• pH violations were 2.8% (2 of 109 stations less than 6.5 pH s.u. & 1 of 109 above 8.5 pH s.u.)
• Temperature violations were 0.9% (1 of 109 stations)
1994 Coastal Alamap DO, pH & Temperature Summary
• Dissolved oxygen violations were 8.6% with 5.0 mg/L as criteria (11 of 128 stations)
• Dissolved oxygen violations were 3.9% (5 of 128 stations) 1
• pH violations were 4.7% (5 of 128 stations less than 6.5 pH s.u. & 1 of 125 above 8.5 pH s.u.)
• Temperature violations were 0.0%
1993 Coastal Alamap DO, pH & Temperature Summary
• Dissolved oxygen violations were15.3% (13 of 85 using 5.0 mg/L) & 14.1% (12 of 85 using 4.0 mg/L)
• pH violations were 5.8% (6 of 85 above 8.5 pH s.u.)
• Temperature violations were 2.4%

Figure 6-3 NCA 2005-2006 Sampling Sites



elimination of dead-end canals or boat slips exhibiting poor water quality or other similar beneficial use, no other feasible alternatives exist; impacts to wetlands on the project site have been minimized by project design, and mitigation is incorporated into the project proposal.

There have been no coastal area wide surveys completed of wetland acreage for submersed aquatics, tidal emergence, or swamp forest during the reporting period. Due to the State's restrictive approval process, including mitigation requirements, it is believed that wetland losses that do occur are minimal for those wetlands regulated by the program and that other losses that may occur are due to natural erosion, unpermitted activities, and minimal losses due to Nationwide permitting by the U.S. Army Corps of Engineers.

ADEM's Coastal/Facility Unit is working with other governmental entities to support wetland and submersed aquatic vegetation status and trend identification. At this time, both Mobile and Baldwin Counties have been flown and color infrared digital ortho-quarter quads have been produced. This imagery will be used to map wetlands and uplands in Mobile and Baldwin Counties.

Alabama's Coastal Program is compiling data on stabilized versus unstabilized shoreline miles.

In general, the explosive coastal population growth has resulted in near continuous shoreline development, with certain areas developing more rapidly than others. The Gulf shoreline is unstabilized along its length in Alabama, except at the passes from interior estuarine waters to the Gulf of Mexico at Perdido Pass, Little Lagoon Pass, and on the eastern tip of Dauphin Island at the entrance to Mobile Bay.

6.2.3 Changes in Living Resources

The Alabama Department of Conservation and Natural Resources-Marine Resources Division (ADCNR-MRD) manages Alabama's marine resources. According to ADCNR-MRD personnel, populations are cyclic and vary by species. Generally, population levels are all within expected levels and there are no significant declines observed, expected, or predicted. ADCNR oversees the replanting of oyster reefs and believes that there has been an increase in reef size over time. Brown Shrimp landings were above average in 2006. Blue crab landings were at or slightly above average in 2006 (annual averages are 3.1 million pounds).

6.2.4 Toxic Contamination

The ADEM has conducted studies to determine metals enrichment in estuarine sediments and has sampled sediments in proximity to shipyards, petroleum storage terminals, and industrial point source discharges. Beginning in 1993 the ADEM implemented ALAMAP-C to provide a statistically defensible characterization of Alabama's coastal waters. Its parametrical coverage includes metals and selected organic compounds in estuarine sediments. During 2000, ADEM began sampling Alabama's estuarine sediments for toxicity and fishes for whole-body contaminants as part of the NCA program, described above. However, no statement is being made as to the extent of areas having elevated levels of toxicants because no state or EPA criteria for toxins in sediments exist. Figure 6-3 shows NCA 2005-2006 Sampling Sites.

6.2.5 Pathogen Contamination

In addition to the recreational beach monitoring discussed above, Alabama's coastal shellfishing waters are monitored for pathogens and are subject to closings, advisories, or warnings. During the reporting period, all of Alabama's oyster harvest areas were closed at one time or another through closing orders issued by the State Health Officer of the Alabama Department of Public Health.. Those orders were issued when excess fresh water entered Mobile Bay from the Mobile River. Information on Shellfish Harvesting Area Closures/ Reopenings, Fish Advisories are included in the chapter on Public Health.

For more information about Alabama's Coastal Coastal Assessment, contact in Mr. Joie Horn ADEM's Mobile Office at (251) 450-3418 or mjhorn@adem.state.al.us

6.2.6 Other State Coastal Activities

National Estuary Program

The ADEM is an active participant in the Mobile National Estuary Program (Mobile NEP).

Staff are involved on its various boards,committees, subcommittees, and workgroups.

In 2005 the Mobile Bay National Estuary Program (MBNEP) initiated a monitoring program within the Sub-Estuaries of Mobile Bay. The project area consisted of portions of Mobile Bay and adjoining water bodies in coastal Alabama. The Mobile NEP and the ADEM have agreed to support specific portions of the MBNEP Plan (August 2000).

The collaborative effort calls for monitoring of 3 sub-estuaries and their major tributaries. The Mobile NEP has contracted with the ADEM to sample quarterly approximately 13 stations per sub-estuary. Five of the quarterly stations will be supplemented monthly by the ADEM.

The first sub-estuary, Bon Secour River/ Intracoastal Waterway/Oyster Bay, was evaluated in 2005. The second sub-\estuary, Bayou la Batre, was evaluated in 2006. The third sub-estuary, Dog River, was evaluated in 2007. Sampling included photic zone composites, sediment sampling, deployed datasones, and Accoustic Doppler flow measurements. Sampling will conclude in January of 2008 with reports issued throughout the year.

For more information about Alabama's National Estuary Program, contact in Mr. Steve Summersell in ADEM's Mobile Office at (251) 450-3426 or Ssummersell@adem.state.al.us

Chapter 7 Nonpoint Source Management

7.1 Overview

Since its beginning in 1989, the Alabama Nonpoint Source Management Program has continued to respond to watershed and water quality protection issues and concerns, stakeholder partnering opportunities, new and emerging technologies, additional data and information, and CWA Section 319(h) nonpoint source grant guidelines. Section 319 grants from EPA provide states with funding to implement a statewide nonpoint source (NPS) management program. Activities supported by these grants support public/private partnerships, education and outreach, and demonstration and implementation of voluntary best management practices and programs. The NPS management program in Alabama promotes stakeholder capacity to voluntarily implement best management practices to restore, protect, and maintain water quality, but also offers a regulatory backstop approach. Citizen input and involvement, cooperative partnerships, and development and implementation of total maximum daily limits (TMDL) / watershed-based management plans are important management program implementation components.

Table 7-1 Section 319(h) Nonpoint Source Grant Allocations

Fiscal Year	Federal	Non-Fed	Total
2007	3,777,000	2,518,000	6,295,000
2006	3,916,400	2,610,933	6,527,333
2005	3,891,251	2,623,000	6,514,251
2004	4,519,800	3,013,369	7,533,169
2003	4,547,000	3,031,333	7,578,333
2002	4,547,000	3,281,124	7,828,124
2001	4,522,400	1,293,200	5,815,600
2000	3,884,900	1,297,833	5,182,733
1999	3,910,500	2,608,182	6,518,682
1998	2,050,200	1,758,353	3,808,553
1997	1,952,617	1,895,154	3,847,771
1996	2,061,555	1,638,899	3,700,454
1995	2,260,758	2,138,310	4,399,068
1994	1,459,982	1,252,284	2,712,266
1993	1,114,940	1,033,960	2,148,900
1992	842,000	779,539	1,621,539
1991	614,814	281,443	896,257
1990	746,454	497,636	1,244,090
Total	$50,619,571	$33,552,552	$84,172,123

The outdated 1989 Alabama NPS Management Program document was updated in 1999 and approved by EPA Region 4 in September 2000 (effective October 2000). The latest document is a management tool designed to assist stakeholders in unifying and integrating many and varied NPS pollution management interests, expertise, and human and financial capital, i.e., it provides a framework for NPS stakeholders to, "work off the same page." The management program promotes a flexible, targeted, iterative, and broad-based approach to effectively and efficiently restore impaired waters, and prevent degradation of threatened or unimpaired waters. It also incorporates and supports NPS management efforts of the Coastal Zone Act Reauthorization Amendment (CZARA), and the Weeks Bay National Estuarine Program (NEP) Management Plan. The Alabama NPS Management Program is dynamic and may be updated as additional water quality/environmental data and information is acquired, as other new and emerging NPS issues, needs, or concerns are identified; or as programmatic or grant guideline priorities change. The NPS management program document is publicly available at: http://www.adem.state.al.us/Education%20Div/Nonpoint%20Program/WSNPSProgram.htm

Annual federal CWA Section 319 appropriations to Alabama are shown in Table 7-1. Prior to 1999, grants were generally used as "seed" money to "kick-start" broad-based and voluntary implementation of best management practices. Since 1999, grant funding has generally targeted the development and implementation of the NPS components of TMDLs and watershed-based management plans

7.2 Progress and Challenges

Much progress has been made to protect water quality in Alabama, and water quality continues to improve. However, specific targeting of some NPS best management practices is problematic because it is sometimes difficult to ascertain definitive NPS pollutant sources and causes, stakeholder education and outreach is deficient, funding is insufficient to implement a holistic management approach, and implementation is generally voluntary. Unlike point source pollution, which is primarily managed using a pollutant discharge permit/regulatory process, the Alabama NPS management program supports local stakeholder capacity to effect water quality improvements using a voluntary implementation approach. Examples of NPS management program activities in Alabama are presented in Annual Reports at http://www.adem.state.al.us/Education%20Div/Nonpoint%20Program/NPSReports/nps_reports.htm

The Alabama's NPS management program also supports pollution prevention or "source reduction." Nonpoint sources of pollution are primarily a "people problem." When NPS pollution problems do occur, it is generally because of a lack of "preventive" information. Therefore, stakeholder education and outreach will continue to be a primary NPS management program tool in concert with voluntary implementation of environmentally protective and cost-effective best management practices.

Much effort and resources continue to be expended to develop and implement TMDL/watershed-based plans that address Section 319 grant guideline "a-i" watershed plan elements. A deficiency in prompt development of watershed management plans, available human and financial needs, and nonfederal grant match continue to hinder state efforts to timely obligate annual federal grant funds. However, reporting of NPS pollutant load reductions estimates (specifically nitrogen, phosphorus, and sediment) in the EPA Grant Reporting and Tracking (GRTS) database is a state priority and continues to improve primarily due to enhancements in ADEM water quality assessment and monitoring methodologies, interagency partnering, data sharing and coordination, and an increase in local watershed stakeholder water quality modeling, training, and expertise.

The Alabama NPS Management Program is designed to integrate many and varied stakeholder interests and programmatic issues such as TMDL/watershed plan development, best management practice implementation, and water quality monitoring and assessments. However, no single state agency or public/private sector entity possesses adequate and complete authority, expertise, or funding to address all aspects of NPS management program implementation. Therefore, stakeholder cooperation and collaboration will continue to be a program priority. Stakeholders are encouraged to voluntarily assume local ownership of NPS problems and to provide resources to plan and implement environmentally-protective and cost-effective solutions.

The Alabama Clean Water Partnership (ACWP) program is a voluntary non-profit organization that has assumed a leadership role in the state to help local entities plan, develop, coordinate, and implement environmental protection and restoration efforts. The ACWP is composed of a diverse and inclusive coalition of public and private interest groups and individuals who work to improve, protect, and preserve water resources and aquatic ecosystems. Additional information concerning the ACWP can be found at: http://www.cleanwaterpartnership.org/index.htm

The ADEM Outreach Branch provides NPS stakeholders with grant funding and education and outreach resource materials. Statewide efforts tend to identify, motivate, and sustain partnerships and promote TMDL/watershed management plan development and implementation. Examples of ADEM NPS Unit education and outreach initiatives include, but are not limited to, 1) Take Action for Clean Water; http://www.adem.state.al.us/Education%20Div/TakeAction/TakeActionMain.htm 2) Nonpoint Source Education for Municipal Officials (NEMO) http://www.nemo.uconn.edu/ ; and 3) Broad-scale Communication and Forecasting for Environmental Quality/StormCenter Communications (WSFA-TV/Montgomery http://wsfa.iewatershed.com/ and WKRG-TV/Mobile http://wkrg.iewatershed.com/) Additional information is publicly available from the Alabama NPS Management Program document; Alabama NPS Management Program Annual Reports; or the ADEM website at: http://www.adem.state.al.us/

The Alabama Water Watch (AWW) is a statewide education and outreach program funded in part by Section 319, and coordinated by the Auburn University Department of Fisheries and Allied Aquacultures. This national and internationally recognized group coordinates water quality monitoring data collected by citizen-volunteers. In cooperation with the AWW, the Alabama Water Watch Association conducts regularly scheduled meetings with ADEM to discuss environmental issues and concerns. Additional AWW program information and data is publicly available at: https://aww.auburn.edu/

Many statewide NPS management program efforts parallel coastal CWA Section 6217 implementation requirements and practices. The Alabama Coastal Nonpoint Pollution Control Program was submitted to NOAA and EPA in July 1995. NOAA and EPA issued conditional approval on June 30th, 1998. The program's focus is to protect, manage, and improve water quality within the coastal zone management area of Mobile and Baldwin counties. Funding is provided by federal, state, and local entities, including Section 319 and the Alabama Coastal Area Management Program approved by NOAA under the Coastal Zone Management Act. Coastal NPS program and water quality information is available at: http://www.adem.state.al.us/FieldOps/Coastal/Coastal.htm

Many federal, state, and local units of government partner together to protect water quality from NPS polluted runoff. These entities include the USDA-NRCS (technical assistance and cost-share funding), State Soil and Water Conservation Committee and Districts (BMP implementation and watershed health assessments); ACES (stream restoration), OSM and ADIR (resource extraction); ADPH (on-site septage); AFC (silviculture); and GSA and USGS (water quality). In addition, ADEM also partners with several academic institutions, councils, and other public/private entities to address NPS water quality issues and concerns.
Implementation of the NPS components of a total maximum daily load (TMDL) continues to be a NPS Management Program priority. Section 319 grants were used to help successfully de-list portions of the Flint River in Madison County, and Caney Branch in Baldwin County, from the Section 303(d) List of Impaired Waters http://www.epa.gov/owow/nps/Success319/. Additional NPS TMDL information is at: http://www.adem.state.al.us/WaterDivision/WQuality/TMDL/WQTMDLInfo.htm

7.3 Nonpoint Source Water Quality Assessments

The Alabama Nonpoint Source Management Program incorporates a 5-year rotational water quality assessment strategy based on river basin geographic boundaries (Fig 7-1). This strategy presents the most efficient, practical, and cost-effective approach to holistically monitor water quality and assess watershed health on a statewide basis. River basin assessment reports are publicly available on the ADEM website at: http://www.adem.state.al.us/FieldOps/WQReports/MontRep.htm

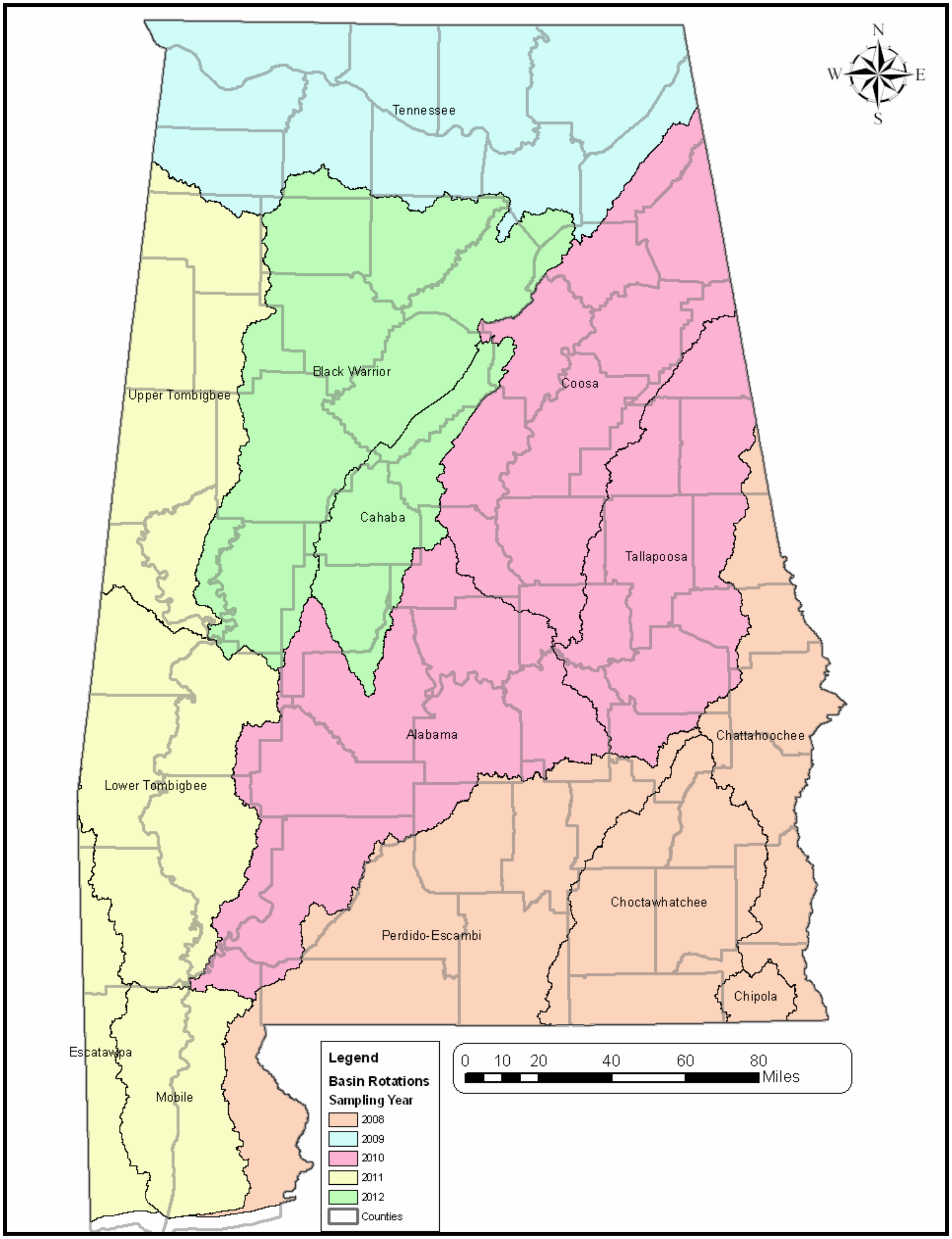
The State Soil and Water Conservation Districts uses Section 319 grant funding to assess the environmental “health” of each of Alabama’s 67 counties. Many NPS stakeholders use this information and associated maps to identify NPS pollution causes and sources; rank and prioritize watersheds for restoration, develop watershed management plans, and to target implementation of best management practices. An important aspect of these assessments is that input is provided by locally-led citizen advisory groups. The latest statewide 67-county watershed assessments were completed during 2007 and will be publicly available in 2008 at: http://www.swcc.state.al.us/watershedmenu.htm

7.4 Watershed Protection Approach

Watersheds comprise logical geographical/physical boundaries useful for identifying and mitigating sources and causes of NPS pollution, and developing and implementing holistic TMDL/watershed-based management plans. Watershed delineation offers a practical approach for coordinating water quality protection programs. Watershed-based planning ensures that limited human and financial capital is utilized effectively and wisely and education and outreach is disseminated more efficiently. Coordination of local projects, partnering, and TMDL/watershed-based management plan development and implementation is also more efficient in the context of statewide priorities.

Local watershed stakeholder input and partnering is encouraged to address NPS water quality impairment and threats. The Alabama NPS Management Program’s 5-year major river basin assessment approach and development and implementation of TMDL/watershed-based plans

Figure 7-1 Alabama River Basin Geographic Boundaries



neither replace nor supersede local initiatives. Information regarding the development of watershed-based management plans that conform to EPA Section 319 guidelines can be found at: http://www.adem.state.al.us/Education%20Div/Nonpoint%20Program/Guidance/Components2004.doc It should be noted that after some types of NPS best management practices have been implemented, improvements in water quality may not be ascertained or quantifiable for several months or years.

7.5 Nonpoint Source Program Recommendations

The development and implementation of TMDL/watershed-based plans continues to be a management program priority. The ADEM, in cooperation with the Alabama Clean Water Partnership (ACWP), encourages stakeholders to develop and implement scientifically-based, technically sound, environmentally protective, and economically achievable TMDL/watershed-based management plans.

Enhancing opportunities for stakeholder participation and input into water quality and watershed management decision-making processes should continue. Dedicated and consistent sources of state and local funding are needed to help plan and implement a myriad of nonpoint source TMDL/watershed-based best management practices and activities. Additional resources are also needed to support a water quality monitoring and watershed assessments, citizen volunteers, and public/private sector partnerships.

Providing effective education and outreach, training, technical assistance, and technology transfer is essential to garnering and sustaining stakeholder interest, input and cooperation. Statewide and local efforts should continue to focus on motivating citizen interest about water quality protection; increasing public awareness about the processes, resources, roles and responsibilities; and implementing practical measures to ensure long-term water quality/watershed protection benefits.

Environmental, economic, cultural, social, human and environmental health, threatened and endangered species, habitat protection, urban growth/development, recreation, and other NPS issues should continue to be coordinated and holistically integrated into local water quality/watershed protection management plans. Implementation of innovative or alternative/creative NPS management approaches should be encouraged where feasible and practical; and may include, but are not limited to: pollutant trading, permitting using a river basin or watershed approach; local government/local-issue authorities, and land use/protection incentives. The views/authorities of regulatory/other agencies, elected/appointed officials, environmental groups, commodity groups, industries and municipalities, local citizens, and others must be considered when initially developing the details of how NPS/watershed protection efforts will be designed and implemented. Clearly defined water quality protection goals and objectives and measurable "success" endpoints should be agreed upon before limited best management practice implementation resources are expended.

For more information about Nonpoint Source Management, contact Mr. Norman Blakey in ADEM's Montgomery Office at (334) 394-4354 or nb@adem.state.al.us.

Chapter 8 Public Health

8.1 Fish Consumption Advisories

Concern about protecting the public from possible health exposure to mercury from eating fish has led to the issuance of several new fish consumption advisories for bodies of water in Alabama. The quality of water in Alabama generally continues improvements made in recent years. The Alabama Department of Environmental Management (ADEM) collected more than 500 fish samples for analysis from various waterbodies throughout the state during the fall of 2006. The Alabama Department of Public Health assessed the results to determine potential human health effects. Fish consumption advisories are issued for specific waterbodies and specific species taken from those areas. The advisories apply to waters as far as a boat can be taken upstream in a tributary, that is, to full pool elevations. The Alabama Department of Public Health, in consultation with ADEM and the Alabama Department of Conservation and Natural Resources, has shifted to a more protective level for mercury. Mercury, which occurs both naturally and from man-made sources, can cause developmental disabilities and behavioral problems in children if it is consumed at high levels. One way to minimize exposure in populations at risk is to reduce mercury derived from eating fish from contaminated water. These populations include women of childbearing age, pregnant women, and children younger than 15 years of age. The fish consumption advisories are based on a stricter action level for mercury developed by the U.S. Environmental Protection Agency. Previously, Food and Drug Administration guidelines were used for mercury advisories. The FDA level was based on eating one fish meal per week.

Beginning with the 2006 advisories the Department of Public Health adopted a contaminant level for mercury in fish that would protect those who eat more than one fish meal per week. The new EPA standards are four times more protective. This advisory will be represented as the
safe number of meals of that fish species that can be eaten in a given period of time, such as meals per week, meals per month or no consumption. A meal portion consists of six (6) ounces of cooked fish and eight (8) ounces of raw fish. Table 8-1 shows 2006 / 2007 Fish Consumption Advisories for Alabama.

For more information about Fish Consumption Advisories contact Neil L. Sass, Ph.D, at the ADPH (334) 206-5973 or Nsass@adph.state.al.us.

8.2 Shellfish Harvesting Areas

Shellfish harvesting area closures are issued when the Mobile River stage rises above 8 feet at the Barry Steam Plant. For reopening the closed areas, the river stage must be below 8 feet, ambient fecal coliform counts must be below a geometric mean of 14 MPN (most probable

Table 8-1 Alabama Fish Consumption Advisories for 2006 / 2007

New Consumption Advisories for 2006					
Water Body	**County**	**Species**	**Portion**	**Pollutant**	**Consumption Level**
Bear Creek Reservoir	Franklin	Largemouth Bass	Dam forebay area	Mercury	One meal per month
Bilbo Creek	Washington	Largemouth Bass	Upstream of the confluence with the Tombigbee River	Mercury	One meal per month
Cedar Creek	Houston	Largemouth Bass	Cedar Creek drainage from American Brass site near Headland tributary to Omussee Creek	Mercury	Two meal per month
Claiborne Reservoir	Monroe / Clarke	Largemouth Bass	Dam forbay area and in vicinity of Lower Peachtree Access Area, approximately River Mile 96 close to the intersection of Clarke, Monroe and Wilcox Counties	Mercury	Two meal per month
Cowpen Creek	Baldwin	Largemouth Bass	Upstream of the confluence with Fish River	Mercury	One meal per month
Escatawpa River	Mobile	Spotted Bass	At U.S. Highway 98 Bridge crossing approximately 1/10 mile upstream of Alabama/Mississippi State Line	Mercury	One meal per 2 months (or one-half meal per month)
Escatawpa River	Mobile	Largemouth Bass	At U.S. Highway 98 Bridge crossing approximately 1/10 mile upstream of Alabama/Mississippi State Line	Mercury	One meal per month
Fish River	Baldwin	Largemouth Bass	In vicinity of confluence with Polecat Creek approximately one mile upstream of County Road 32 Bridge	Mercury	One meal per 2 months (or one-half meal per month)
Fish River	Baldwin	Largemouth Bass	Approximately two miles upstream of U.S. 98 Bridge in the vicinity of Waterhole Branch/Fish River conflu-	Mercury	Two meal per month
Perdido River	Baldwin	Largemouth Bass	Near confluence with Styx River in vicinity of U.S. Highway 90 bridge crossing	Mercury	One meal per month
Perdido River	Baldwin	River Redhorse	Near confluence with Styx River in vicinity of U.S. Highway 90 bridge crossing	Mercury	Two meal per month
Polecat Creek	Baldwin	Largemouth Bass	Upstream of confluence with Fish River	Mercury	One meal per month
New Consumption Advisories for 2007					
Water Body	**County**	**Species**	**Portion**	**Pollutant**	**Consumption Level**
Big Creek Reservoir	Mobile	Largemouth Bass	Lakewide Sampling	Mercury	One meal per month
Claiborne Reservoir	Monroe	Largemouth Bass	Dam forbay area, approximately River Mile 73	Mercury	Two meal per month
Lay Reservoir	St. Clair	Spotted Bass	Upper Lay Reservoir, approximately 2 miles downstream of Logan Martin Dam and one-half mile down-	Mercury	Two meal per month
Mobile River	Mobile	Largemouth Bass	Mobile River at David Lake, River Mile 41.3	Mercury	Two meal per month
Tombigbee River	Clarke	Largemouth Bass	Vicinity of Tombigbee River Mile 83.6	Mercury	One meal per month
Upper Bear Creek	Marion	Largemouth Bass	Dam forebay area	Mercury	Two meal per month

1 No consumption advisory – Everyone should avoid eating the designated species of fish in the defined areas.

2 Limited consumption advisory – Women of childbearing age and children less than 15 years old should avoid eating the designated species of fish from the defined areas. Other people should limit number) in 100 milliliters of sample water, and E. coli count in oyster meat must be below 230 MPN. Figure 8-1 depicts Alabama's Oyster/Shellfish Harvesting Areas in Coastal Waters. For exceptions to these areas such as around outfalls, marinas, or other specific waters refer to the ADEM Administrative Code Water Quality Program Volume II Chapter 335-6-11. Table 8-2 contains the notices pertaining to shellfish harvesting area closures and subsequent reopenings.

For more information about shellfish harvesting areas refer to the ADPH Seafood Branch Triennial Report and contact Mr. Jeff McCool with the ALDH Seafood Branch Mobile at (251) 432-7618 or JeffMcCool@adph.state.al.us or Mr. Ron Dawsey ALDH Montgomery at (334) 206-5375 or rdawsey@adph.state.al.us.

Figure 8-1 Alabama's Oyster/Shellfish Harvesting Areas in Coastal Waters

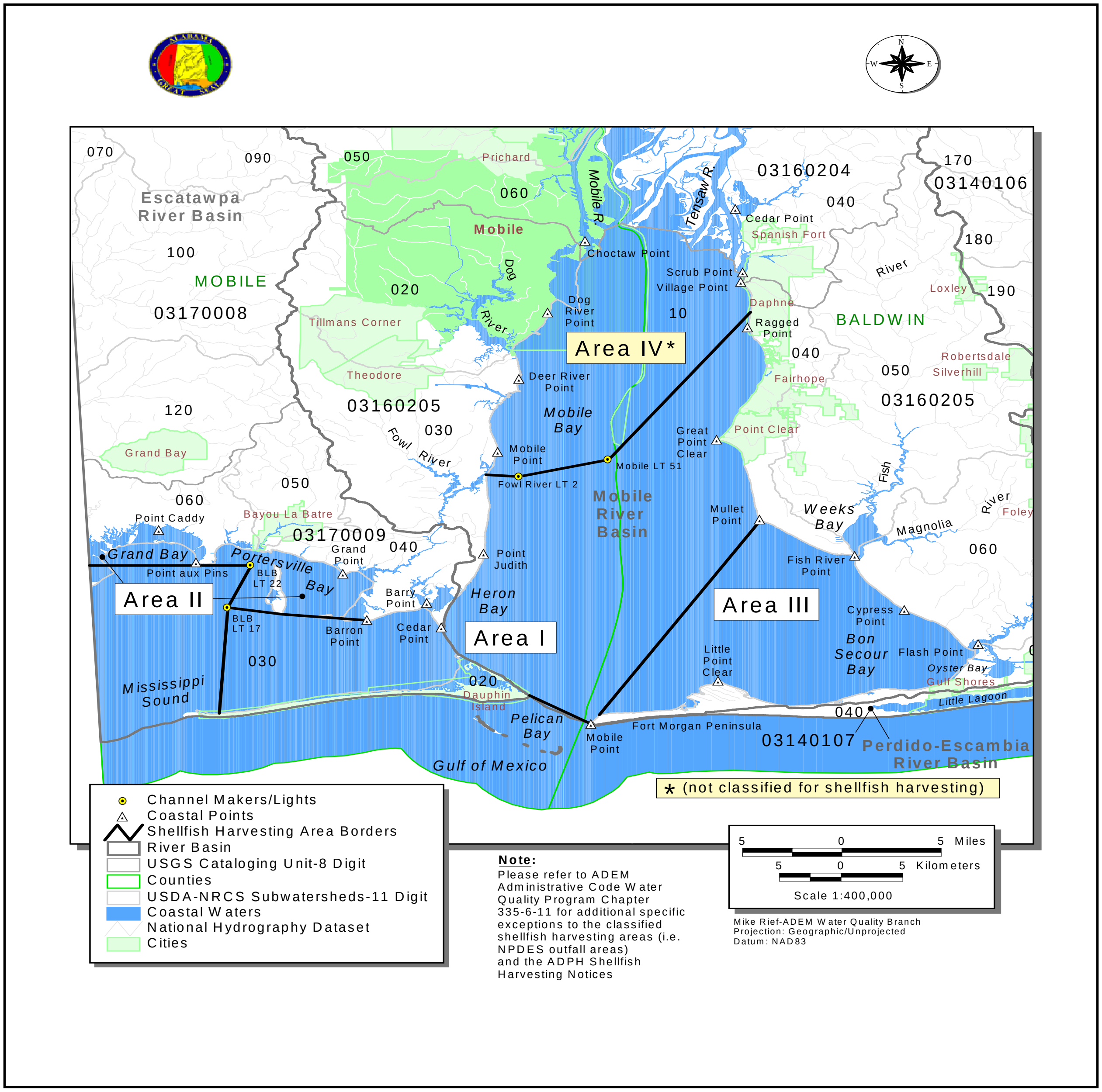


Table 8-2 Shellfish Harvesting Area Closures/Reopening

2006														
NOTICE DATE	**EFFECTIVE DATE**	**TIME EFFECTIVE**	**AREA I**			**AREA II**			**AREA III**			**AREA IV**		
				#DAYS OPEN	**# DAYS CLOSED**		**#DAYS OPEN**	**# DAYS CLOSED**		**#DAYS OPEN**	**# DAYS CLOSED**		**#DAYS OPEN**	**# DAYS CLOSED**
12/31/2006														
4/1/2006	4/2/2006	600	Conditionally Open	274		Conditionally Open	**274**		Conditionally Open	274		Conditionally Closed	0	274
3/28/2006	3/28/2006	1500	Conditionally Open		5	Conditionally Closed		5	Conditionally Closed		5	Conditionally Closed	0	5
3/11/2006	3/11/2006	600	Conditionally Open	17		Conditionally open	**17**		Conditionally Open	17		Conditionally Closed	0	17
3/2/2006	3/2/2006	1500	Conditionally Closed		9	Conditionally Closed		9	Conditionally Closed		9	Conditionally Closed	0	9
2/20/2006	2/21/2006	600	Conditionally Open	9		Conditionally Open	**9**		Conditionally Open	9		Conditionally Closed	0	9
2/15/2006	2/15/2006	1500	Conditionally Closed		6	Conditionally Closed		6	Conditionally Closed		6	Conditionally Closed	0	6
2/5/2006	2/6/2006	600	Conditionally Open	9		Conditionally Open	**9**		Conditionally Open	9		Conditionally Closed	0	9
1/30/2006	1/30/2006	1500	Conditionally Closed		7	Conditionally Closed		7	Conditionally Closed		7	Conditionally Closed	0	7
1/1/2006			Conditionally Open	29		Conditionally Open	**29**		Conditionally Open	29		Conditionally Closed	0	29
				338	27		338	27		338	27		0	365
Totals					7.40% **FULL**			7.40% **FULL**			7.40% **FULL**			100.00% **NON**

Conditionally means there are some exceptions to the open status, some parts of the area may still remain closed. See original notice for more detailed information.

***No Notice Found

Table 8-2 Shellfish Harvesting Area Closures/Reopening (Continued)

2007														
NOTICE DATE	EFFECTIVE DATE	TIME EFFECTIVE	AREA I			AREA II			AREA III			AREA IV		
				#DAYS OPEN	# DAYS CLOSED		#DAYS OPEN	# DAYS CLOSED		#DAYS OPEN	# DAYS CLOSED		#DAYS OPEN	# DAYS CLOSED
12/31/2007														
10/22/07 & 10/23/07	10/23/2007	1500	Conditionally Open	69		Conditionally Open	**69**		Conditionally Closed		69	Conditionally Closed	0	69
1/18/2007	1/19/2007	600	Conditionally Open	277		Conditionally Open	**277**		Conditionally Open	277		Conditionally Closed	0	277
1/12/2007	1/12/2007	1500	Conditionally Closed		7	Conditionally Closed		7	Conditionally Closed		7	Conditionally Closed	0	7
1/1/2007			Conditionally Open	12		Conditionally Open	**12**		Conditionally Open	12		Conditionally Closed	0	12
				358	7		358	7		12	76		0	365
Totals					1.92% FULL			1.92% FULL			20.82% PARTIAL			100.00% NON

Conditionally means there are some exceptions to the open status, some parts of the area may still remain closed. See original notice for more detailed information.

***No Notice Found

8.3 Public Water Supply/Drinking Water

Approximately 850,000,000 gallons of water are taken from ground and surface sources each day, provided with treatment, and made available to approximately four million citizens in Alabama. Five hundred and thirty-six (536) community systems, sixty-two (62) transient non-community systems and twenty-eighty (28) non-transient non-community systems are permitted by the ADEM.

Approximately sixty-five (65) percent of the water used is obtained from surface sources such as lakes, rivers, and streams and provided with full treatment to include coagulation, sedimentation, filtration, and disinfection. One hundred (100) percent of these systems meet turbidity requirements, ninety-eight (98) percent meet trihalomethane standards, ninety-nine (99) percent meet haloacetic acid standards and one hundred (100) percent meet inorganic and radiological drinking water standards. These water treatment facilities are required to employ Grade IV Certified Operators to ensure that proper doses of chemicals are applied and hourly tests are performed to demonstrate a satisfactory water quality.

Thirty-five (35) percent of the water is obtained from ground water sources such as wells and springs. An adequate source of ground water is generally available in this State; however, the ground water is extremely limited in the Piedmont area. Ground water sources are required to provide disinfection and monitor the draw down (water level change) in wells ensuring that a satisfactory available quantity of water remains. More than ninety-nine (99) percent of the Community Systems and eighty-six (86) percent of the Non-community Systems met the bacteriological quality standard of the Department. More than ninety-three (93) percent of the community systems and approximately seventy-two (72) percent of the non-community systems were in full compliance with the bacteriological monitoring requirements. Ninety-nine (99) percent meet trihalomethane standards and one hundred (100) percent of the groundwater public water systems were able to meet the inorganic and radiological maximum contaminant levels. These figures demonstrate that the majority of the water provided to the citizens in Alabama is excellent. Contaminants, chemicals, and byproducts that water systems monitor for are shown in Tables 8-3 through 8-8.

All water systems continue to monitor for lead and copper. Two systems exceeded the lead action level out of the 300 community and non-transient, non-community systems that were sampled in 2006 and 2007. This system is being required to formulate a corrosion control plan, and continue sampling every six months.

All community and non-transient non-community water system sources continued to be monitored for volatile organic chemicals (VOCs) and synthetic organic chemicals (SOCs). More than ninety-eight (98) percent of the community systems and non-transient non-community systems required to monitor in 2006 and 2007 were in full compliance with the VOC and SOC monitoring requirements. Of the contaminants found, tetrachloroethylene (TCE) is the most common regulated VOC and Di(2-ethylhexyl)phthalate is the most common regulated SOC. Table 8-3 shows surface source public water systems with compliance violations. Surface Source Public Water Systems with Compliance Violations

For more information about to Public Water Supply/Drinking Water, contact Mr. Tom Deloach in ADEM's Montgomery Office at (334) 271-7791 or tsd@adem.state.al.us..

Table 8-3 Surface Source Public Water Systems with Compliance Violations

Name of Facility	Municipality Served	Name of Water body	Contaminants with Percent Violations
Wedowee Water, Sewer and Gas Board	Wedowee	Lake wedowee	Haloacetic Acids
York Water System	York	Lake Louise	Haloacetic Acids-50%

Table 8-5 Public Water Supply Radiological Contaminants

Radiological Contaminants	Concentrations
Gross alpha particle	15pCi/L
Combined radium226 and radium228	5 pCi/L
Tritium	20,000 pCi/L
Strontium90	8 pCi/L
Beta particle and photon radioactivity	4 millirem/Yr

Table 8-4 Public Water Supply Elemental Contaminants

Elemental Contaminants	MCL in mg/L
Antimony	0.006
Arsenic	0.05
Asbestos	7 million fibers*/L
Barium	2
Beryllium	0.004
Cadmium	0.005
Chromium	0.1
Cyanide	0.2
Fluoride	4
Lead	0.015
Mercury	0.002
Nickel	0.1
Nitrate (as N)	10
Nitrite (as N)	1
Total Nitrate/Nitrite (as N)	10
Selenium	0.05
Sulfate	500
Thallium	0.002

* Longer than 10 micrometers

8.4 Source Water Assessment Program

All public water supply systems have completed a Source Water Assessment Program (SWAP) for each of their existing groundwater sources. All water systems are required to update their SWAP's when applying for reissuance of their permits-to-furnish water. All new groundwater sources must have a completed SWAP, prior to using the source for potable water. A completed SWAP for a groundwater source must include the following:

- Delineation of the source water assessment area (SWAA),
- An inventory of the possible contaminant sources within the SWAA,
- A susceptibility analysis of each possible contaminant source in the inventory, and
- A public awareness requirement

When the Source Water Assessment Program requirements were initially promulgated, Alabama had a total of 414 public water supply systems that utilized one or more groundwater sources. Each of these systems was required to complete a SWAP for their groundwater

Table 8-6 Public Water Supply Synthetic Organic Chemicals

Synthetic Organic Chemicals (non-volatile)	MCL in mg/L
Alachlor	0.002
Atrazine	0.003
Carbofuran	0.04
Chlordane	0.002
Dibromochloropropane	0.0002
2,4-D	0.07
Endrin	0.002
Ethylene Dibromide	0.00005
Heptachlor	0.0004
Heptachlor Epoxide	0.0002
Lindane	0.0002
Methoxychlor	0.04
Polychlorinated Biphenyls	0.0005
Pentachlorophenol	0.001
Toxaphene	0.003
2,4,5-TP	0.05
Benso(a)pyrene	0.0002
Dalapon	0.2
Di (2-ethylhexyl) adipate	0.4
Di (2-ethylhexyl) phthalate	0.006
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Glyphosate	0.7
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Oxamyl (Vydate)	0.2
Picloram	0.5
Simazine	0.004
2,3,7,8-TCDD (Dioxin)	$3x10^{-8}$

Table 8-7 Public Water Supply Disinfection Byproducts

Disinfection Byproduct	MCL in mg/L
Bromate	0.01
Chlorite	1
Haloacetic Acids	0.06
Trihalomethanes	0.08

Table 8-8 Public Water Supply Volatile Synthetic Organic Chemicals

Volatile Synthetic Organic Chemicals (VOC)	MCL in mg/L
Benzene	0.005
Carbon Tetrachloride	0.005
1,2-Dichloroethane	0.005
Trichloroethylene	0.005
para-Dichlorobenzene	0.075
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.2
Vinyl chloride	0.002
cis-1,2-Dichloroethylene	0.07
1,2-Dichlorpropane	0.005
Ethylbenzene	0.7
Monochlorobenzene	0.1
0-Dichlorobenzene	0.6
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
Trans-1,2-Dichloroethylene	0.1
Xylene (Total)	10
Dichloromethane	0.005
1,2,4-Trichlorobenzene	0.07
1,1,2-Trichloroethane	0.005

sources. These public water supply systems were categorized as follows:

- 310 Community Groundwater Systems
- 75 Non-Community Transient Groundwater Systems, and
- 29 Non-Community Non-Transient Groundwater Systems

Over the past year Alabama has received Source Water Assessment Reports for seventeen new or expanded groundwater sources. All of these new Source Water Assessment Reports were from existing public water systems. Of these eight reports, all were for new well sources. The Source Water Assessment Program has been finalized for seven of the new well sources. The SWAP's for the other three groundwater sources are currently in the process of being reviewed and finalized.

For more information about the Source Water Assessment Program, contact Mr. Jack Bryant in ADEM's Montgomery Office at (334) 271-7776 or wjb@adem.state.al.us.

8.5 Wellhead Protection Program

A Ground Water Branch staff member is assigned to the ADEM Public Water Supply Branch to support Source Water Assessment (SWA) and Drinking Water State Revolving Fund (DWSRF) grants and contracts, to manage the Wellhead Protection Program, and to conduct technical reviews of ground water source delineations and contaminant inventories. The Wellhead Protection Program supports the Source Water Assessment Program (SWAP) by providing a mechanism for communities and water systems to develop and implement drinking water protection strategies. The Ground Water Branch provides assistance and guidance to systems in developing a Wellhead Protection Plan, promotes the Ground Water Guardian program, coordinates drinking water protection sign distribution, coordinates with the Alabama Rural Water Association (ARWA) in recognizing water systems that have completed a Wellhead Protection Plan, attends meetings, conferences and workshops, and coordinates inspections and compliance issues in wellhead protection areas with ADEM Branches and other State agencies. ADEM and the ARWA are working together to integrate the WHPP Tool Kit into implementation of the WHP Program. Nine utilities have developed a protection program utilizing the Tool Kit. In addition, the ADEM and ARWA are working together to install Drinking Water Protection signs in those communities with completed Wellhead Protection Plans. The sign installations were publicized for several of the communities in both the local media as well as the ARWA journal.

ADEM is working to insure that delineated source water area maps and potential contaminant site location information are available for use within the Department. Source Water Area maps have been digitized for use in developing a GIS layer. The ADEM Information Systems Branch is providing the digitizing and GIS support. The database is currently available to the agency as a draft. The ADEM Groundwater Branch UIC, UST and 106 Programs and the ADEM Industrial and Municipal Branches all consider existing Source Water Assessment areas as part of their permitting process. ADEM personnel conducted inspections of 1573 underground storage tank (UST) sites (including corrective action and compliance) and 23 UIC sites within source water areas during the reporting period.

The Groundwater Guardian Program was established within the State to provide recognition to communities, municipalities and counties that implement groundwater protection initiatives. The Department was awarded the Ground Water Guardian Affiliate designation for the 12th year by the Ground Water Foundation. Nine communities were designated Groundwater Guardians during the reporting period. These communities include the City of Tuscumbia, the City of Eufaula, Madison County, Crenshaw County, Sumter/Marengo Counties, the St Clair County Groundwater Festival Committee and the Etowah County Groundwater Festival Committee, Covington County Water Festival Committee, Washington County Water Festival Committee.

Twenty seven (27) Groundwater or Water Festivals were hosted. Approximately 43,000 students participated in a festival during the reporting period. The ADEM Groundwater Branch with the assistance of the ADEM Office of Education and Outreach manages the State program and coordinates (on average) three festival committees per year. The ARWA Groundwater and Source Water Technicians provide volunteer hours to several festivals per year and provide 4th grade teacher training on groundwater in preparation for the festivals. Funding to support the program is provided through an ADEM grant program. Festival committees can apply yearly for a $1000 grant.

The Annual Alabama Groundwater Conference was held in May 2007 at the Gordon Persons Building in Montgomery. The conference provides a forum for discussion of the latest technology and protection programs for groundwater. Two hundred and thirty (230) people were registered for the conference. The audience for the conference is comprised of utility personnel, consultants, watershed managers, geologist, university professors and students, and ADEM personnel.

For more information about the Wellhead Protection Program, contact Mr. Whit Slagle in ADEM's Montgomery Office at (334) 271-7831 or cws@adem.state.al.us. For information about the Water Festival Program contact Scott Hughes, ADEM Office of Education and Outreach, at (334) 271-7955 or ash@adem.state.al.us.

8.6 Coastal Beach Monitoring

Alabama has approximately 50 miles of Gulf beaches and almost 70 miles of bay beaches, both of which are major tourist attractions and represent a significant component of the lifestyle of Alabama residents. In June 1999, ADEM, in cooperation with the ADPH, initiated a program to routinely monitor bacteria levels at five swimming beaches on the Gulf Coast and in August 2000, six additional beaches were added. Congressional passage of the Beaches Environmental Assessment and Coastal Health (BEACH) Act expanded the monitoring and assessment activities at public beaches and in the fall of 2002, ADEM and the Baldwin County Health Department conducted on-site surveys to evaluate additional public beach sites to add to the program. Figure 8-3 shows Alabama's coastal waters covered under the 2000 B.E.A.C.H. Act.

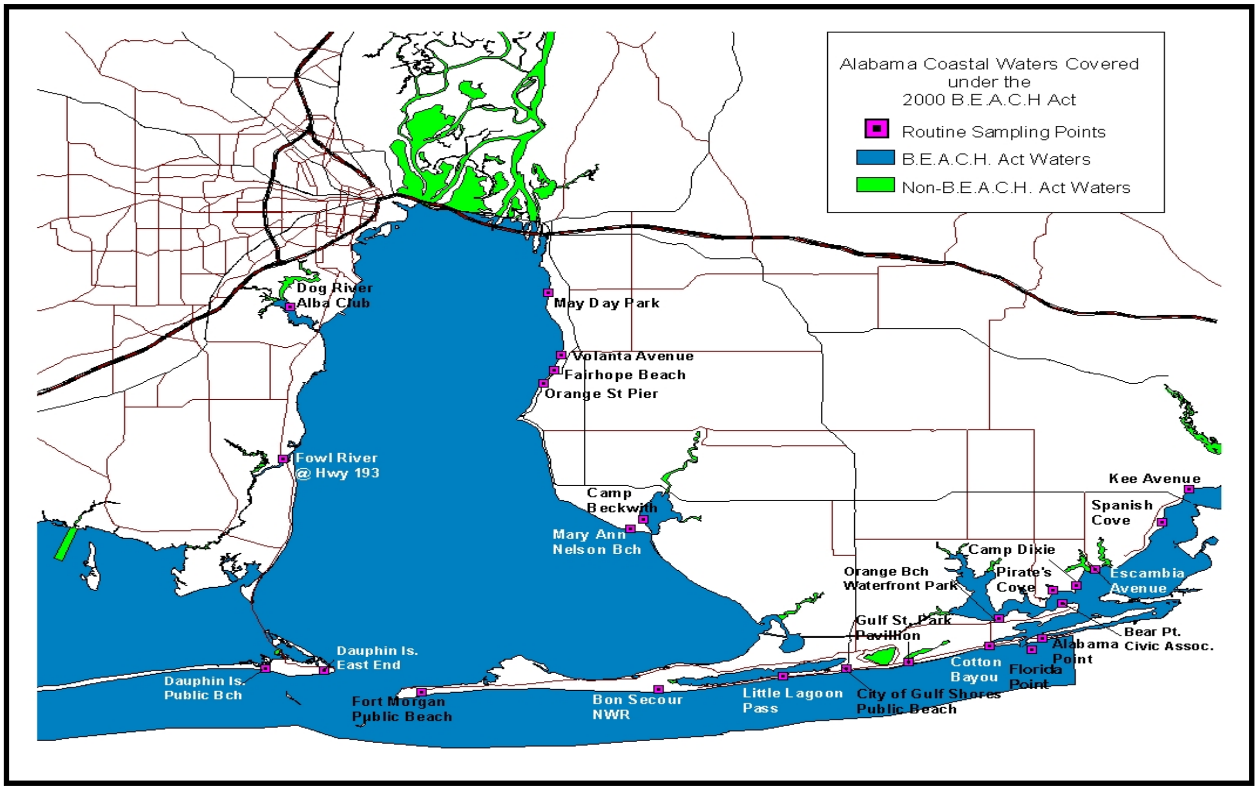
During the past summer, a total of 25 public beach areas were monitored. A majority of these sites were sampled twice weekly from Memorial Day through Labor Day and for the remainder of the year sampling is conducted monthly. All sample collection and analyses are performed by qualified ADEM or ADPH staff, with analytical results made available to the public within approximately 24 hours.

The public beach locations that are sampled have signage with a color-coded bacteriological advisory status to inform the public of the potential health risk associated with swimming or other water contact activities at that site. A GREEN advisory means the most recent water quality test revealed bacterial levels are below recommended thresholds while a YELLOW advisory indicates the most recent water quality test revealed bacterial levels exceed recommended thresholds and an increased risk of illness may be associated with swimming. Once a yellow advisory status has been issued, the site is re-tested. A RED advisory indicates continued elevated bacterial levels at the site and the ADPH issues a public health advisory. The site is re-tested until bacterial levels return to an acceptable level.

The Department documented 18 events during FY07 that required the issuance of a red advisory. These events occurred at nine of the beach sites that are monitored, with no red advisories issued at the other 16 sites. Elevated bacterial levels can be caused by heavy rainfall events that allow stormwater runoff to carry bacterial matter into the coastalwaters. ADEM and the ADPH use on-site signs, the ADEM web-page, press releases, and local newspapers to notify the public of the latest monitoring results.

For information pertaining to Coastal Beach Monitoring, contact Ms. Susan Farr in ADEM's Mobile Office at (251) 450-3427 or sfarr @adem.state.al.us

Figure 8-2 Coastal Beach Monitoring



Chapter 9 Concerns and Recommendations

In recognition of limited resources, efforts to protect water resources must be based on credible science and coordinated management of available resources. Continued cooperation and collaboration of all partners, education, and promotion and implementation of voluntary and mandatory compliance with best management practices (BMPs) remains a priority.

A proactive approach has been implemented with agricultural stakeholders through Confined Animal Feeding Operation (CAFO) Registration by Rule to address the problem of animal waste runoff. Erosion and sedimentation continues to be a long-term concern. This problem is difficult to address in a comprehensive manner since many land-disturbance activities can and do produce water quality degradation when proper management practices are not employed. The Department has placed emphasis on erosion and sedimentation by decentralizing certain aspects of the State water pollution control program to the regional field offices and through the use of Qualified Credentialed Professionals to provide on-site management of erosion control practices. This has resulted in increased inspection and enforcement efficiencies. As a result, inspections of construction sites, mining operations and nonpoint sources of water pollution have significantly increased, with a commensurate increase in the number of compliance actions in this arena. The federally mandated NPDES Phase II Stormwater Program for construction and urban areas is being successfully implemented to address this issue.

A declining trend in national and state funding of water quality programs, including funding of water quality monitoring activities, and ever increasing federal mandates will continue to provide challenges. EPA and Congress have recognized the importance of water quality monitoring to track and document the effectiveness of management actions and have included additional funding in the FY 2007 and FY 2008 federal budgets. However, given the considerable task of adequately monitoring the State's surface waters and the fact that EPA's budget continues to decline overall, efficiencies must be found to make the most of available resources. The Department is initiating several efforts to increase program efficiency through the effective use of technology to gather, store, and report data and information.

Implementation of management measures must be based on sufficiently detailed watershed protection plans with measurable goals. In Alabama, the Clean Water Partnership program promotes efficient and effective implementation of technically sound, environmentally protective, and economically achievable management measures using a grass-roots approach. The partnership is composed of a diverse and inclusive coalition of public and private interest groups and individuals who are working in collaboration to improve, protect, and preserve water resources and aquatic ecosystems in Alabama. Public and private funding is needed to institutionalize this successful endeavor and to ensure permanent facilitators in each basin or sub-basin to coordinate projects and programs and to enhance citizen interest and input into decision-making processes.

Watersheds provide logical geophysical boundaries for identifying and mitigating sources and causes of pollution. Watershed management is a better way to coordinate people, resources, programs, and information more efficiently. The state has instituted rotational river basin/ watershed water quality monitoring approaches to identify nonpoint source impaired, threatened, and unimpaired waters. These approaches provide data and information that is essential to the development of holistic watershed protection plans. However, in order to better plan, develop and coordinate actual implementation of these plans, additional staff, time, expertise, and other resources are needed statewide.

Water quality assessment and resource protection efforts should emphasize shared decision-making processes, integrate diverse and inclusive partnerships, and provide a clear understanding of the many and varied problems impacting a waterbody. In Alabama, voluntary and enforceable mechanisms are in-place, are complementary, and are effective in assuring long-term protection of water quality. However, as competing demands for limited resources endure, additional information becomes available, priorities change, or complex issues emerge, watershed protection plans must be designed to be iterative, particularly as related to TMDL plan implementation. Stakeholders must be involved in the early stages of plan development, encouraged to assume ownership, and voluntarily accept responsibility for providing solutions. Certain elements and structure of the plans can be adapted to the entire watershed, or to specific sources or causes of impairment. However, it is recommended that all plans in Alabama be based on a similar format, especially if the impairments to be addressed are both point and nonpoint source related and/or the plan will serve as a TMDL implementation plan.

The Department's ability to efficiently gather, store, analyze, and report on water quality data and information is critical to making sound management decisions. While the Department has initiated several projects to address this issue, such as electronic reporting of Discharge Monitoring Reports by wastewater treatment facilities, the Surface Water Quality Database, and the Assessment Database, data management remains a concern.

Alabama needs additional resources to enable its monitoring program to meet a growing list of the programmatic commitments. Development of EPA-mandated nutrient criteria for State waters and evaluation of TMDL implementation activities will require significant additional monitoring resources, including both personnel and laboratory facilities. Adequate data and information are required to make sound, scientifically-based decisions related to development of new water quality criteria, designated uses, and use support status for Alabama's water resources. Additional funding for State monitoring programs is being proposed at the federal level. However, the additional funds may require additional State matching funds. Careful and thorough planning is needed to insure that any additional resources for monitoring State waters are used efficiently and as effectively as possible

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Appendix A

Alabama’s Water Quality Assessment and Listing Methodology

Alabama Department of Environmental Management

Alabama's Water Quality Assessment and Listing Methodology

January 2008

Appendix A

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Table of Contents

List of Acronyms

A&I	Agriculture and Industry water supply use classification
ADB	Assessment Database
ADEM	Alabama Department of Environmental Management
ADPH	Alabama Department of Public Health
AEMC	Alabama Environmental Management Commission
AWIC	Alabama Water Improvement Commission
$CaCO_3$	Calcium Carbonate
$CBOD_5$	Five-Day Carbonaceous Biochemical Oxygen Demand
Cl^{-1}	Chlorides
CWA	Clean Water Act
DO	Dissolved Oxygen
DRP	Dissolved Reactive Phosphorus
EPA	Environmental Protection Agency
EPT	Ephemeroptera/Plecoptera/Trichoptera
F&W	Fish and Wildlife
GIS	Geographical Information System
GPS	Global Positioning System
IBI	Index of Biotic Integrity
LWF	Limited Warmwater Fishery
MDL	Method Detection Limit
NH3-N	Ammonia Nitrogen
NHD	National Hydrography Dataset
NO3+ NO2-N	Nitrate + Nitrite Nitrogen
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Units
OAW	Outstanding Alabama Waters
ONRW	Outstanding National Resource Water
PWS	Public Water Supply
QAPP	Quality Assurance Project Plan
S	Swimming and Other Whole Body Water-Contact Sports
SH	Shellfish Harvesting
SOP/QCA	Standard Operating Procedures/Quality Control Assurance
SW	Surface Water
TDS	Total Dissolved Solids
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
Total-P	Total Phosphorus
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WMB-EPT	Wadeable Multi-habitat Bioassessment - EPT Families
WMB-I	Intensive Wadeable Multi-habitat Bioassessment

1.0 Introduction

Alabama has long been recognized for its abundant water resources. With over 77,000 miles of perennial and intermittent streams and rivers, 481,757 acres of publicly-owned lakes and reservoirs, 610 square miles of estuaries, and 50 miles of coastal shoreline, the state is faced with a tremendous challenge to monitor and accurately report on the condition of its surface waters (ADEM, 2004).

Sections 305(b) and 303(d) of the federal Clean Water Act direct states to monitor and report the condition of their water resources. Recent guidance published by the Environmental Protection Agency (EPA) provides a basic framework that states may use to fulfill this reporting requirement. *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act* provides recommendations on the delineation of assessment units, reporting the status and progress towards comprehensive assessment of state waters, attainment of state water quality standards and the basis for making attainment decisions, schedules for additional monitoring, listing waters which do not fully support their designated uses (i.e. impaired waters), and schedules to address impaired waters (EPA, 2005).

Alabama's assessment and listing methodology establishes a process, consistent with EPA's guidance, to assess the status of surface waters in Alabama relative to the designated uses assigned to each waterbody. The methodology will also describe the procedure to assign the size or extent of assessed waterbodies. This methodology is not intended to limit the data or information that the State considers as it prepares an integrated water quality assessment report. Rather, it is intended to establish a rational and consistent process for reporting the status of Alabama's surface waters relative to their designated uses.

2.0 Alabama's Water Quality Standards

State water quality standards are the yardstick by which the condition of the nation's waters is measured. They are intended to protect, restore and maintain the condition of the nation's waters. In Alabama, water quality standards were first adopted in 1967 by the Alabama Water Improvement Commission (AWIC). In 1982 the Alabama Department of Environmental Management (ADEM) was formed by merging AWIC with elements of the Alabama Department of Public Health (ADPH). Since first being adopted in 1967, Alabama's water quality standards have been amended on numerous occasions (ADEM, 2005).

The Alabama Environmental Management Commission (AEMC) has the authority to adopt revisions to the ADEM Administrative Code. The Designated Uses (Chapter 335-6-11 of the Administrative Code) and the Water Quality Criteria (Chapter 335-6-10 of the Administrative Code) are reviewed once every three years pursuant to EPA regulations at 40 CFR Part 131.20. This review process is known as the triennial review and affords the public the opportunity to make comments and suggestions regarding Alabama's water quality standards. Any changes that ADEM may propose as a result of the review process are subject to further public comment before consideration by the AEMC.

Appendix A

Water quality standards consist of three components: designated uses, numeric and narrative criteria, and an antidegradation policy. These three components have been compared to the three legs of a stool which work together to provide water quality protection for the nation's surface waters.

Designated uses describe the best uses reasonably expected of waters. These uses should include such activities as recreation in and on the water, public water supply, agricultural and industrial water supply, and habitat for fish and wildlife. While all waters may not support all of these uses, the goal of the Clean Water Act is to provide protection of water quality consistent with "fishable/swimable" uses, where attainable. In Alabama, waters can be assigned one or more of seven designated uses pursuant to ADEM Administrative Code 335-6-11. These uses include:

1. Outstanding Alabama Water (OAW)
2. Public Water Supply (PWS)
3. Shellfish Harvesting (SH)
4. Swimming and Other Whole Body Water-Contact Sports (S)
5. Fish and Wildlife (F&W)
6. Limited Warmwater Fishery (LWF)
7. Agricultural and Industrial Water Supply (A&I)

Designated uses 1 through 5 in the list above are considered by EPA to be consistent with the "fishable/swimable" goal and, therefore, provide for protection of aquatic life and human health.

The State also has one special designation – Outstanding National Resource Water (ONRW). These high quality waters are protected from new or expanded point sources of pollutants and may be assigned to any one of the first five designated uses in the list above.

Numeric and narrative criteria provide the means to measure the degree to which the quality of waters is consistent with their designated use or uses. The criteria are intended to provide protection of the water quality commensurate with the water's use, to include protection of human health. Narrative criteria generally describe minimum conditions necessary for all uses and may include certain restrictions for specific uses. Numeric criteria include pollutant concentrations or physical characteristics necessary to protect a specific designated use. Alabama's narrative and numeric criteria are defined in ADEM Administrative Code 335-6-10.

The state's antidegradation policy provides for protection of high quality waters that constitute an outstanding national resource (Tier 3), waters whose quality exceeds the levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (Tier 2), and existing instream water uses and the level of water quality necessary to protect the existing uses (Tier 1). In Tier 3 waters, ADEM Administrative Code 335-6-10-.10 prohibits new or expanded point source discharges. In Tier 2 waters, ADEM Administrative Code 335-6-10-.04 provides for new or expanded discharge of pollutants only after intergovernmental coordination, public participation, and a demonstration that the new or expanded discharge is necessary for important economic or social development. Alabama's water quality standards regulations (ADEM Administrative Code 335-6-10 and 335-6-11) are included in the **Appendix** of this document.

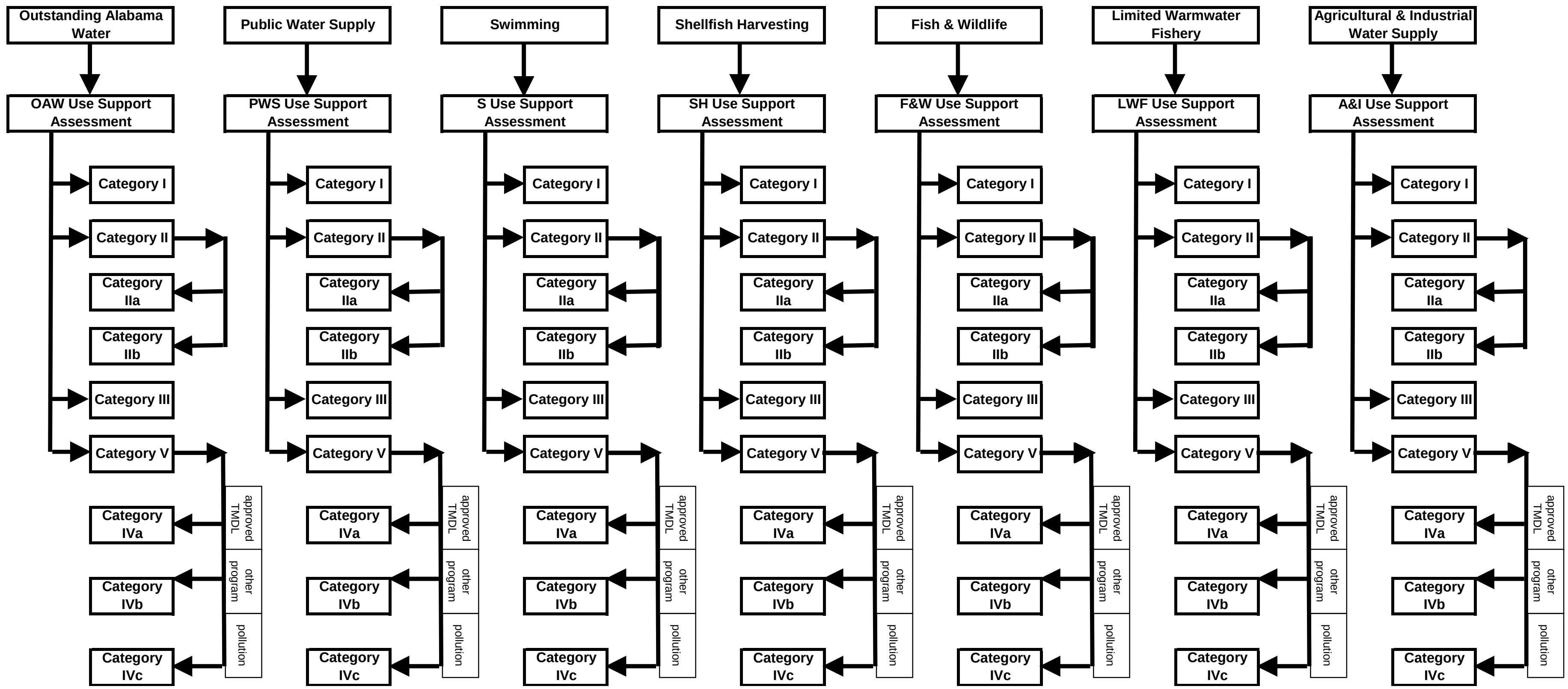
3.0 Waterbody Categorization

The water quality assessment process begins with the collection, compilation, and evaluation of water quality data and information for the purpose of determining if a waterbody is supporting all of its designated uses. It is imperative that the data and information used in the process be of adequate quality and provides an accurate indication of the water quality conditions in the waterbody since decisions arising from the assessment process may have long-term consequences. Issues of data sufficiency and data quality must be addressed to ensure that use support decisions are based on accurate data and information. However, the minimum data requirements discussed in this methodology are not intended to exclude data and information from the assessment process but are a guide for use in designing monitoring activities to assess the State's surface waters and to ensure that decisions are made using the best available data. The goal is to accurately describe the status of surface waters where possible and to identify waters where more information is needed to make use support decisions.

The use support assessment process considers all existing and readily available data and information with a goal of placing waterbodies in one of five separate categories. This process is specific to the highest designated use assigned to the waterbody and is described by the flow chart depicted in **Figure 1**.

Appendix A

Figure 1
Alabama's Waterbody Assessment Process



Appendix A

Waterbody data and information are evaluated using the use support assessment methodology and the waterbody is assigned to one of the following categories.

Category 1
Waters that are attaining all applicable water quality standards.

Category 2
Waters for which existing and readily available data, which meets the State's requirements as described in Section 4.9, supports a determination that some water quality standards are met and there is insufficient data to determine if remaining water quality standards are met. Attainment status of the remaining standards is unknown because data is insufficient. Waters for which the minimum data requirements (as described later) have not been met will be placed in Category 2.

1. *Category 2A*
   For these waters available data does not satisfy minimum data requirements but there is a high potential for use impairment based on the limited data. These waters will be given a higher priority for additional data collection.
2. *Category 2B*
   For these waters available data does not satisfy minimum data requirements but there is a low potential for use impairment based on the limited data. These waters will be included in future basin monitoring rotations as resources allow.

Category 3
Waters for which there is no data or information to determine if any applicable water quality standard is attained or impaired. These waters will be considered unassessed.

Category 4
Waters in which one or more applicable water quality standards are not met but establishment of a TMDL is not required.

1. *Category 4A*
   Waters for which all TMDLs needed to result in attainment of all applicable WQSs have been approved or established by EPA.
2. *Category 4B*
   Waters for which other required control measures are expected to attain applicable water quality standards in a reasonable period of time. Adequate documentation is required to indicate that the proposed control mechanisms will address all major pollutant sources and should result in the issuance of more stringent effluent limitations required by either Federal, State, or local authority or the implementation of "other pollution control requirements (e.g., best management practices) required by local, state, or federal authority" that are stringent enough to implement applicable water quality standards. Waters will be evaluated on a case by case basis to determine if the proposed control measures or activities

under another program can be expected to address the cause of use impairment within a reasonable time period. A reasonable time period may vary depending on the degree of technical difficulty or extent of the modifications to existing measures needed to achieve water quality standards. EPA's 2006 assessment and listing guidance offers additional clarification of what might be expected of waters placed in Category 4b.

3. *Category 4C*

Waters in which the impairment is not caused by a pollutant. This would include waters which are impaired due to natural causes or pollution. A pollutant is defined in Section 502(6) of the Clean Water Act (CWA) as "spoil, solid waste, incinerator residue, sewerage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water." Pollution is defined as "the man-made or man-induced alteration of the chemical, physical, or radiological integrity of a waterbody." Invasive plants and animal species are considered pollution.

<u>*Category 5*</u>

Waters in which a pollutant has caused or is suspected of causing impairment. If the impairment is caused by an identified pollutant the water should be placed in Category 5. All "exsisting and readily available data and information" will be used to determine when a water should be placed in Category 5. Waters in this category comprise the State's list of impaired waters or §303(d) list.

When the information used to assess the waterbody consist primarily of observed conditions, (limited water quality data, water quality data older than six years, or estimated impacts from observed or suspected activities), the assessment is generally referred to as an evaluated assessment (Category 2). Evaluated assessments usually require the use of some degree of professional judgment by the person making the assessment and these assessments are not considered sufficient to place waters in or to remove waters from the impaired category (Category 5) or the fully supporting category (Category 1).

Monitored assessments (Categories 1 and 5) are based on existing and readily available chemical, physical, and/or biological data collected during the previous six years, using commonly accepted and well-documented methods. Existing and readily available data are data that have been collected or assembled by the Department or other groups or agencies and are available to the public. Data older than six years old may be used on a case-by-case basis when assessing waters that are not currently included in Category 1 or Category 5. (For example, older data could be used if conditions, such as land use, have not changed.) Much of the remainder of this document will pertain to the use of monitoring data to make use support determinations.

4.0 The Water Quality Assessment Process

The water quality assessment process is different for each of Alabama's seven designated uses because each use is protected by specific numeric and narrative water quality criteria. As such, the methodology for assigning a given waterbody to one of the five categories may have different data requirements and thresholds for determining the waterbody's use support status. In addition, interpretation of narrative criteria may differ by classified use and waterbody type. Data and information that may be considered when assessing state waters could include water chemistry data such as chemical specific concentration data, land use or land cover data, physical data such as water temperature and conductivity, habitat evaluations, biological data such as macroinvertebrate and fish community assessments, and bacteriological data such as fecal coliform or enterococci counts. Waters classified as "Fish and Wildlife" or higher must provide protection of the aquatic life use. All classifications must provide protection of the human health use.

Alabama's designated uses embody a tiered approach to aquatic life protection. The assessment process recognizes this by allowing for different minimum data requirements and varying criteria exceedance thresholds. For example, in waters classified as OAW, Alabama's highest designated use, the assessment methodology requires less data and allows for fewer exceedances of a toxic criterion to be considered for inclusion in Category 5. The assessment process for waters classified as A&I, Alabama's lowest designated use, requires more data and allows for slightly more exceedances of toxic criteria. This sliding scale assessment approach provides for existing differences in the aquatic communities and habitat conditions represented by streams with Alabama's various designated uses.

In order to ensure consistent and accurate assessment of a waterbody's support status and proper categorization of the waterbody, minimum data requirements must be defined that address data quality and data quantity. Data requirements will not only be dictated by the classified use of the waterbody but also by the waterbody type to account for the different monitoring strategies that may be used for different waterbody types. The minimum data requirements are expected to guide future water quality monitoring activities and provide the basis for making use support decisions. However, in those cases where a data set may not include all of the elements specified by the minimum data requirements, a decision to include the water in Category 5 can still be made provided the available data indicates a clear impairment and the cause of the impairment is evident. These decisions will be made on a case by case basis and the decision will be documented in the ADB.

In the assessment methodology, the terms "Level IV WMB-I", "Level III WMB-EPT", "Fish IBI", "habitat assessment", "conventional parameter samples", "pesticide/herbicide samples", "inorganic samples", "chlorophyll *a* samples", and "fish tissue analysis" are used. For the purposes of this assessment methodology, these terms will have the following meanings.

Level IV WMB-I:

- An intensive multihabitat assessment of the macroinvertebrate community in a wadeable stream involving the collection of macroinvertebrates for identification and enumeration in a laboratory

<u>Level III WMB-EPT:</u>

- A screening-level multihabitat assessment of the macroinvertebrate community in a stream focusing on the collection, field processing and enumeration of the pollution-sensitive Ephemeroptera, Plecoptera, and Trichoptera taxa

<u>Fish IBI:</u>

- A multihabitat fish community assessment method developed by the Geological Survey of Alabama (O'Neil and Shepard, 1998) for streams in the Black Warrior and Cahaba River basins

<u>Habitat assessment:</u>

- An assessment of available aquatic habitat in a stream which considers habitat characteristics important to supporting a diverse and health aquatic community

<u>Conventional parameter samples</u> will include analyses for the following constituents:

- Collector Name
- Date (Month, Day, Year)
- Time (24 hr)
- Air Temperature, °C
- Water Temperature, °C
- Total Stream Depth at Sampling Point, feet
- Sample Collection Depth, feet
- Dissolved Oxygen (DO), mg/l
- Conductivity, µmhos/cm @ 25C
- Salinity, ppt (coastal waters only)
- pH, s.u.
- Turbidity, NTU (with Nephelometer, not multiprobe)
- Weather Conditions
- Stream Flow (where appropriate)
- Five-day Carbonaceous Biochemical Oxygen Demand (CBOD5), mg/l
- Alkalinity, mg/l
- Total Suspended Solids (TSS), mg/l
- Total Dissolved Solids (TDS), mg/l
- Dissolved Reactive Phosphorus (DRP), mg/l (field filtered, separate bottle)
- Ammonia Nitrogen (NH3-N), mg/l
- Nitrate + Nitrite Nitrogen (NO3+ NO2-N), mg/l
- Total Kjeldahl Nitrogen (TKN), mg/l
- Total Phosphorus (Total-P), mg/l
- Hardness, mg/l as $CaCO_3$ (measured when metals samples are collected)

<u>Pesticide/Herbicide samples</u> will include analyses for the following constituents:

- Organochlorine Pesticides by method SW8081A
- Organophosphorus Pesticides by method SW8141
- Chlorinated Herbicides by method SW8151

- Atrazine by Immunoassay

Inorganic (metals) samples will include analyses for the following constituents:
- "Dissolved" Antimony (Sb), ug/l
- "Dissolved" Arsenic^{+3} (As^{+3}), ug/l
- "Dissolved" Cadmium (Cd), ug/l
- "Dissolved" Chromium^{+3} (Cr^{+3}), ug/l
- "Dissolved" Copper (Cu), ug/l
- "Dissolved Lead (Pb), ug/l
- "Dissolved" Nickel (Ni), ug/l
- "Dissolved" Silver (Ag), ug/l
- "Dissolved" Thallium (Tl), ug/l
- "Dissolved" Zinc (Zn), ug/l
- "Total" Mercury (Hg), ug/l
- "Total" Selenium (Se), ug/l
- "Dissolved" Selenium (Se), ug/l

Bacteriological Samples
- o Fecal coliform, colonies/100 ml in non-coastal waters and Shellfish Harvesting waters
- o Enterococci, colonies/100 ml in coastal waters

Chlorophyll *a* samples will include the collection of photic zone composite water samples to be processed in accordance with ADEM SOP # 2063 Chlorophyll *a* Collection and Processing.

Fish tissue analysis will include collection and analyses of fish for the following constituents:
- Arsenic
- Cadmium
- Mercury
- Selenium
- Lead
- Chlordane
- 4,4-DDD
- 4,4-DDE
- 4,4-DDT
- 2,4-DDD
- 2,4-DDE
- 2,4-DDT
- Chlorpyrifos
- Dieldrin
- Endosulfan I
- Endosulfan II
- Endrin
- Lindane
- Heptachlor
- Heptachlor Epoxide
- Hexachlorobenzene
- Mirex
- Toxaphene
- PCBs
- Dioxin
- Percent lipids

Fish sampling and tissue preparation procedures are described in the ADEM *Standard Operating Procedures And Quality Control Assurance Manual Volume III – Fish Sampling And Tissue Preparation For Bioaccumulative Contaminants* (SOP).

Chronic aquatic life criteria will be used to assess a waterbody's use support where the designated use specifies such criteria. In those cases where both human health criteria and chronic aquatic life criteria are included, the more stringent of the criteria will determine the waterbody's use support status. The assessment process, including minimum data requirements and the number of chronic criteria exceedances, is described for each designated use in the remainder of the document.

4.1 Outstanding Alabama Waters (OAW)

The best usage of waters assigned this classification are those activities consistent with the natural characteristics of the waters. Waterbodies assigned the OAW use are high quality waters that constitute an outstanding Alabama resource, such as waters of state parks and wildlife refuges and waters of exceptional recreational or ecological significance. Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply.

4.1.1 *Minimum Data Requirement for OAW Waters*

For waters with the OAW classification the available data must have been collected consistent with the following standard operating procedures (SOP) manuals:

SOP#	Title
2040	Stream Flow Abbreviated Measurement Method
2041	SW Temperature Field Measurements
2042	SW pH Field Measurements
2043	SW Specific Conductivity Field Measurements
2044	SW Turbidity Field Measurements
2045	SW Dissolved Oxygen Field Measurements
2046	Photic Zone Measurements and Visibility Determinations
2048	Continuous SW Quality Monitoring Using Datasondes
2061	General SW Quality Sample Collection
2062	Dissolved Reactive Phosphorus (DRP) Collection & Field Processing
2063	Chlorophyll_*a* Collection & Field Processing
2064	Fecal Coliform Sample Collection
2065	Sediment Sampling
9021	Quality Control Samples and Field Measurements
9025	Field Equipment Cleaning Procedures
9040	Station, Sample ID & Chain of Custody Procedures
6300	Physical Characterization
6301	Habitat Assessment

- ADEM SOP/QCA Manual Volume 2 – Aquatic Macroinvertebrate Assessment (2005)
- ADEM SOP/QCA Manual Volume 5 – Algal Growth Potential Testing (2004)

In addition, the data must have been collected within the last six years. The six year timeframe would capture all data collected by ADEM during one complete rotation of the five year monitoring schedule currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include wadeable rivers and streams, non-wadeable rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. In addition, the minimum data requirement may change if pollutant sources upstream of the monitoring location are likely. Failure to meet the minimum data requirement for any waterbody type will place the waterbody in Category 2. The following list and **Figure 2** describe the minimum data requirements for assessing waters classified as OAW.

- Wadeable River or Stream
    - 1 Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I) or 1 Level III Wadeable Multi-habitat Bioassessments – EPT Families (WMB-EPT) or 1 Level III WMB-EPT plus 1 fish community assessment (IBI). In addition, a habitat assessment must be completed with each biological assessment. Currently, metrics for the fish IBI have been calibrated only in the Black Warrior and Cahaba River basins.
    - 3 conventional parameter samples (including samples for nutrient analysis)
    - 3 bacteriological samples
    - 3 pesticide / herbicide samples
    - 3 inorganic samples

- Non-wadeable River or Stream
    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 5 bacteriological samples (1 geometric mean)
    - 3 pesticide / herbicide samples
    - 3 inorganic samples

- Reservoirs and Embayments
    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 3 bacteriological samples
    - 1 fish tissue analysis from the reservoir mainstem

    - 7 chlorophyll a samples collected between April and October (For the Tennessee River Basin: 6 chlorophyll a samples collected between April and September). Results from critical period sampling (i.e., August sample only) will be used with other critical period data to evaluate chlorophyll a trends at a given sampling location.

- Estuary or Coastal Waters
    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 10 bacteriological samples (2 geometric means)
    - 1 fish tissue analysis

Appendix A

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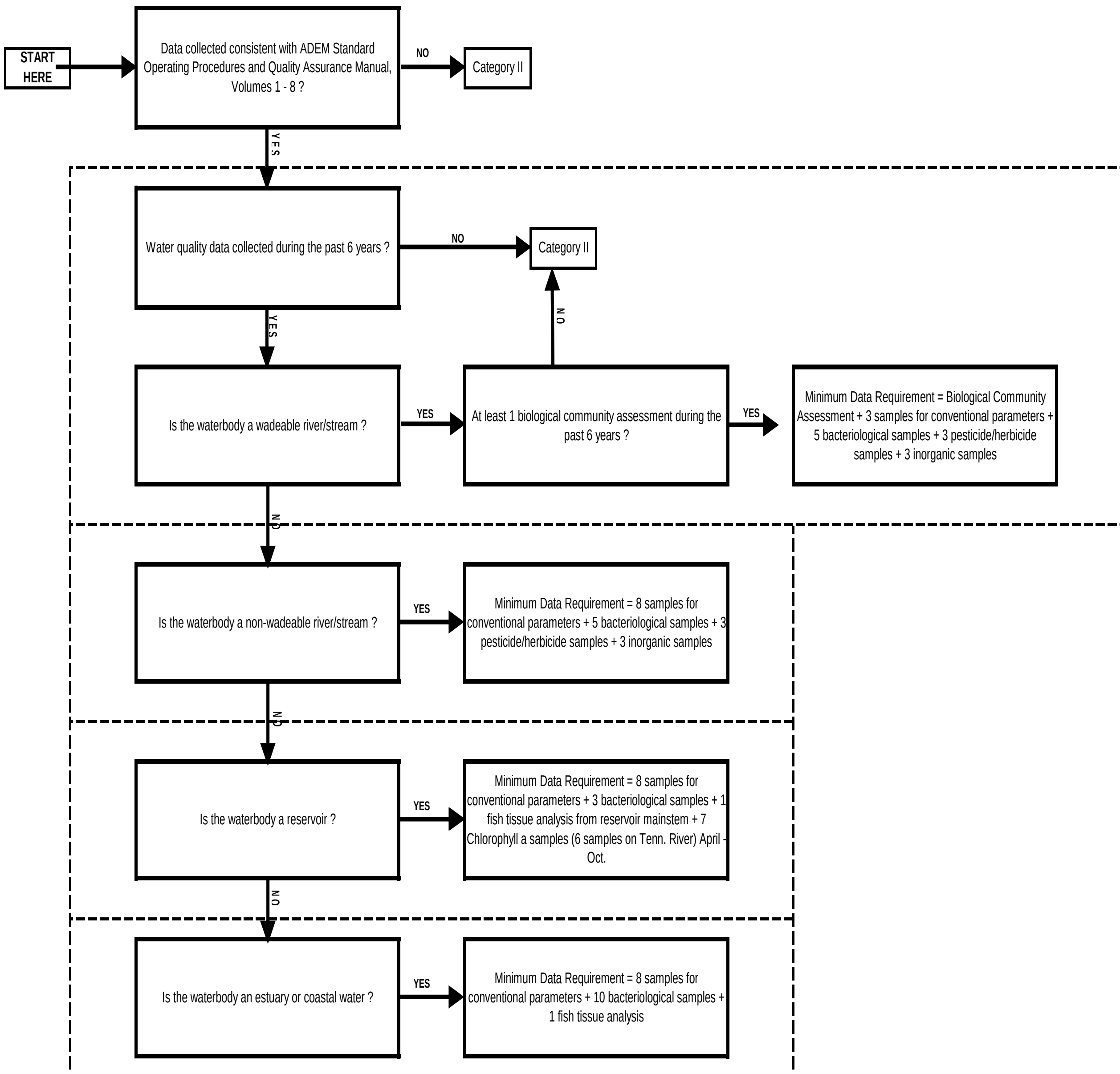
Figure 2
Minimum Data Requirements for the OAW Designated Use



Biological community assessment means:
1 Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I) or
1 Level III Wadeable Multi-habitat Bioassessment – EPT Families (WMB-EPT) or
Level III WMB-EPT plus 1 fish community assessment (IBI)

4.1.2 Use Support Assessment for OAW Waters

Once the minimum data requirements have been met an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the OAW use (Category 1) or not fully supporting the OAW use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, shellfish harvesting closure notices, chemical specific data, bacteriological data, biological community assessments, habitat assessments, periphyton assessments, and toxicity evaluations.

The OAW-classified waterbody is placed in Category 1 if all of the following are true:

- There is no fish/shellfish consumption advisory issued by the Alabama Department of Public Health (ADPH) for the waterbody.
- The Level IV WMB-I assessment result is “good” or “excellent”, or the Level III WMB-EPT assessment is “good” or “excellent” or the Level III WMB-EPT assessment is “good” or “excellent” and the fish community IBI is “fair”, “good”, or “excellent” (Wadeable streams only).
- The growing season mean chlorophyll *a* criterion has not been exceeded where such a criterion has been established. In making this determination, chlorophyll a values in excess of the criterion which are due to extreme hydrologic events (i.e., droughts and floods) will not be considered as an exceedance of the criterion.
- There is not an exceedance of any toxic pollutant criterion during the previous six years.
- There are no exceedances of conventional parameters, except due to natural conditions.
- Bacteriological sample results from a single sample in excess of 200 colonies fecal coliform per 100 ml will require a follow-up collection of 5 samples collected during a 30 day period to calculate the geometric mean fecal coliform density in reservoirs and wadeable streams. If the geometric mean fecal coliform density is less than or equal to 200 colonies/100 ml the waterbody will be considered fully meeting the bacteria criteria for this designated use. In coastal waters designated as OAW the geometric mean of enterococci sample must be less than 35 colonies/100 ml and not more than 10% of the individual samples (as determined by the binomial distribution function and Table 2) can exceed 104 colonies/100 ml.

The OAW-classified waterbody is placed in Category 5 if any of the following are true:

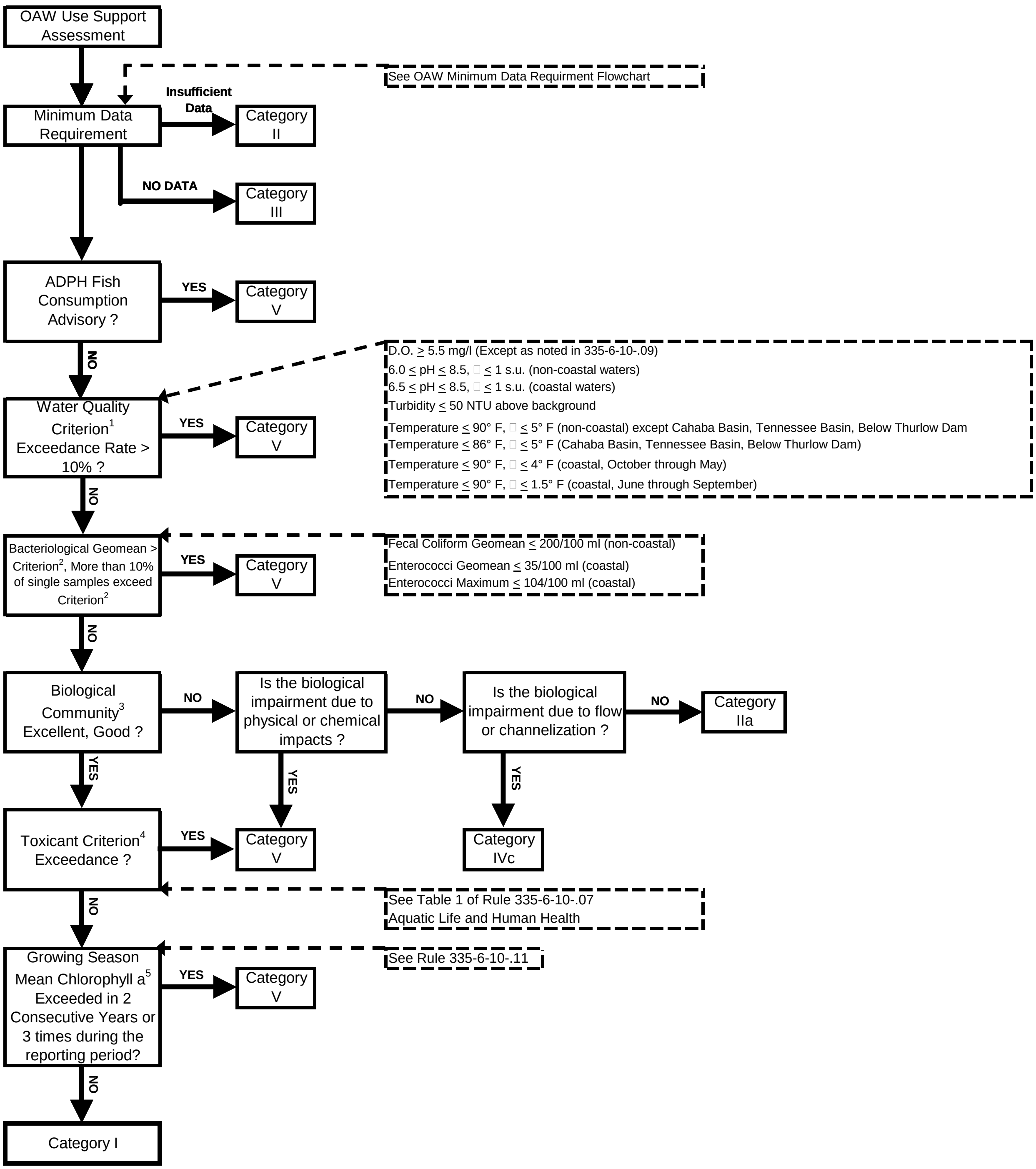
- There is a fish consumption advisory issued by the ADPH.
- The Level IV WMB-I assessment result is less than “good”, or the Level III WMB-EPT assessment is less than “good” or the Level III WMB-EPT assessment is less than “good” or the fish community IBI is less than “fair”. In addition, a potential anthropogenic cause for the degraded condition must be identified (Wadeable streams only).

- There is an exceedance of a conventional parameter for other than natural causes.
- There is an exceedance of any toxic pollutant criterion during the previous six years.
- The geometric mean fecal coliform density exceeds 200 colonies/100 ml in follow-up samples collected in response to an exceedance of 200 colonies/100 ml in a single sample. In coastal waters the geometric mean enterococci density exceeds 35 colonies/100 ml.
- The growing season mean chlorophyll *a* criterion has been exceeded where such a criterion has been established. In making this determination, chlorophyll *a* values in excess of the criterion which are due to natural conditions (e.g., extreme hydrologic events such as drought or floods) will not be considered as an excursion of the criterion. When a growing season mean chlorophyll a value exceeds the criterion, the reservoir will be identified for re-sampling the following year and enough samples will be collected to ensure that the minimum data requirements necessary to calculate a growing season mean are met.

Figure 3 illustrates the assessment process for OAW waters.

Appendix A

Figure 3
Outstanding Alabama Water (OAW) Assessment Methodology



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources
2 Bacteriological Criterion refers to both the single sample maximum and geometric mean, see discussion in Section 4.1.2
3 Biological community refers to macroinvertebrates and/or fish in wadeable rivers/streams only (See Minimum Data Requirments)
4 Toxicant Criterion refers to toxics listed in 335-6-10-.07
5 Applies only to reservoirs with established Chlorophyll a criteria and not during extreme hydrologic events
Special Note - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These

4.2 Public Water Supply (PWS)

The best usage of waters assigned this classification is as a source of water supply for drinking or food-processing purposes after approved treatment. Waterbodies assigned the PWS use are considered safe for drinking or food-processing purposes if subjected to treatment approved by the Department equal to coagulation, sedimentation, filtration and disinfection, with additional treatment if necessary to remove naturally present impurities. Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, drinking and food-processing water supply, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply.

4.2.1 *Minimum Data Requirement for PWS Waters*

For waters with the PWS classification the available data must have been collected consistent with the following standard operating procedures (SOP) manuals:

SOP#	Title
2040	Stream Flow Abbreviated Measurement Method
2041	SW Temperature Field Measurements
2042	SW pH Field Measurements
2043	SW Specific Conductivity Field Measurements
2044	SW Turbidity Field Measurements
2045	SW Dissolved Oxygen Field Measurements
2046	Photic Zone Measurements and Visibility Determinations
2048	Continuous SW Quality Monitoring Using Datasondes
2061	General SW Quality Sample Collection
2062	Dissolved Reactive Phosphorus (DRP) Collection & Field Processing
2063	Chlorophyll_*a* Collection & Field Processing
2064	Fecal Coliform Sample Collection
2065	Sediment Sampling
9021	Quality Control Samples and Field Measurements
9025	Field Equipment Cleaning Procedures
9040	Station, Sample ID & Chain of Custody Procedures
6300	Physical Characterization
6301	Habitat Assessment

- ADEM SOP/QCA Manual Volume 2 – Aquatic Macroinvertebrate Assessment (2005)
- ADEM SOP/QCA Manual Volume 5 – Algal Growth Potential Testing (2004)

In addition, the data must have been collected within the last six years. The six year timeframe would capture all data collected by ADEM during one complete rotation of the five year monitoring schedule currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include wadeable rivers and streams, non-wadeable rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. Failure to meet the minimum data requirement will place the waterbody in Category 2. The following list and **Figure 4** describe the minimum data requirement for assessing waters classified as PWS.

- Wadeable River or Stream
  - 1 Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I) or 2 Level III Wadeable Multi-habitat Bioassessments – EPT Families (WMB-EPT) or 1 Level III WMB-EPT plus 1 fish community assessment (IBI). In addition, a habitat assessment must be completed with each biological assessment. Currently, metrics for the fish IBI have been calibrated only in the Black Warrior and Cahaba River basins.
  - 3 conventional parameter samples (including samples for nutrient analysis)
  - 3 bacteriological samples

    OR

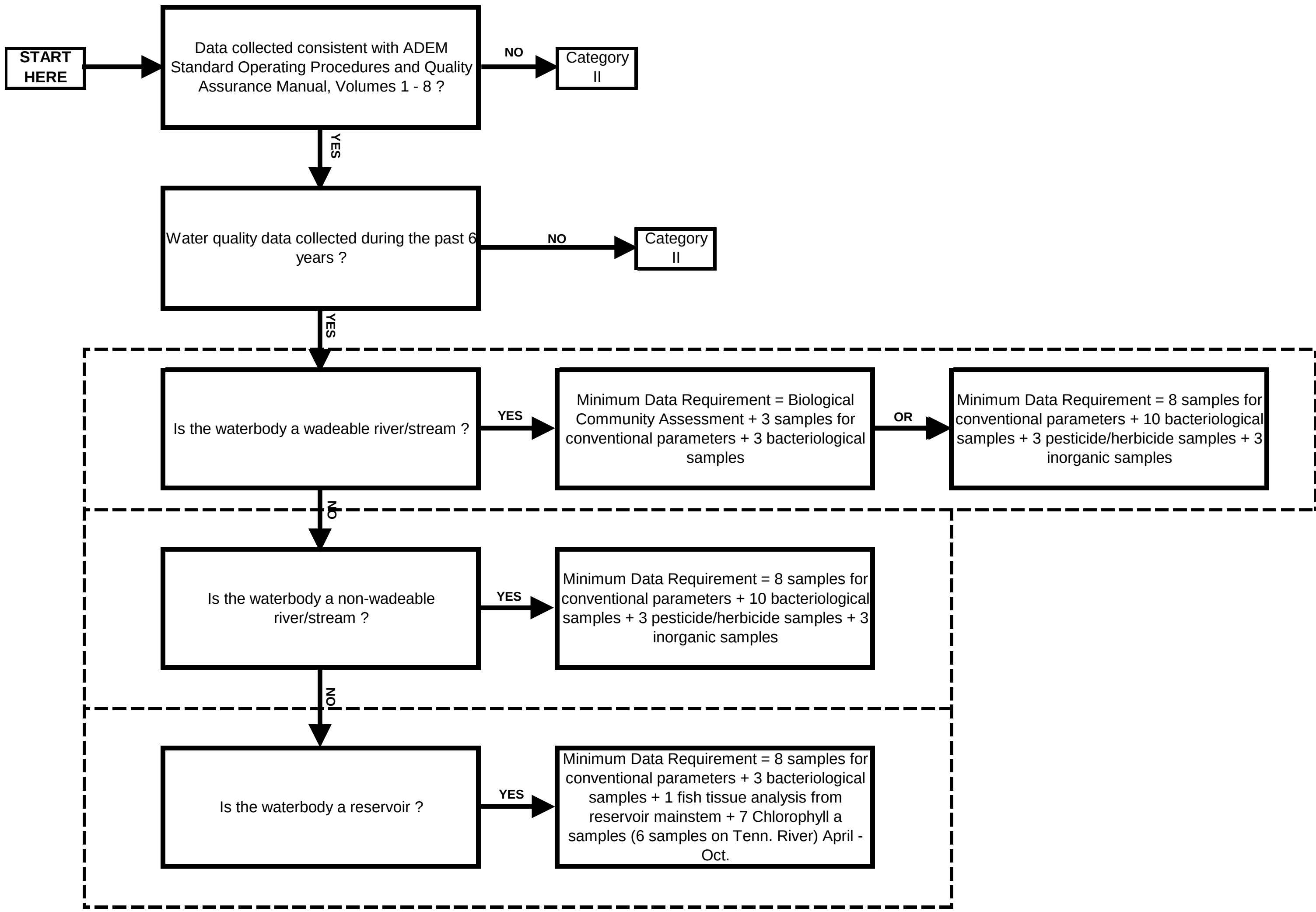
  - 8 conventional parameter samples (including samples for nutrient analysis)
  - 10 bacteriological samples (2 geometric mean samples)
  - 3 pesticide / herbicide samples
  - 3 inorganic samples

- Non-wadeable River or Stream
  - 8 conventional parameter samples (including samples for nutrient analysis)
  - 10 bacteriological samples (2 geometric mean samples)
  - 3 pesticide / herbicide samples
  - 3 inorganic samples

- Reservoirs and Embayments
  - 8 conventional parameter samples (including samples for nutrient analysis)
  - 3 bacteriological samples
  - 1 fish tissue analysis from the reservoir mainstem
  - 7 chlorophyll *a* samples collected between April and October (For the Tennessee River Basin: 6 chlorophyll *a* samples collected between April and September). . Results from critical period sampling (i.e., August sample only) will be used with other critical period data to evaluate chlorophyll a trends at a given sampling location.

- Estuary or Coastal Waters
  - 8 conventional parameter samples (including samples for nutrient analysis)
  - 10 bacteriological samples (2 geometric mean samples)
  - 1 fish tissue analysis

Figure 4
Minimum Data Requirements for the PWS Designated Use



Biological community assessment means:
1 Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I) or
2 Level III Wadeable Multi-habitat Bioassessments – EPT Families (WMB-EPT) or
1 Level III WMB-EPT plus 1 fish community assessment (IBI)

4.2.2 Use Support Assessment for PWS Waters

Once the minimum data requirement has been met an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the PWS use (Category 1) or not fully supporting the PWS use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, shellfish harvesting closure notices, chemical specific data, bacteriological data, biological community assessments, habitat assessments, periphyton assessments, drinking water system compliance records, and toxicity evaluations.

The PWS-classified waterbody is placed in Category 1 if all of the following are true:

- There is no fish/shellfish consumption advisory issued by the Alabama Department of Public Health (ADPH) for the waterbody.
- The Level IV WMB-I assessment result is “fair”, “good” or “excellent”, or both Level III WMB-EPT assessments are “fair”, “good” or “excellent” or the Level III WMB-EPT assessment is “fair”, “good” or “excellent” and the fish community IBI is “fair”, “good”, or “excellent”. (Wadeable streams only)
- The growing season mean chlorophyll *a* criterion has not been exceeded in two consecutive years where such a criterion has been established unless a drinking water system withdrawing from waterbody is not in compliance with a THM requirement. In making this determination, chlorophyll *a* values in excess of the criterion which are due to extreme hydrologic events (i.e., droughts and floods) will not be considered as an exceedance of the criterion.
- There is no more than one exceedance of a particular toxic pollutant criterion during the previous six years.
- The water quality criteria exceedance rate for conventional parameters is not more than 10% as determined using the binomial distribution function and Table 2. Conventional parameters include dissolved oxygen, pH, temperature (where influenced by a heated discharge), and turbidity.
- Bacteriological sample results from a single sample in excess of 200 colonies fecal coliform per 100 ml in non-coastal waters and in excess of 35 colonies enterococci per 100 ml in coastal waters will necessitate a follow-up collection of 5 samples during a 30 day period to calculate the geometric mean density. If the geometric mean fecal coliform density in non-coastal waters is less than or equal to 200 colonies/100 ml (June through September) or less than or equal to 1000 colonies/100ml (October through May) the waterbody will be considered fully meeting the bacteria criteria for this designated use. In coastal waters (June through September) the geometric mean enterococci density must be less than 35 colonies / 100 ml and 10% or less (as determined using the binomial distribution function and Table 2) of the single samples must be less than 158 colonies/100 ml (June through September) or less than 275 colonies/100 ml (October through May).

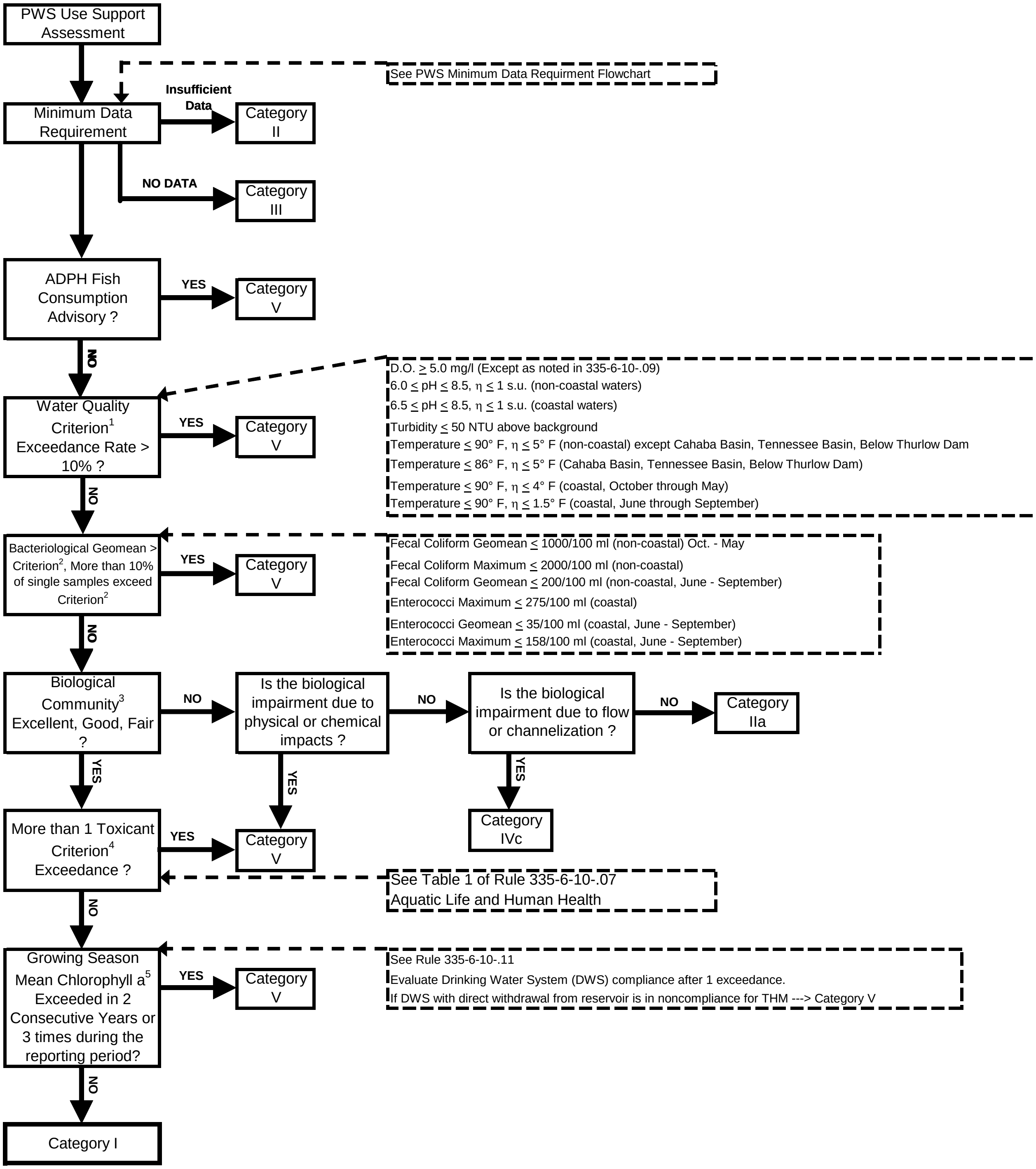
The PWS-classified waterbody is placed in Category 5 if any of the following are true:

- There is a fish consumption advisory issued by the ADPH.
- The Level IV WMB-I assessment result is less than “fair”, or either of the Level III WMB-EPT assessments are less than “fair” or the Level III WMB-EPT assessment is less than “fair” and the fish community IBI is less than “fair”. In addition, a potential anthropogenic cause for the degraded condition must be identified using observations made during the sampling events or from information contained in the Department’s geographic information system. (Wadeable streams only)
- The water quality criteria exceedance rate for conventional parameters is more than 10% as defined in Table 2.
- There is more than one exceedance of a particular toxic pollutant criterion during the previous six years.
- In non-coastal waters the geometric mean fecal coliform density exceeded 200 colonies/100 ml in follow-up samples collected between June and September in response to an exceedance of 200 colonies/100 ml in a single sample. During October through May the geometric mean fecal coliform density exceeded 1000 colonies/100ml. In coastal waters the enterococci geometric mean density exceeded 35 colonies/100 ml during June through September or more than 10% of the individual samples (as defined in Table 2) exceeded 158 colonies/100 ml or 275 colonies/100 ml during October through May.
- The growing season mean chlorophyll *a* criterion has been exceeded in two consecutive years or three times during the previous six years where such a criterion has been established or after one exceedance of the chlorophyll *a* criterion if a drinking water system is out of compliance with the THM requirement. In making this determination, chlorophyll *a* values in excess of the criterion which are due to extreme hydrologic events (i.e., droughts and floods) will not be considered as an exceedance of the criterion. However, one exceedance of the chlorophyll a criterion may be sufficient justification for inclusion of a water in Category 5 when the exceedance is determined to be result of increasing nutrient loading from anthropogenic sources. These determinations will be made on a case by case basis and the decision will be documented in the ADB. In any case, when a growing season mean chlorophyll a value exceeds the criterion, the reservoir will be identified for re-sampling the following year and enough samples will be collected to ensure that the minimum data requirements necessary to calculate a growing season mean are met.

Figure 5 illustrates the assessment process for PWS waters.

Appendix A

Figure 5
Public Water Supply (PWS) Categorization Methodology



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources

2 Bacteriological Criterion refers to both the single sample maximum and geometric mean, see discussion in Section 4.2.2

3 Biological community refers to macroinvertebrates and/or fish in wadeable rivers/streams only (See Minimum Data Requirments)

4 Toxicant Criterion refers to toxics listed in 335-6-10-.07

5 Applies only to reservoirs with established Chlorophyll a criteria and not during extreme hydrologic events

Special Note - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These

4.3 Swimming and Other Whole Body Water-Contact Sports (S)

The best usage of waters assigned this classification is for swimming and other whole body water-contact sports. Waterbodies assigned the S use, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports. Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply.

4.3.1 *Minimum Data Requirement for S Waters*

For waters with the S classification the available data must have been collected consistent with the following standard operating procedures (SOP) manuals:

SOP#	Title
2040	Stream Flow Abbreviated Measurement Method
2041	SW Temperature Field Measurements
2042	SW pH Field Measurements
2043	SW Specific Conductivity Field Measurements
2044	SW Turbidity Field Measurements
2045	SW Dissolved Oxygen Field Measurements
2046	Photic Zone Measurements and Visibility Determinations
2048	Continuous SW Quality Monitoring Using Datasondes
2061	General SW Quality Sample Collection
2062	Dissolved Reactive Phosphorus (DRP) Collection & Field Processing
2063	Chlorophyll_*a* Collection & Field Processing
2064	Fecal Coliform Sample Collection
2065	Sediment Sampling
9021	Quality Control Samples and Field Measurements
9025	Field Equipment Cleaning Procedures
9040	Station, Sample ID & Chain of Custody Procedures
6300	Physical Characterization
6301	Habitat Assessment

- ADEM SOP/QCA Manual Volume 2 – Aquatic Macroinvertebrate Assessment (2005)
- ADEM SOP/QCA Manual Volume 5 – Algal Growth Potential Testing (2004)

In addition, the data must have been collected within the last six years. The six year timeframe would capture all data collected by ADEM during one complete rotation of the five year monitoring schedule currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include wadeable rivers and streams, non-wadeable rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. Failure to meet the minimum data requirement will place the waterbody in Category 2. The following list and **Figure 6** describe the minimum data requirement for assessing waters classified as S.

- Wadeable River or Stream
  - 1 Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I) or 2 Level III Wadeable Multi-habitat Bioassessments – EPT Families (WMB-EPT) or 1 Level III WMB-EPT plus 1 fish community assessment (IBI). In addition, a habitat assessment must be completed with each biological assessment. Currently, metrics for the fish IBI have been calibrated only in the Black Warrior and Cahaba River basins.
  - 3 conventional parameter samples (including samples for nutrient analysis)
  - 10 bacteriological samples (2 geometric mean samples)

  OR

  - 8 conventional parameter samples (including samples for nutrient analysis)
  - 10 bacteriological samples (2 geometric mean samples)
  - 3 pesticide / herbicide samples

- Non-wadeable River or Stream
  - 8 conventional parameter samples (including samples for nutrient analysis)
  - 10 bacteriological samples (2 geometric mean samples)
  - 3 pesticide / herbicide samples
  - 3 inorganic samples

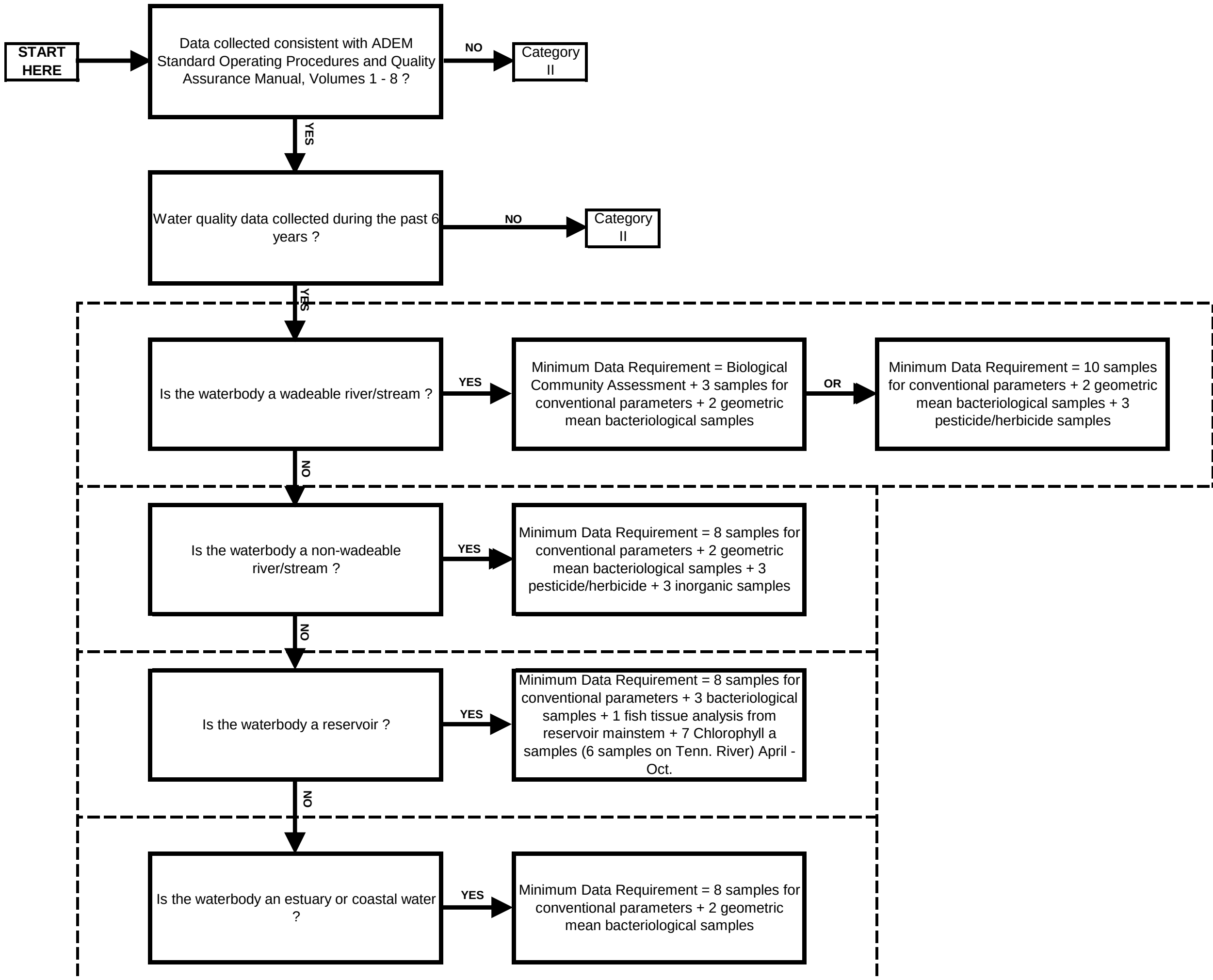
- Reservoirs and Embayments
  - 8 conventional parameter samples (including samples for nutrient analysis)
  - 3 bacteriological samples
  - 1 fish tissue analysis from the reservoir mainstem
  - 7 chlorophyll <u>*a*</u> samples collected between April and October (For the Tennessee River Basin: 6 chlorophyll <u>*a*</u> samples collected between April and September). . Results from critical period sampling (i.e., August sample only) will be used with other critical period data to evaluate chlorophyll a trends at a given sampling location.

- Estuary or Coastal Waters

- o 8 conventional parameter samples (including samples for nutrient analysis)
- o 10 bacteriological samples (2 geometric mean samples)

Appendix A

Figure 6
Minimum Data Requirements for the S Designated Use



Biological community assessment means:
1 Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I) or
2 Level III Wadeable Multi-habitat Bioassessments – EPT Families (WMB-EPT) or
1 Level III WMB-EPT plus 1 fish community assessment (IBI)

4.3.2 Use Support Assessment for S Waters

Once the minimum data requirement has been met an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the S use (Category 1) or not fully supporting the S use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, shellfish harvesting closure notices, chemical specific data, bacteriological data, biological community assessments, habitat assessments, periphyton assessments, beach closure notices and toxicity evaluations.

The S-classified waterbody is placed in Category 1 if all of the following are true:

- There is no fish/shellfish consumption advisory issued by the Alabama Department of Public Health (ADPH) for the waterbody.
- The Level IV WMB-I assessment result is "fair", "good" or "excellent", or at least one of the Level III WMB-EPT assessments is "fair", "good" or "excellent" or the Level III WMB-EPT assessment is "fair", "good" or "excellent" and the fish community IBI is "fair", "good", or "excellent". (Wadeable streams only)
- There is no more than one exceedance of a particular toxic pollutant criterion during the previous six years.
- The water quality criteria exceedance rate for conventional parameters is not more than 10% as determined using the binomial distribution function and Table 2. Conventional parameters include dissolved oxygen, pH, temperature (where influenced by a heated discharge), and turbidity. Determination of the 10% exceedance rate is discussed in Section 4.8.
- Bacteriological sample results from a single sample in excess of 200 colonies fecal coliform per 100 ml will require a follow-up collection of 5 samples collected during a 30 day period to calculate the geometric mean fecal coliform density in reservoirs. If the geometric mean fecal coliform density is less than or equal to 200 colonies/100 ml the waterbody will be considered fully meeting the bacteria criteria for this designated use. In coastal waters designated as S the geometric mean of enterococci sample must be less than 35 colonies/100 ml and not more than 10% of the individual samples (as determined by the binomial distribution function and Table 2) can exceed 104 colonies/100 ml.
- The growing season mean chlorophyll *a* criterion has not been exceeded in two consecutive years where such a criterion has been established. In making this determination, chlorophyll *a* values in excess of the criterion which are due to extreme hydrologic events (i.e., droughts and floods) will not be considered as an exceedance of the criterion.

The S-classified waterbody is placed in Category 5 if any of the following are true:

- There is a fish consumption advisory issued by the ADPH.
- The Level IV WMB-I assessment result is less than "fair", or both of the Level III WMB-EPT assessments are less than "fair" or the Level III WMB-EPT assessment is less than "fair" and the fish community IBI is

less than "fair". In addition, a potential anthropogenic cause for the degraded condition must be identified. (Wadeable streams only)

- The water quality criteria exceedance rate for conventional parameters is more than 10% as defined in Table 2.
- There is more than one exceedance of a particular toxic pollutant criterion during the previous six years.
- In reservoirs the geometric mean fecal coliform density exceeds 200 colonies/100 ml in follow-up samples collected in response to an exceedance of 200 colonies/100 ml in a single sample. In coastal waters designated as S the geometric mean of enterococci sample must be less than 35 colonies/100 ml and not more than 10% of the individual samples (as determined by the binomial distribution function and Table 2) can exceed 104 colonies/100 ml.
- For reservoirs with established chlorophyll *a* criteria, a criterion has been exceeded in two consecutive years or three times during the previous six years. In making this determination, chlorophyll *a* values in excess of the criterion which are due to extreme hydrologic events (i.e., droughts and floods) will not be considered as an exceedance of the criterion. However, one exceedance of the chlorophyll *a* criterion may be sufficient justification for inclusion of a water in Category 5 when the exceedance is determined to be the result of increasing nutrient loading from anthropogenic sources. These determinations will be made on a case by case basis and the decision will be documented in the ADB. In any case, when a growing season mean chlorophyll a value exceeds the criterion, the reservoir will be identified for re-sampling the following year and enough samples will be collected to ensure that the minimum data requirements necessary to calculate a growing season mean are met.

Figure 7 illustrates the assessment process for S waters.

4.4 Shellfish Harvesting (SH)

The best usage of waters assigned this classification is the propagation and harvesting of shellfish (oysters) for sale or for use as a food product. Waterbodies assigned the SH use will meet the sanitary and bacteriological standards included in the *National Shellfish Sanitation Program Model Ordinance, 1999, Chapter IV*, published by the Food and Drug Administration, U.S. Department of Health and Human Services and the requirements of the Alabama Department of Public Health. The waters will also be of a quality suitable for the propagation of fish and other aquatic life, including shrimp and crabs. Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply.

4.4.1 *Minimum Data Requirement for SH Waters*

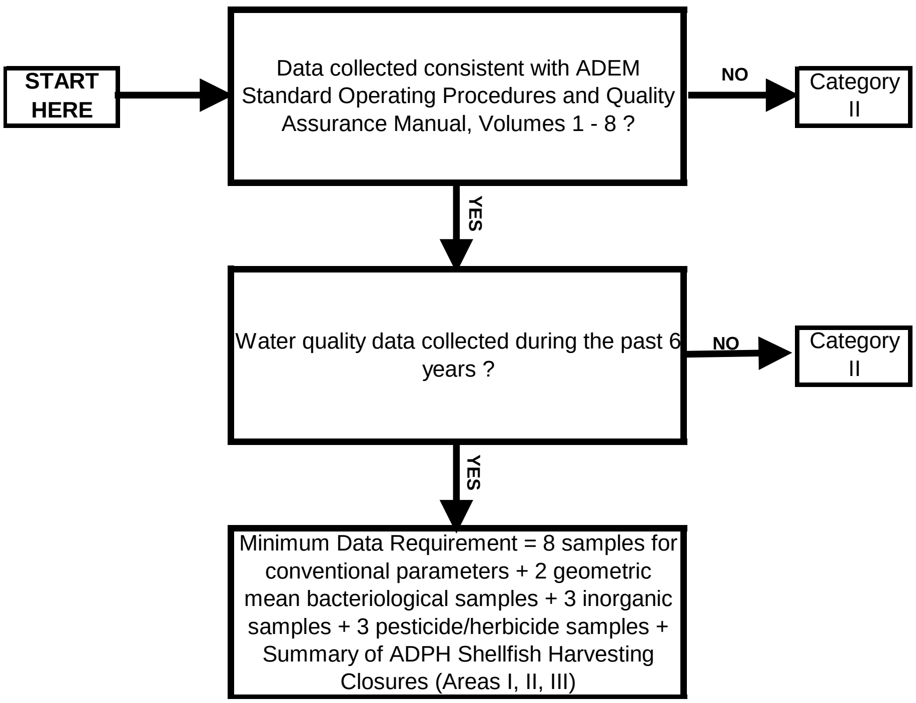
For waters with the SH classification the available data must have been collected consistent with the following standard operating procedures (SOP) manual:

SOP#	Title
2040	Stream Flow Abbreviated Measurement Method
2041	SW Temperature Field Measurements
2042	SW pH Field Measurements
2043	SW Specific Conductivity Field Measurements
2044	SW Turbidity Field Measurements
2045	SW Dissolved Oxygen Field Measurements
2046	Photic Zone Measurements and Visibility Determinations
2048	Continuous SW Quality Monitoring Using Datasondes
2061	General SW Quality Sample Collection
2062	Dissolved Reactive Phosphorus (DRP) Collection & Field Processing
2063	Chlorophyll_a Collection & Field Processing
2064	Fecal Coliform Sample Collection
2065	Sediment Sampling
9021	Quality Control Samples and Field Measurements
9025	Field Equipment Cleaning Procedures
9040	Station, Sample ID & Chain of Custody Procedures
6300	Physical Characterization
6301	Habitat Assessment

In addition, the data must have been collected within the last six years. The six year timeframe would capture all data collected by ADEM during one complete rotation of the five year monitoring schedule currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. The following list and **Figure 8** describe the minimum data requirement for assessing waters classified as SH.

- o 8 conventional parameter samples (including samples for nutrient analysis)
- o 10 bacteriological samples (2 geometric mean samples)
- o 3 inorganic samples
- o 3 pesticide/herbicide samples
- o Summary of ADPH shellfish harvesting closure notices for Areas I, II, and III

Figure 8
Minimum Data Requirements for the SH Designated Use



4.4.2 Use Support Assessment for SH Waters
Once the minimum data requirement has been met an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the SH use (Category 1) or not fully supporting the SH use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, shellfish harvesting closure notices, chemical specific data, bacteriological data, and toxicity evaluations.

The SH-classified waterbody is placed in Category 1 if:

- There is no fish/shellfish consumption advisory issued by the Alabama Department of Public Health (ADPH) for the waterbody and the ADPH "conditionally approved" shellfish harvesting areas (Areas I, II, and III) are open at least 75% of the year;

- There is no more than one exceedance of a particular toxic pollutant criterion during the previous six years and;
- The water quality criteria exceedance rate for conventional parameters is not more than 10% as determined using the binomial distribution function for the sample sizes shown in Table 2. Conventional parameters include dissolved oxygen, pH, temperature (where influenced by a heated discharge), and turbidity. Determination of the 10% exceedance rate is discussed in Section 4.8.
- The geometric mean of 5 fecal coliform samples collected during a 30-day period must be less than or equal to 14 colonies/100 ml and no more than 10% of the samples can exceed 43 colonies/100 ml. In addition, during June through September the geometric mean enterococci density must be less than 35 colonies/100 ml and 10% or less (as determined using the binomial distribution function and Table 2) of the single samples must be less than 104 colonies/100 ml.

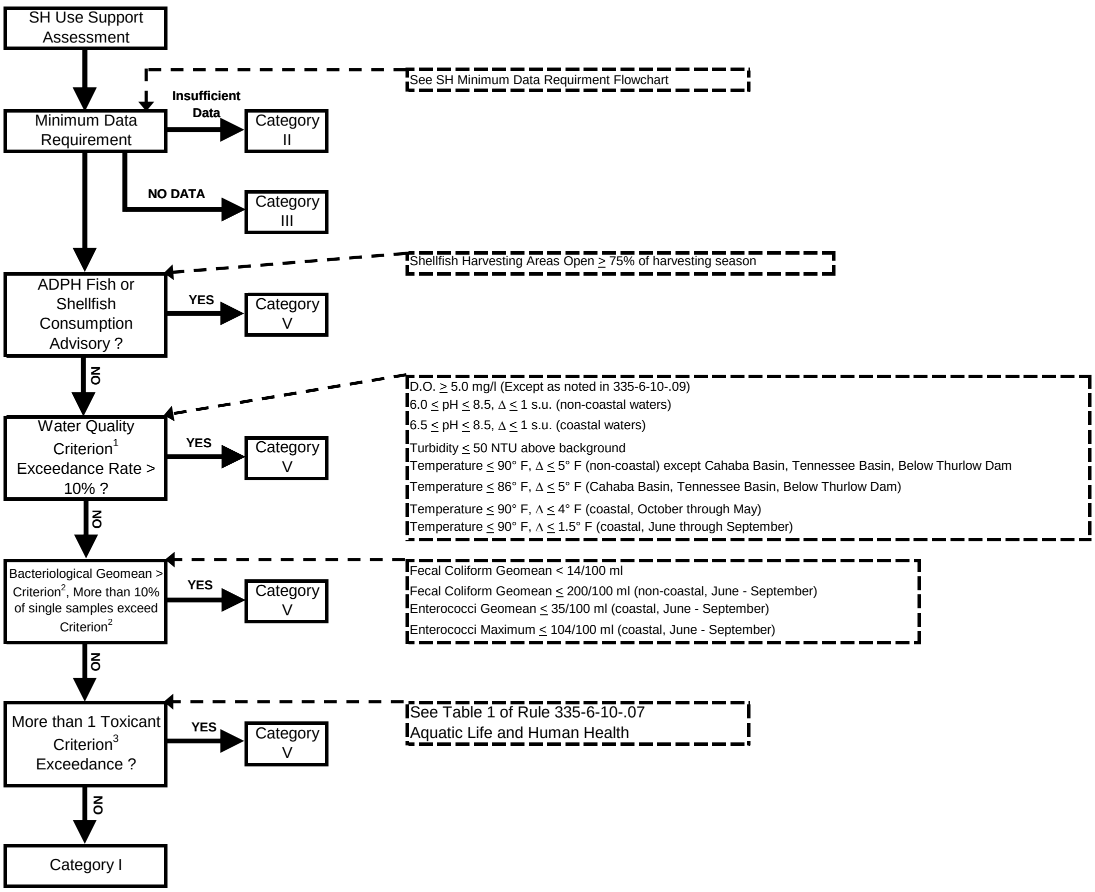
The SH-classified waterbody is placed in Category 5 if:

- There is a fish consumption advisory issued by the ADPH or the shellfish growing areas are "conditionally open" or "conditionally restricted" or;
- The water quality criteria exceedance rate for conventional parameters is more than 10% as determined using the binomial distribution function for the sample sizes shown in Table 2 or;
- The geometric mean of 5 fecal coliform samples collected during a 30-day period is greater than 14 colonies/100 ml or more than 10% of the samples exceed 43 colonies/100 ml. In addition, during June through September the geometric mean enterococci density is greater than 35 colonies/100 ml and more than 10% (as determined using the binomial distribution function and Table 2) of the single samples are greater than 104 colonies/100 ml.
- There is more than one exceedance of a particular toxic pollutant criterion during the previous six years.

Figure 9 illustrates the assessment process for SH waters.

Appendix A

Figure 9
Shellfish Harvesting (SH) Categorization Methodology



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources
2 Bacteriological Criterion refers to both the single sample maximum and geometric mean
3 Toxicant Criterion refers to toxics listed in 335-6-10-.07
Special Note - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These criteria relate to condition of waters as affected by the discharge of sewage, industrial wastes, or other wastes, not to conditions resulting from natural forces. See 335-6-10-.05(4)

4.5 Fish and Wildlife (F&W)

The best usage of waters assigned this classification includes fishing, the propagation of fish, aquatic life, and wildlife, and any other usage except swimming and water-contact sports or as a source of water supply for drinking or food-processing purposes. Waterbodies assigned the F&W classification will be suitable for fish, aquatic life and wildlife propagation. The quality of salt and estuarine waters to which this classification is assigned will also be suitable for the propagation of shrimp and crabs. In addition, it is recognized that these waters may be used for incidental water contact and recreation during June through September, except in the vicinity of wastewater discharges or other conditions beyond the control of the ADPH. These waters will, under proper sanitary supervision by the controlling health authorities, meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports during the months of June through September.

<u>4.5.1 *Minimum Data Requirement for F&W Waters*</u>

For waters with the F&W classification the available data must have been collected consistent with the following standard operating procedures (SOP) manuals:

SOP#	Title
2040	Stream Flow Abbreviated Measurement Method
2041	SW Temperature Field Measurements
2042	SW pH Field Measurements
2043	SW Specific Conductivity Field Measurements
2044	SW Turbidity Field Measurements
2045	SW Dissolved Oxygen Field Measurements
2046	Photic Zone Measurements and Visibility Determinations
2048	Continuous SW Quality Monitoring Using Datasondes
2061	General SW Quality Sample Collection
2062	Dissolved Reactive Phosphorus (DRP) Collection & Field Processing
2063	Chlorophyll_a Collection & Field Processing
2064	Fecal Coliform Sample Collection
2065	Sediment Sampling
9021	Quality Control Samples and Field Measurements
9025	Field Equipment Cleaning Procedures
9040	Station, Sample ID & Chain of Custody Procedures
6300	Physical Characterization
6301	Habitat Assessment

- ADEM SOP/QCA Manual Volume 2 – Aquatic Macroinvertebrate Assessment (2005)
- ADEM SOP/QCA Manual Volume 5 – Algal Growth Potential Testing (2004)

In addition, the data must have been collected within the last six years. The six year timeframe would capture all data collected by ADEM during one complete rotation of the five year monitoring schedule currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include wadeable rivers and streams, non-wadeable rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. Failure to meet the minimum data requirement will place the waterbody in Category 2. The following list and **Figure 10** describe the minimum data requirement for assessing waters classified as F&W.

- Wadeable River or Stream
    - 1 Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I) or 2 Level III Wadeable Multi-habitat Bioassessments – EPT Families (WMB-EPT) or 1 Level III WMB-EPT plus 1 fish community assessment (IBI). In addition, a habitat assessment must be completed with each biological assessment. Currently, metrics for the fish IBI have been calibrated only in the Black Warrior and Cahaba River basins.
    - 3 conventional parameter samples (including samples for nutrient analysis)
    - 3 bacteriological samples

    OR

    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 10 bacteriological samples (2 geometric mean samples)
    - 5 pesticide / herbicide samples
    - 5 inorganic samples

- Non-wadeable River or Stream
    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 10 bacteriological samples (2 geometric mean samples)
    - 5 pesticide / herbicide samples
    - 5 inorganic samples

Reservoirs and Embayments
- 8 conventional parameter samples (including samples for nutrient analysis)
- 3 bacteriological samples
- 1 fish tissue analysis from the reservoir mainstem
- 7 chlorophyll *a* samples collected between April and October (For the Tennessee River Basin: 6 chlorophyll *a* samples collected between April and September). . Results from critical period sampling (i.e., August sample only) will be used with other critical

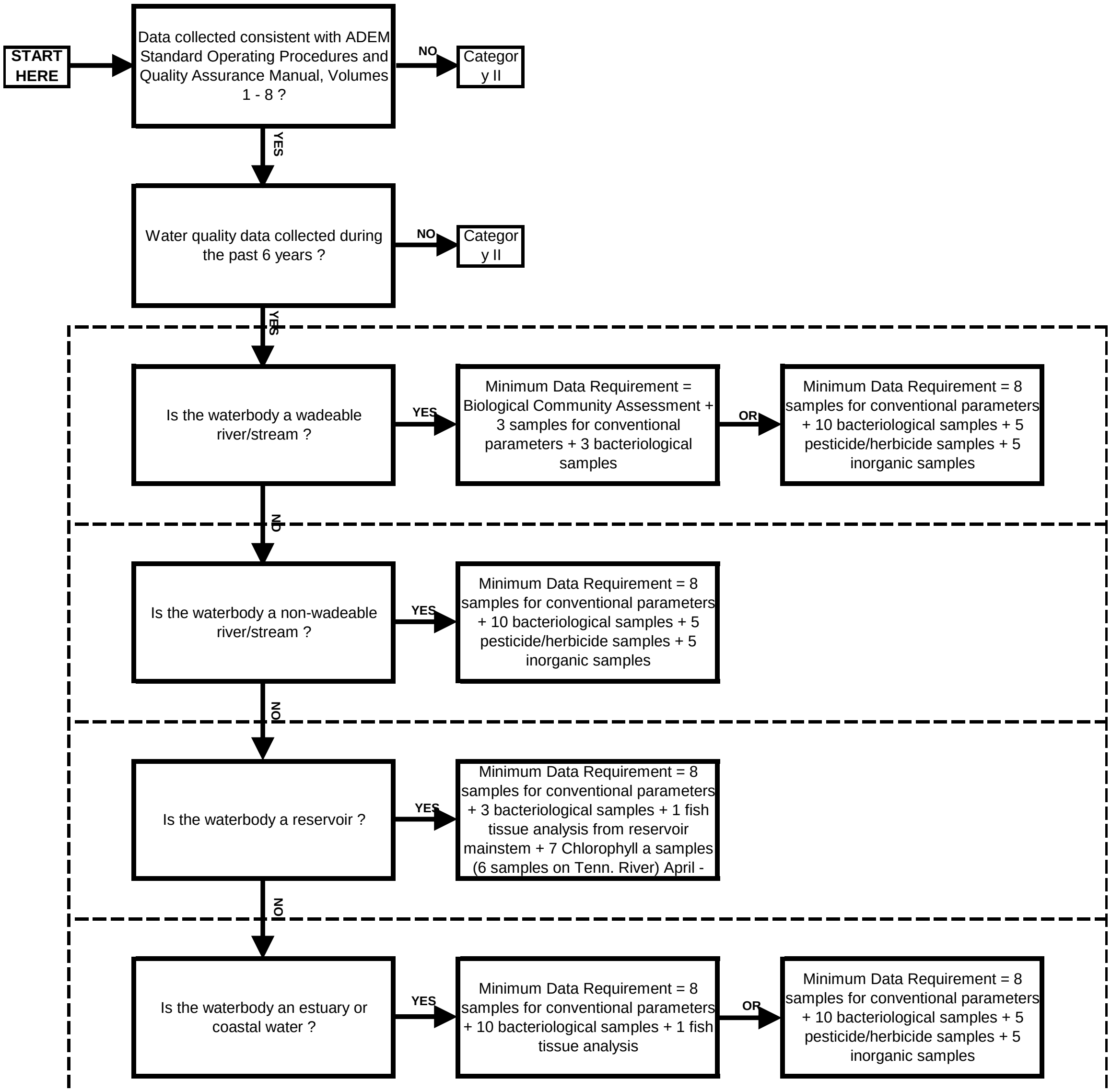
period data to evaluate chlorophyll a trends at a given sampling location.

- Estuary or Coastal Waters
  - 8 conventional parameter samples (including samples for nutrient analysis)
  - 10 bacteriological samples (2 geometric mean samples)
  - 1 fish tissue analysis

  OR

  - 8 conventional parameter samples (including samples for nutrient analysis)
  - 10 bacteriological samples (2 geometric mean samples)
  - 5 pesticide/herbicide samples
  - 5 inorganic samples

Figure 10
Minimum Data Requirements for the F&W Designated Use



Biological community assessment means:
1 Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I) or
2 Level III Wadeable Multi-habitat Bioassessments – EPT Families (WMB-EPT) or
1 Level III WMB-EPT plus 1 fish community assessment (IBI)

4.5.2 Use Support Assessment for F&W Waters

Once the minimum data requirement has been met an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the F&W use (Category 1) or not fully supporting the F&W use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, chemical specific data, biological community assessments, bacteriological data, beach closure notices and toxicity evaluations.

The F&W-classified waterbody is placed in Category 1 if all of the following are true:

- There is no fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for the waterbody.
- There are no more than two exceedances of a particular toxic pollutant criterion during the previous six years.
- The Level IV WMB-I assessment result is “fair”, “good” or “excellent”, or either of the Level III WMB-EPT assessments are “fair”, “good” or “excellent” or the Level III WMB-EPT assessment is “fair”, “good” or “excellent” and the fish community IBI is “fair”, “good”, or “excellent”. (Wadeable steams only)
- For reservoirs with established chlorophyll *a* criteria, a criterion has not been exceeded in two consecutive years. In making this determination, chlorophyll *a* values in excess of the criterion which are due to extreme hydrologic events (i.e., droughts and floods) will not be considered as an exceedance of the criterion.
- The water quality criteria exceedance rate for conventional parameters is not more than 10%. Conventional parameters include dissolved oxygen, pH, temperature (where influenced by a heated discharge), and turbidity. Determination of the 10% exceedance rate is discussed in Section 4.8.
- In reservoirs and wadeable streams with biological assessments, bacteriological sample results from a single sample in excess of 200 colonies fecal coliform per 100 ml in non-coastal waters and in excess of 35 colonies enterococci per 100 ml in coastal waters will necessitate a follow-up collection of 5 samples during a 30 day period to calculate the geometric mean density. If the geometric mean fecal coliform density in non-coastal waters is less than or equal to 200 colonies/100 ml (June through September) or less than or equal to 1000 colonies/100ml (October through May) and 10%, as defined in Table 2, or less of the single samples results are less than 2000 colonies/100 ml, the waterbody will be considered fully meeting the bacteria criteria for this designated use. In coastal waters (June through September) the geometric mean enterococci density must be less than 35 colonies / 100 ml and 10% or less (as determined using the binomial distribution function and Table 2) of the single samples must be less than 158 colonies/100 ml (June through September) or less than 275 colonies/100 ml (October through May). Use

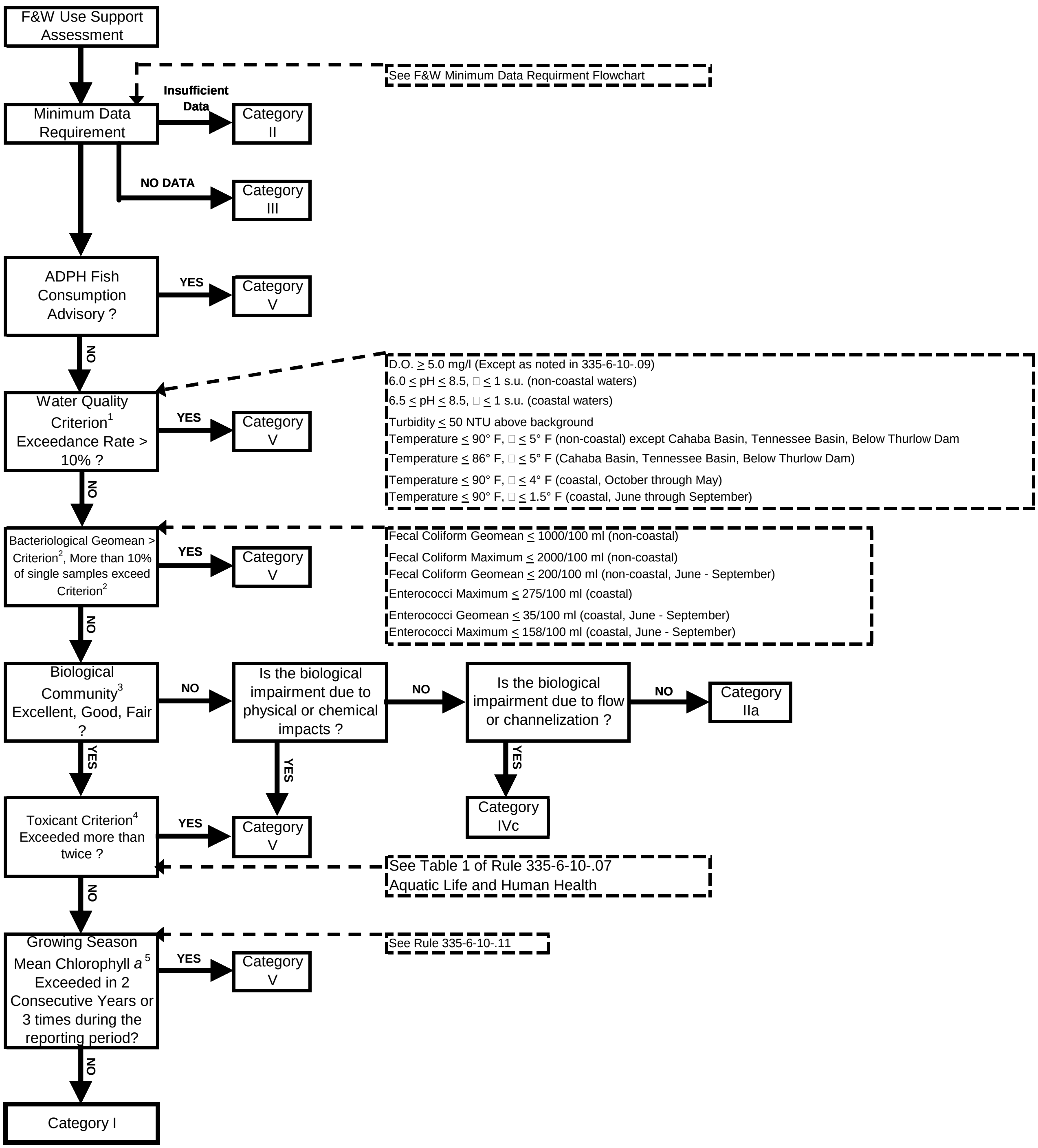
of the 10% rule will only be applied when there is at least the minimum number of samples.

The F&W-classified waterbody is placed in Category 5 if any of the following are true:

- There is a fish consumption advisory issued by the ADPH.
- The water quality criteria exceedance rate for conventional parameters is more than 10% as defined in Table 2.
- The Level IV WMB-I assessment result is less than "fair", or both of the Level III WMB-EPT assessments are less than "fair" or the Level III WMB-EPT assessment is less than "fair" and the fish community IBI is less than "fair". In addition, a potential anthropogenic cause for the degraded condition must be identified. (Wadeable streams only)
- The geometric mean fecal coliform density in non-coastal waters is greater than 200 colonies/100 ml (June through September) or more than 1000 colonies/100ml (October through May) and or more than 10% of the single samples results are greater than 2000 colonies/100 ml. In coastal waters (June through September) the geometric mean enterococci density is greater than 35 colonies / 100 ml and more than 10% (as determined using the binomial distribution function and Table 2) of the single samples is greater than 158 colonies/100 ml (June through September) or more than 275 colonies/100 ml (October through May). Use of the 10% rule will only be applied to data sets containing at least the minimum number of samples.
- There are more than two exceedances of a particular toxic pollutant criterion during the previous six years.
- For reservoirs with established chlorophyll *a* criteria, a criterion has been exceeded in two consecutive years or three times during the previous six years. In making this determination, chlorophyll *a* values in excess of the criterion which are due to extreme hydrologic events (i.e., droughts and floods) will not be considered as an exceedance of the criterion. However, one exceedance of the chlorophyll a criterion may be sufficient justification for inclusion of a water in Category 5 when the exceedance is determined to be the result of increasing nutrient loading from anthropogenic sources. These determinations will be made on a case by case basis and the decision will be documented in the ADB. In any case, when a growing season mean chlorophyll a value exceeds the criterion, the reservoir will be identified for re-sampling the following year and enough samples will be collected to ensure that the minimum data requirements necessary to calculate a growing season mean are met.

Figure 11 illustrates the assessment process for F&W waters.

Figure 11
Fish and Wildlife (F&W) Categorization Methodology



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources

2 Bacteriological Criterion refers to both the single sample maximum and geometric mean, see discussion in Section 4.5.2

3 Biological community refers to macroinvertebrates and/or fish in wadeable rivers/streams only (See Minimum Data Requirments)

4 Toxicant Criterion refers to toxics listed in 335-6-10-.07

5 Applies only to reservoirs with established Chlorophyll a criteria and not during extreme hydrologic events

4.6 Limited Warmwater Fishery (LWF)
For the months of December through April the best usage of waters assigned this classification includes fishing, the propagation of fish, aquatic life, and wildlife, and any other usage except swimming and water-contact sports or as a source of water supply for drinking or food-processing purposes. Waterbodies assigned the LWF classification will be suitable for fish, aquatic life and wildlife propagation except during the months of May through November. During May through November the quality of waters to which this classification is assigned will be suitable for agricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes.

4.6.1 *Minimum Data Requirement for LWF Waters*
For waters with the LWF classification the available data must have been collected consistent with the following standard operating procedures (SOP) manuals:

SOP#	Title
2040	Stream Flow Abbreviated Measurement Method
2041	SW Temperature Field Measurements
2042	SW pH Field Measurements
2043	SW Specific Conductivity Field Measurements
2044	SW Turbidity Field Measurements
2045	SW Dissolved Oxygen Field Measurements
2046	Photic Zone Measurements and Visibility Determinations
2048	Continuous SW Quality Monitoring Using Datasondes
2061	General SW Quality Sample Collection
2062	Dissolved Reactive Phosphorus (DRP) Collection & Field Processing
2064	Fecal Coliform Sample Collection
2065	Sediment Sampling
9021	Quality Control Samples and Field Measurements
9025	Field Equipment Cleaning Procedures
9040	Station, Sample ID & Chain of Custody Procedures
6300	Physical Characterization
6301	Habitat Assessment

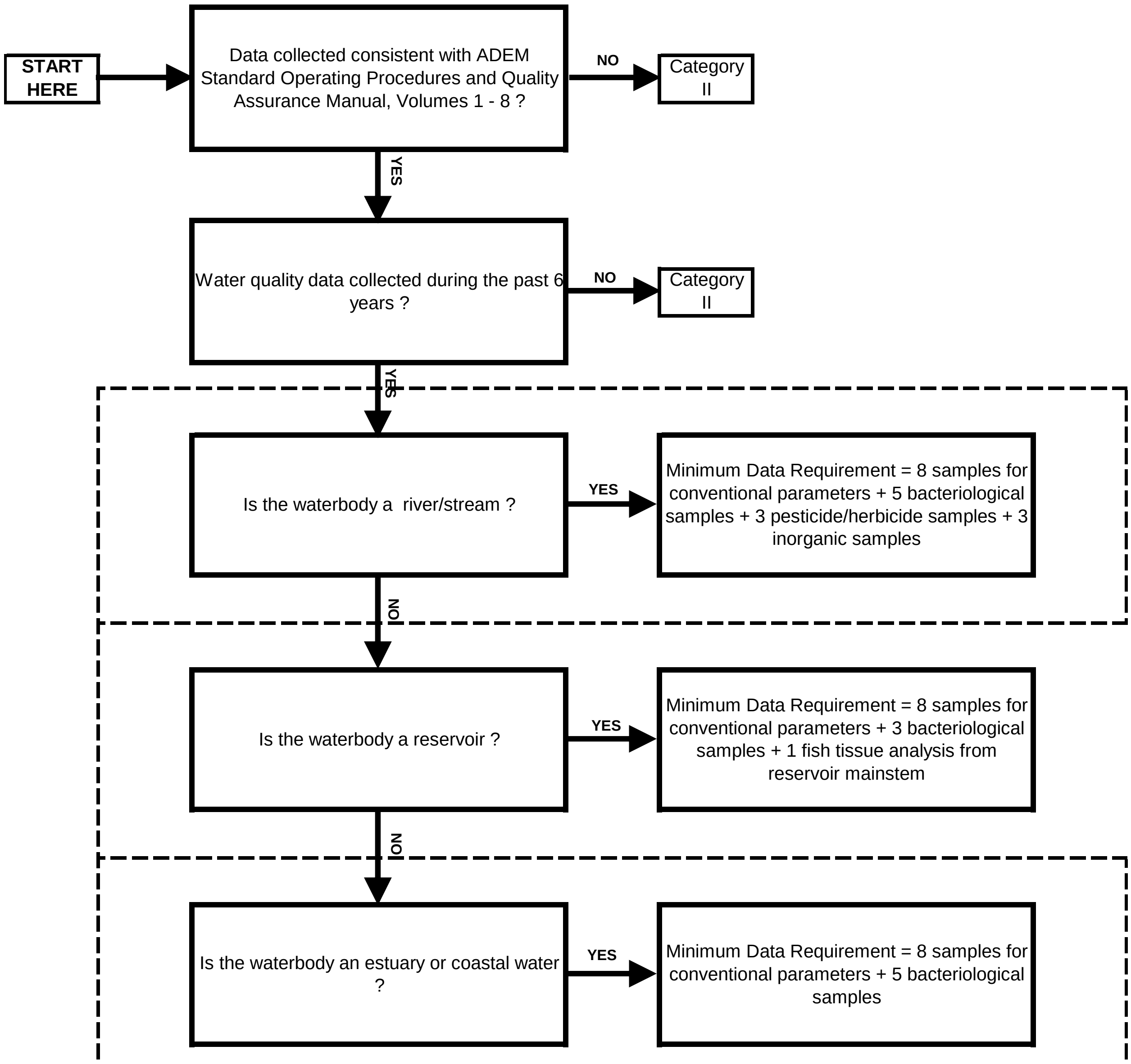
In addition, the data must have been collected within the last six years. The six year timeframe would capture all data collected by ADEM during one complete rotation of the five year monitoring schedule currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. Failure to meet the minimum data requirement will place the waterbody in Category 2. The following list and **Figure 12** describe the minimum data requirements for assessing waters classified as LWF.

- River or Stream (Wadeable and Non-wadeable)
    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 5 bacteriological samples (1 geometric mean sample)
    - 3 pesticide / herbicide samples
    - 3 inorganic samples

- Reservoirs and Embayments
    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 3 bacteriological samples
    - 1 fish tissue analysis from the reservoir mainstem

- Estuary or Coastal Waters
    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 5 bacteriological samples (1 geometric mean sample)

Figure 12
Minimum Data Requirements for the LWF Designated Use



4.6.2 Use Support Assessment for LWF Waters

Once the minimum data requirement has been met an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the LWF use (Category 1) or not fully supporting the LWF use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, chemical specific data, bacteriological data, and toxicity evaluations. However, at the present time there is no available protocol for use of biological assessment results to assess use support in LWF-classified waters. The Department's current SOP for conducting biological assessments employs the use of reference sites located in least impacted watersheds and is intended to assess the "fishable" use.

The LWF-classified waterbody is placed in Category 1 if all of the following are true:

- There is no fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for the waterbody.
- There is no more than one exceedance of a toxic pollutant acute criterion (May through November) during the previous six years. There is no more than one exceedance of a particular toxic pollutant chronic criterion (December through April) during the previous six years.
- The water quality criteria exceedance rate for conventional parameters is not more than 10%. Conventional parameters include dissolved oxygen, pH, temperature (where influenced by a heated discharge), and turbidity. Determination of the 10% exceedance rate is discussed in Section 4.8.
- In reservoirs, bacteriological sample results from a single sample in excess of 1000 colonies fecal coliform per 100 ml will necessitate a follow-up collection of 5 samples during a 30 day period to calculate the geometric mean density. If the geometric mean fecal coliform density is less than or equal to 1000 colonies/100 ml and 10% or less of the single sample results are less than 2000 fecal coliform colonies/100 ml, the waterbody will be considered fully meeting the bacteria criteria for this designated use. In coastal waters 10% or less (as determined using the binomial distribution function and Table 2) of the single samples must be less than 275 enterococci colonies/100 ml. In non-coastal rivers and streams the geometric mean fecal coliform density is less than 1000 colonies/100 ml and 10% (as defined in Table 2) or less of the single sample results are less than or equal to 2000 fecal coliform colonies/100 ml. Use of the 10% rule will only be applied when there is at least the minimum number of samples.

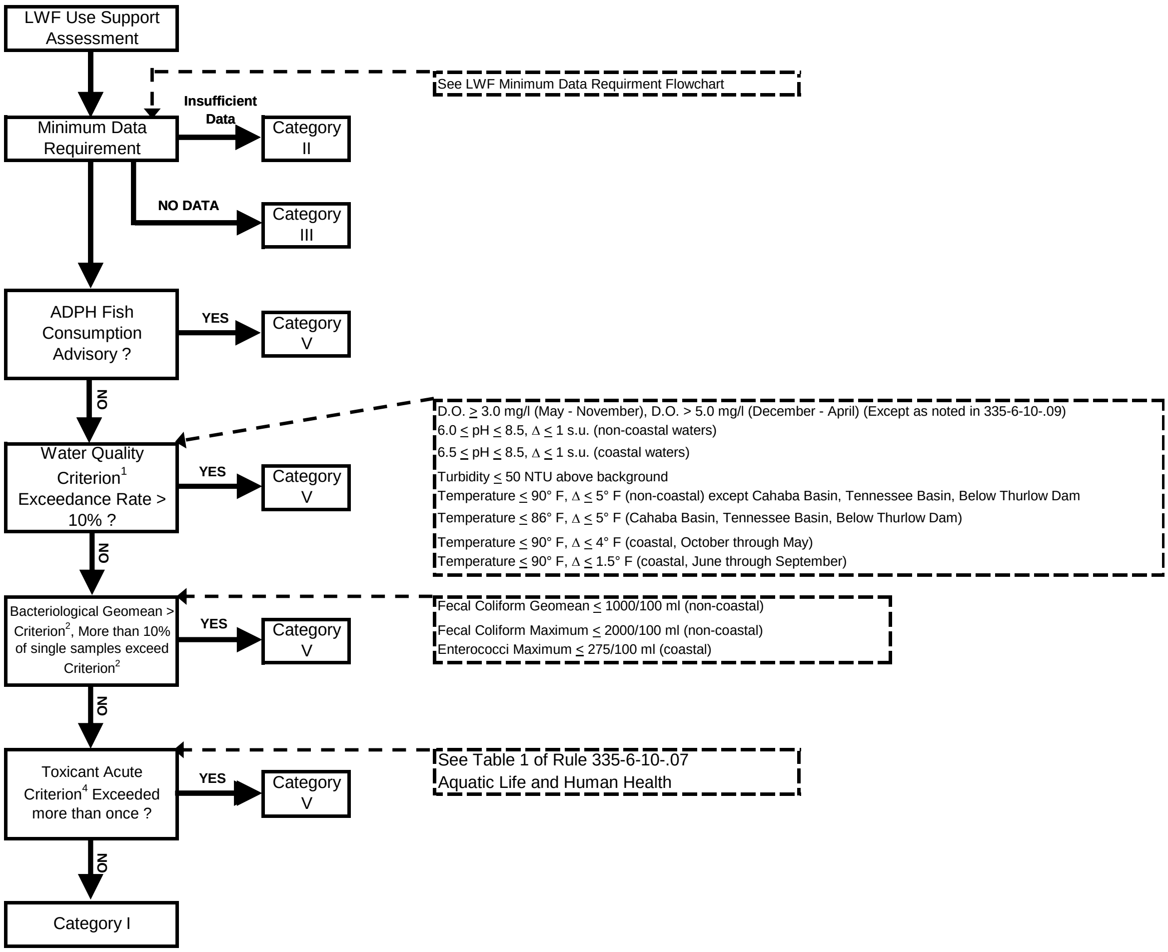
The LWF-classified waterbody is placed in Category 5 if any of the following are true:

- There is a fish consumption advisory issued by the ADPH.
- The water quality criteria exceedance rate for conventional parameters is more than 10%.

- The geometric mean fecal coliform density is greater than 1000 colonies/100 ml or more than 10% of the single sample results are greater than 2000 fecal coliform colonies/100 ml. In coastal waters more than 10% (as determined using the binomial distribution function and Table 2) of the single samples are greater than 275 enterococci colonies/100 ml. Use of the 10% rule will only be applied when there is at least the minimum number of samples.
- There are two or more exceedances of a particular toxic pollutant acute criterion (May through November) during the previous six years. There are two or more exceedances of a particular toxic pollutant chronic criterion (December through April) during the previous six years.

Figure 13 illustrates the assessment process for LWF waters.

Figure 13
Limited Warmwater Fishery (LWF) Categorization Methodology



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources
2 Bacteriological Criterion refers to both the single sample maximum and geometric mean, see discussion in Section 4.6.2
3 Toxicant Criterion refers to toxics listed in 335-6-10-.07
4 Applies only to reservoirs with established Chlorophyll a criteria and not during extreme hydrologic events
Special Note - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These criteria relate to condition of waters as affected by the discharge of sewage, industrial wastes, or other wastes, not to conditions resulting from natural forces. See 335-6-10-.05(4)

4.7 Agricultural and Industrial Water Supply (A&I)
Best usage of waters assigned this classification include agricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes. The waters, except for the natural impurities that may be present, will be suitable for agricultural irrigation, livestock watering, industrial cooling waters, and fish survival. The waters will be usable after special treatment, as may be needed under each particular circumstance, for industrial process water supplies. This classification includes watercourses in which natural flow is intermittent and non-existent during droughts and which may, of necessity, receive treated waste from existing municipalities and industries, both now and in the future.

4.7.1 *Minimum Data Requirement for A&I Waters*
For waters with the A&I classification the available data must have been collected consistent with the following standard operating procedures (SOP) manuals:

SOP#	Title
2040	Stream Flow Abbreviated Measurement Method
2041	SW Temperature Field Measurements
2042	SW pH Field Measurements
2043	SW Specific Conductivity Field Measurements
2044	SW Turbidity Field Measurements
2045	SW Dissolved Oxygen Field Measurements
2046	Photic Zone Measurements and Visibility Determinations
2048	Continuous SW Quality Monitoring Using Datasondes
2061	General SW Quality Sample Collection
2062	Dissolved Reactive Phosphorus (DRP) Collection & Field Processing
2064	Fecal Coliform Sample Collection
2065	Sediment Sampling
9021	Quality Control Samples and Field Measurements
9025	Field Equipment Cleaning Procedures
9040	Station, Sample ID & Chain of Custody Procedures
6300	Physical Characterization
6301	Habitat Assessment

In addition, the data must have been collected within the last six years. The six year timeframe would capture all data collected by ADEM during one complete rotation of the five year monitoring schedule currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include wadeable rivers and streams, non-wadeable rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. Failure to meet the minimum data requirement will place the waterbody in Category 2. The following list and

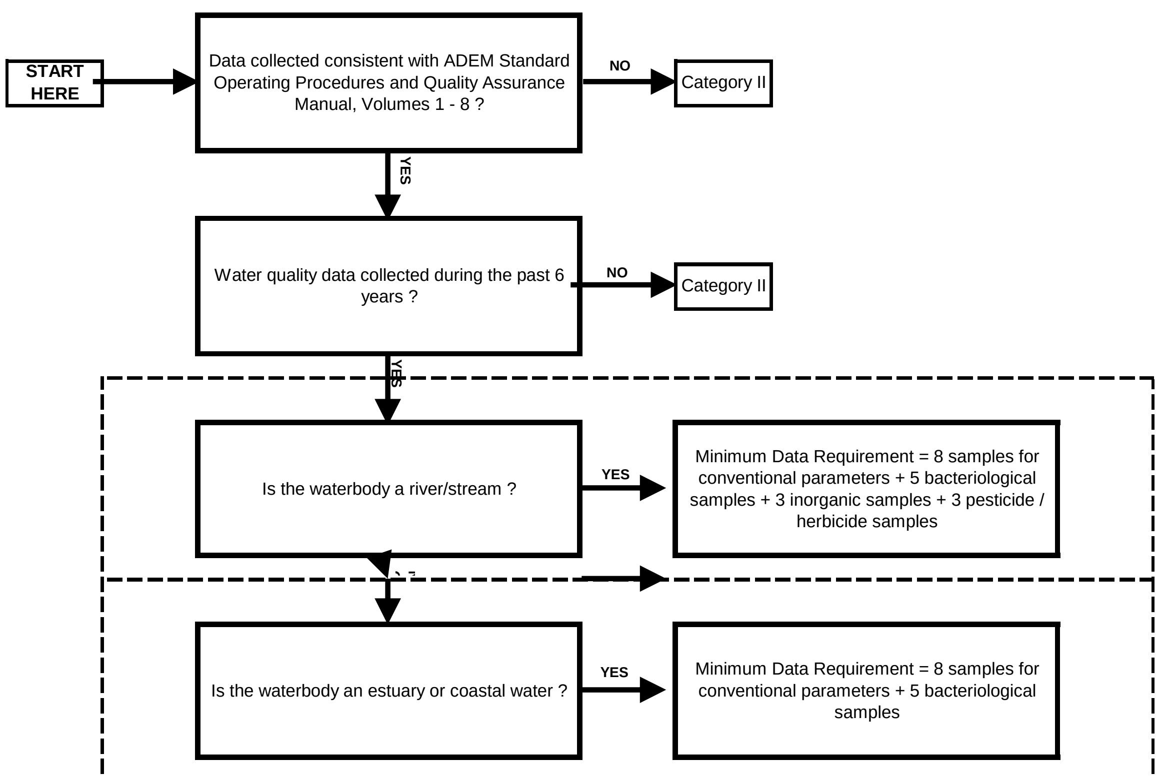
Figure 14 describe the minimum data requirement for assessing waters classified as A&I.

- River or Stream
    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 5 bacteriological samples (1 geometric mean sample)
    - 3 inorganic samples
    - 3 pesticide / herbicide samples

- Reservoirs and Embayments
    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 3 bacteriological samples
    - 1 fish tissue analysis from the reservoir mainstem

- Estuary or Coastal Waters
    - 8 conventional parameter samples (including samples for nutrient analysis)
    - 5 bacteriological samples (1 geometric mean sample)

Figure 14
Minimum Data Requirements for the A&I Designated Use



4.7.2 *Use Support Assessment for A&I Waters*

Once the minimum data requirement has been met an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the A&I use (Category 1) or not fully supporting the A&I use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, chemical specific data, biological community assessments, bacteriological data, beach closure notices and toxicity evaluations.

The A&I-classified waterbody is placed in Category 1 if all of the following are true:

- There is no fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for the waterbody.
- There are no more than two exceedances of a toxic pollutant acute criterion during the previous six years.
- The water quality criteria exceedance rate for conventional parameters is not more than 10%. Conventional parameters include dissolved oxygen, pH, temperature (where influenced by a heated discharge), and turbidity. Determination of the 10% exceedance rate is discussed in Section 4.8.
- In reservoirs, bacteriological sample results from a single sample in excess of 2000 colonies fecal coliform per 100 ml will necessitate a follow-up collection of 5 samples during a 30 day period to calculate the geometric mean density. If the geometric mean fecal coliform density is less than or equal to 2000 colonies/100 ml and 10% or less of the single sample results are less than 4000 fecal coliform colonies/100 ml, the waterbody will be considered fully meeting the bacteria criteria for this designated use. In coastal waters 10% or less (as determined using the binomial distribution function and Table 2) of the single samples must be less than 500 enterococci colonies/100 ml. In non-coastal rivers and streams the geometric mean fecal coliform density is less than 2000 colonies/100 ml and 10% or less of the single samples have a fecal coliform density of less than or equal to 4000 colonies/100 ml. Use of the 10% rule will only be applied when there is at least the minimum number of samples.

The A&I-classified waterbody is placed in Category 5 if any of the following are true:

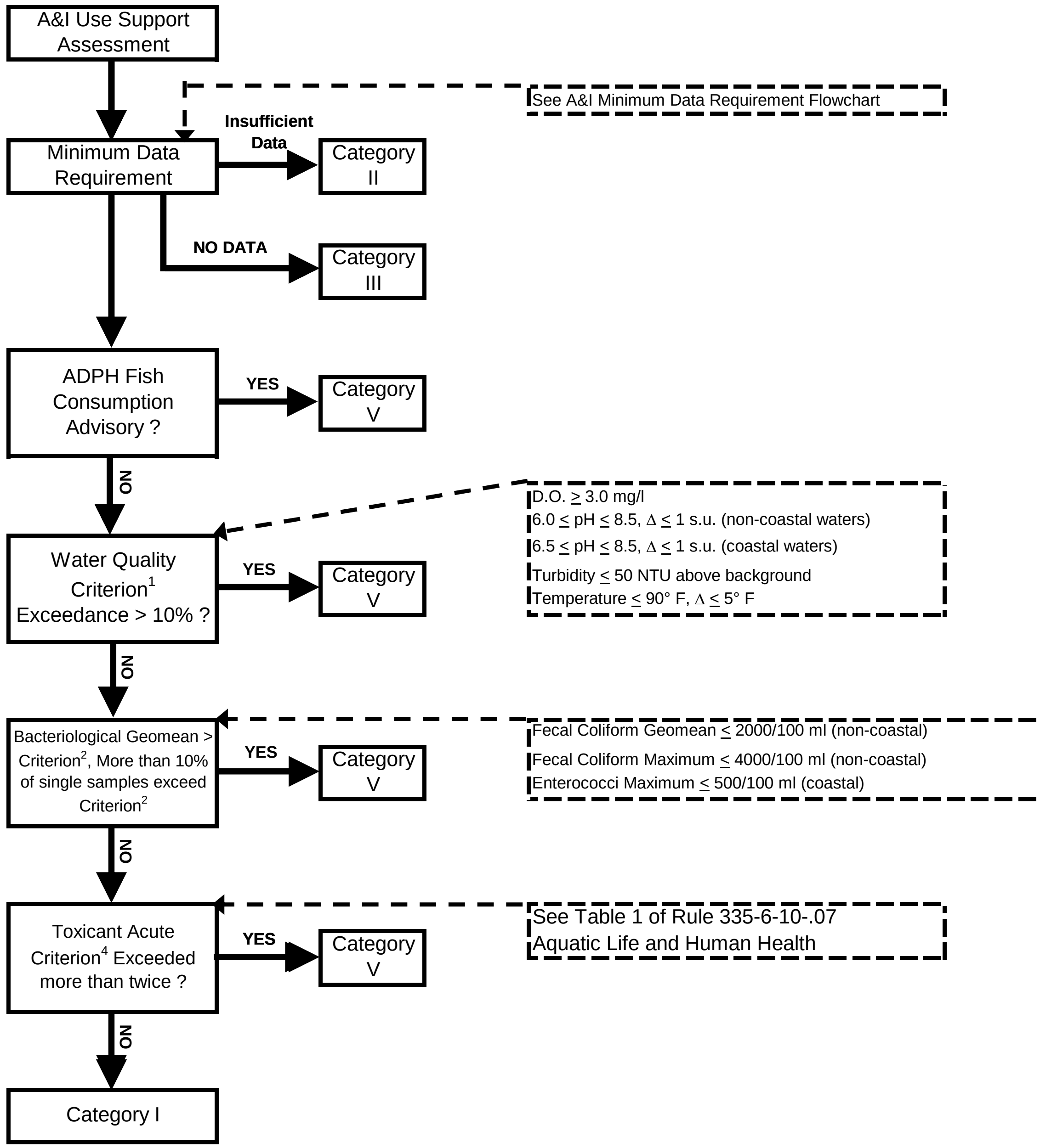
- There is a fish consumption advisory issued by the ADPH.
- The water quality criteria exceedance rate for conventional parameters is more than 10% (as defined in Table 2).
- The geometric mean fecal coliform density is greater than 2000 colonies/100 ml or more than 10% (as defined in Table 2) of the single sample results are greater than 4000 fecal coliform colonies/100 ml. In coastal waters more than 10% (as determined using the binomial distribution function and Table 2) of the single samples are more than 500 enterococci colonies/100 ml. In non-coastal rivers and streams the

geometric mean fecal coliform density is greater than 2000 colonies/100 ml and more than 10% of the single samples have a fecal coliform density of greater than 4000 colonies/100 ml. Use of the 10% rule will only be applied when there is at least the minimum number of samples.
- There are more than two exceedances of an acute criterion for a toxic pollutant during the previous six years.

Figure 15 illustrates the assessment process for A&I waters.

Figure 15

Agricultural and Industrial Water Supply (A&I) Categorization Methodology



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources

2 Bacteriological Criterion refers to both the single sample maximum and geometric mean, see discussion in Section 4.7.2

3 Toxicant Criterion refers to toxics listed in 335-6-10-.07

4 Applies only to reservoirs with established Chlorophyll a criteria and not during extreme hydrologic events

Special Note - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These criteria relate to condition of waters as affected by the discharge of sewage, industrial wastes, or other wastes, not to conditions resulting from natural forces. See 335-6-10-.05(4)

4.8 Other Data considerations and Requirements

4.8.1 Use of the 10% Rule

Seasonal variation in water quality conditions, non-anthropogenic impacts (natural conditions), sampling frequency and number of samples collected, and the temporal and spatial sampling coverage of the waterbody must be considered when evaluating water quality data to determine whether a waterbody is fully supporting its designated uses. Most states, including Alabama, determine a waterbody's use support status based on the percent of measured values exceeding a given water quality criterion. Based on USEPA guidance, 10 percent is commonly used as the maximum percent of measurements that may exceed the criterion for waters fully supporting their designated uses. For any given set of samples the percent exceedance indicated by the number of samples which exceed a given criterion is only an estimate of the true percent exceedance for the waterbody segment. As a result, it is important that a level of confidence be assigned to the estimate of percent exceedance for a given set of samples.

Hypothesis testing can be used to make this estimate. When making a decision about whether a water should be included in Category 5 on the basis of data for conventional pollutants, the null hypothesis is that the water is not impaired and sufficient data must be collected to minimize the probability that this assumption is incorrect (Type I error). For the purpose of this methodology, a 90% confidence level will be used so that we can say for a given sample size with a given number of criterion exceedances we are 90% confident that the true exceedance percentage is greater than 0.1 (10%). Using the binomial distribution it is possible to determine the number of exceedances out of a given number of samples which will result in a greater than 10 percent exceedance rate at approximately the 90% confidence level. This is the number of exceedances need to reject the null hypothesis.

When making a decision about whether a water in Category 5 should be removed to Category 1 for a particular conventional pollutant, the null hypothesis is that the water is impaired and sufficient data must be collected to minimize the probability that this assumption is incorrect. Again, a 90% confidence level will be used in the binomial distribution function to estimate the number of samples required to be 90% confident that the water is truly not impaired.

4.8.2 Use of Data Older than Six Years

More recent data shall take precedence over older data if:

The newer data indicate a change in water quality and the change is related to changes in pollutant loading to the watershed or improved pollution control mechanisms in the watershed contributing to the assessed area. Or, the Department determines that the older data do not meet the data quality requirements of this methodology or are no longer representative of the water quality of the segment.

Data older than six years will generally not be considered valid, for the purpose of initially placing a water in Category 1 or Category 5, except that data and information older than six years will be considered in the assessment process when such data/information is determined to be reliable. Data older than six years may be used to demonstrate that a waterbody was placed in the wrong category (Category 1 or Category 5) when the original water quality assessment was completed. Also, data older that six years may be used if the data was not considered during a previous reporting cycle and there is evidence that conditions affecting water quality have not changed since the original data was collected. Waters will not be removed from Category 5 on the basis of age of data. However, water may be removed from Category 1 to Category 2 on the basis of age of data when there is evidence that water quality conditions are likely to have changed since the water was originally placed in Category 1.

4.8.3 Use of Accurate Location Data

Accurate location data is required to ensure the appropriate use classification is applied, as well as confirming that sampling stations are located outside of regulatory mixing zones where water quality criteria do not apply. The monitoring data is acceptable if the locations are correct to within 200 feet. Digital spatial data (GIS or GPS) or latitude/longitude information obtained from USGS 7.5 minute quadrangle maps are acceptable methods of providing location information.

4.8.4 Use of Temporally Independent Samples and Data from Continuous Monitoring

When relying solely upon chemical data to determine designated use support, at least ten temporally independent samples of chemical and physical conditions obtained during a time period that includes conditions considered critical for the particular pollutant of interest are needed. Independent samples, for the purpose of parameters other than bacteria and in-situ water quality measurements, will have been collected at least four days apart. Samples collected at the same location less than four days apart shall be considered as one sample for the purpose of determining compliance with toxic pollutant criteria, with the mean value used to represent the sampling period.

For conventional parameters measured using continuous monitoring instruments such as multi-probe datasondes, compliance with the applicable criteria will be determined at the regulatory depth established for dissolved oxygen measurements. This depth is five feet in water that is ten feet or more in total depth or is at mid-depth in water that is less than ten feet in total depth. Hourly measurements of dissolved oxygen, temperature, and pH data collected using continuous monitoring equipment will be assessed using the same binomial distribution function used for discrete sampling of these parameters. When measurements are made more frequently than hourly, the hourly values will be calculated as the mean of the measured values within each hour.

4.8.5 Use of Fish / Shellfish Consumption Advisories and Shellfish Growing Area Classifications

In October 2000 EPA issued guidance to states regarding the use of fish and shellfish consumption advisories (EPA, 2000). The guidance recommended that states consider certain information when determining if designated uses were impaired, including consumption advisories for fish and shellfish and certain shellfish growing area classifications. The following is an excerpt from the EPA guidance.

> "*Certain shellfish growing area classifications should be used as part of determinations of attainment of water quality standards and listing of impaired waterbodies. Shellfish growing area classifications are developed by the National Shellfish Sanitation Program (NSSP) using water column and tissue data (where available), and information from sanitary surveys of the contributing watershed, to protect public health. The States review these NSSP classifications every three years. There are certain NSSP classifications that are not appropriate to consider, and certain data and information that should not be considered independently of the classification (unless the data and information were not used in the development or review of the classification). These instances are: "Prohibited" classifications set as a precautionary measure due to the proximity of wastewater treatment discharges, or absence of a required sanitary survey; shellfish tissue pathogen data (which can fluctuate based on short-term conditions not representative of general water quality); or short-term actions to place growing areas in the closed status."*

The ADPH, Seafood Program, regulates shellfish harvesting in coastal waters of Alabama. The ADPH has designated four areas in Mobile Bay and adjacent coastal waters and classifies shellfish harvesting waters within these areas as "conditionally open", "conditionally restricted", "unclassified", and "prohibited". Area I waters comprise most of Mobile Bay south of East Fowl River and west of Bon Secour Bay and including Mississippi Sound. Area II waters include Grand Bay and Portersville Bay with exceptions near wastewater discharges. Area III waters are located in Bon Secour Bay and east of a line drawn from Fort Morgan to Mullet Point. Area IV is located in approximately the northern half of Mobile Bay.

Most of the waters designated as Shellfish Harvesting are classified as "conditionally open". These harvesting areas are closed when the river stage on the Mobile River at Bucks, Alabama reaches a river stage of 8.0 feet above mean sea level and a public notice announcing the closure is published. These procedures are described in detail in the Conditional Area Management Plan developed by ADPH (ADPH, 2001).

For purposes of making use support decisions relative to the SH designated use, the Department will consider "conditionally open" and "conditionally restricted" waters as impaired and will include these water in Category 5. In "prohibited" and "unclassified" waters the Department will use water column bacteria sampling results to determine use support. When the applicable bacteria criterion is exceeded in more than 10% of the samples as determined using the binomial distribution function and Table 2, these waters will be included in Category 5.

The October 2000 EPA guidance concerning the use of fish and shellfish consumption advisories for protection of human health also recommended that state's include waters in Category 5 when there was a consumption advisory which suggested either limited consumption or no consumption of fish due to the presence of toxics in fish tissue. The following is an excerpt from the guidance.

> *"When deciding whether to identify a water as impaired, States, Territories, and authorized Tribes need to determine whether there are impairments of designated uses and narrative criteria, as well as the numeric criteria. Although the CWA does not explicitly direct the use of fish and shellfish consumption advisories or NSSP classifications to determine attainment of water quality standards, States, Territories, and authorized Tribes are required to consider all existing and readily available data and information to identify impaired waterbodies on their section 303(d) lists. For purposes of determining whether a waterbody is impaired and should be included on a section 303(d) list, EPA considers a fish or shellfish consumption advisory, a NSSP classification, and the supporting data, to be existing and readily available data and information that demonstrates non-attainment of a section 101(a) "fishable" use when:*
>
> > *1. the advisory is based on fish and shellfish tissue data,*
> > *2. a lower than "Approved" NSSP classification is based on water column and shellfish tissue data (and this is not a precautionary "Prohibited" classification or the state water quality standard does not identify lower than "Approved" as attainment of the standard)*
> > *3. the data are collected from the specific waterbody in question and*
> > *4. the risk assessment parameters (e.g., toxicity, risk level, exposure duration and consumption rate) of the advisory or classification are cumulatively equal to or less protective than those in the State, Territory, or authorized Tribal water quality standards."*

This listing and assessment methodology will consider fish consumption advisories issued by the ADPH as an indication of impaired use in all State waters. However, there may be circumstances under which these waters could be placed in a category other than Category 5. For example, it may be appropriate to place certain waters in Category 4b when activities are ongoing under another restoration program with the goal of restoring the water to fully supporting its uses. These decisions will be made on a case by case basis and documented in the ADB.

4.8.6 Use of Biological Assessments

Biological assessments compare data from biological surveys and other direct measurements of resident biota in surface waters to established biological criteria and assess the waterbody's degree of use support. Alabama has not established numeric biological criteria (except in the case of chlorophyll *a* in reservoirs) and, as a result, biological data are used as a means of applying narrative criteria contained in Alabama's water quality criteria document (ADEM Administrative Code Chapter 335-6-10). ADEM has been gathering biological assessment data for streams across Alabama since the 1970s. In the early 1990's the Department began assessing the biological health of wadeable streams using the USEPA Rapid Bioassessment Protocol (Level III Wadeable Multi-habitat Bioassessments – EPT Families (WMB-EPT)) and the Intensive Wadeable Multi-habitat Bioassessment (Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I)). USEPA has offered the following technical considerations when using biological data to make use support determinations.

- A waterbody's use support should be based on a comparison of site-specific biological data to a reference condition established for the ecoregion in which the waterbody is located.
- A multimetric approach to bioassessment is recommended.
- The use of a standardized index or sampling period is recommended.
- Standard operation procedures and a quality assurance program should be established.
- A determination of the performance characteristics of the bioassessment methodology is suggested.
- An identification of the appropriate number of sampling sites that are representative of the waterbody is also recommended.

Biological assessment data will be used in combination with other surface water quality data or information to arrive at an overall use support determination. However, EPA recommends that biological data should be weighted more heavily than other types of data when integrating information to make use support determinations since biological data provide a more direct indication of the condition of the aquatic community. Alabama's assessment methodology has weighted biological data more heavily by requiring at least one biological assessment for certain use classifications and stream types and by reducing the number of water quality samples needed when a biological assessment is available. However, the biological assessment must include a habitat assessment conducted at the time of the biological sampling. When available, periphyton assessment data and algal growth potential tests results will be used to refine stressor identification.

In this methodology, several bioassessment methodologies can be used to assess aquatic life use support. Two Level III Wadeable Multi-habitat Bioassessments – EPT Families (WMB-EPT) are required since these assessments are intended for screening purposes only. A combination of one WMB-EPT assessment and one fish IBI assessment is sufficient but only in the Cahaba and Black Warrior River basins since the metric ranges for the fish IBI have been calibrated only to the Cahaba and Black Warrior River basins. Alternatively, one Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I) would be sufficient for assessing aquatic life use support. These methodologies are described in detail in the Department's SOPs referenced earlier. Occasionally it may be appropriate to place a water in Category 5 based on a single screening level assessment (WMB-EPT) when there is a clear indication of impairment and the cause is readily apparent. In addition, when assessment results vary significantly between the macroinvertebrate and fish communities, it may be appropriate place the waterbody in Category 5 when there is an indication of the cause for the discrepancy. These decisions will be made on a case by case basis in consultation with the biologist(s) responsible for conducting the assessment and will be documented in the ADB.

A multi-agency, multi-year effort is currently underway to develop fish IBI metrics for all of Alabama's river basins. As the effort progresses across the state, fish IBI assessments will be incorporated into the use support assessment process. The project is expected be completed by 2011, provided that sufficient funding is available,.

4.8.7 Use of Data Collected by Others

Data collected by other agencies, industry or industry groups, neighboring states, and watershed groups will be considered and evaluated provided the data meet the minimum data requirements specified for each designated use and comply with the quality control and quality assurance requirements discussed in Section 4.9. Examples of other agencies and groups collecting water quality data in Alabama include, but are not limited to, the following agencies and groups:

- USGS
- USEPA
- Tennessee Valley Authority
- National Oceanic and Atmospheric Administration
- United States Fish and Wildlife Service
- Mobile Bay National Estuary Program
- Dauphin Island Sea Lab
- Geological Survey of Alabama
- Natural Resources Conservation Service
- Soil and Water Conservation Districts
- Alabama Department of Conservation and Natural Resources
- Alabama Clean Water Partnership
- Alabama Department of Public Health
- Alabama Department of Transportation

- Citizen and Watershed Groups
- Industries and municipalities conducting river monitoring pursuant to NPDES or CWA Section 401 requirements

Data submitted by third parties for consideration should include documentation describing the data, including a study plan or SOP, and certification that the data were (or were not) collected consistent with the requirements presented in this methodology.

4.8.8 Use of Bacteria Data

Waterbody segments are sampled for bacteria either as part of a special study, routine ambient monitoring, or as part of the Department's Beach Monitoring Program. Bacteria of the fecal coliform group are currently used as indicators of the possible presence of pathogens in non-coastal waters. In coastal waters, bacteria of the enterococci group are used as indicators of the possible presence of pathogens. Alabama's bacteria criteria are summarized for each designated use in **Table 1**.

When assessing the geometric means of bacteria samples, one excursion will generally be sufficient to determine impairment as long as the total number of geometric means is less than eight. When eight or more geometric means are available for assessment, impairment will be determined using Table 2. In addition, both the geometric mean and single sample maximum criteria must be met when the number of individual samples is less than eight. For eight or more individual samples, Table 2 will be used to determine impairment based on exceedances of the single sample criterion.

Table 1
Alabama's Bacteria Criteria

Outstanding Alabama Water (OAW)	Public Water Supply (PWS)	Swimming and Other Whole Body Water-Contact Sports (S)	Shellfish Harvesting (SH)	Fish and Wildlife (F&W)	Limited Warmwater Fishery (LWF)	Agricultural and Industrial Water Supply (A&I)
Coastal Waters: Enterococci - Geometric mean $\leq$ 35 Single Max. $\leq$ 104 **Non-coastal Waters:** Fecal Coliform – Geometric mean $\leq$ 200	**Coastal Waters:** Enterococci – June through Sept. Geometric mean $\leq$ 35 Single Max. $\leq$ 158 Enterococci – Oct. through May Single Max. $\leq$ 275 **Non-coastal Waters:** Fecal Coliform – June through Sept. Geometric mean $\leq$ 200 Oct. through May Geometric mean $\leq$ 1000 Single Max. $\leq$ 2000	**Coastal Waters:** Enterococci - Geometric mean $\leq$ 35 Single Max. $\leq$104 **Non-coastal Waters:** Fecal Coliform – Geometric mean $\leq$ 200	**Coastal Waters:** Not to exceed FDA limits[1] for fecal coliform bacteria Enterococci – June through Sept. Geometric mean $\leq$ 35 Single Max. $\leq$ 104 **Non-coastal Waters:** Fecal Coliform – June through Sept. Geometric mean $\leq$ 200	**Coastal Waters:** Enterococci – June through Sept. Geometric mean $\leq$ 35 Single Max. $\leq$ 158 Enterococci – Oct. through May Single Max. $\leq$ 275 **Non-coastal Waters:** Fecal Coliform – June through Sept. Geometric mean $\leq$ 200 Oct. through May Geometric mean $\leq$ 1000 Single Max. $\leq$ 2000	**Coastal Waters:** Enterococci Single Max. $\leq$ 275 **Non-coastal Waters:** Fecal Coliform – Geometric mean $\leq$ 1000 Single Max. $\leq$ 2000	**Coastal Waters:** Enterococci Single Max. $\leq$ 500 **Non-coastal Waters:** Fecal Coliform – Geometric mean $\leq$ 2000 Single Max. $\leq$ 4000

[1] Not to exceed the limits specified in the latest edition of the National Shellfish Sanitation Program Manual of Operations, Sanitation of Shellfish Growing Areas (1999), published by the Food and Drug Administration, U.S. Department of Health and Human Services.

4.8.9 Consideration of Stream Flow and Method Detection Limits

During toxicant sampling in rivers or streams the measured flow must be at or above the 7Q10 value for that location. In cases where the applicable water quality criterion is less than the method detection limit (MDL) for a particular pollutant and the concentration for the pollutant is reported as less than detection (<MDL), the Department will evaluate the data consistent with EPA guidance provided in "*Guidance for Data Quality Assessment*", EPA QA/G-9, QA00 UPDATE, EPA, July 2000 and will use the approach that is appropriate for the data set.

These requirements are intended to ensure that existing water quality conditions are accurately portrayed, do not characterize transitional conditions, and that obsolete or inaccurate data are not used. In addition, the minimum data requirements may change on a case by case basis if pollutant sources upstream of the monitoring locations are likely. This determination will be made using information obtained from the Department's geographic information system or other databases. Failure to meet the minimum data requirements for any waterbody type will place the waterbody in Category 2.

4.9 Quality Control / Quality Assurance Requirements

All data (including chemical, physical, and biological) should be collected and analyzed consistent with the SOPs presented earlier. Study plans should reference the SOP appropriate for the type of data being collected and should discuss how data quality will be documented. This should include a discussion of the quality control procedures followed during sample collection and analysis. These procedures should describe the number and type of field and laboratory quality control samples for the project, if appropriate for the type of sampling being conducted, field blanks, equipment blanks, split samples, duplicate samples, the name of the laboratory performing the analyses, name of the laboratory contact person, and the number and type of laboratory quality control samples.

While the Department will consider any existing and readily available data and information, the Department reserves the right to not use data or information in making use support decisions which do not comply with the minimum data requirements presented in this document. The decision not to use certain data will be documented in the ADB. The Department applies best professional judgment when considering datasets smaller than the specified minimum data requirements. In such instances, use support decisions are made on a case by case basis in consideration of ancillary data and information such as watershed characteristics, known pollutant sources, water quality trends or other environmental indicators.

4.10 Minimum Sample Size and Allowable Number of Water Quality Criterion Exceedances

Table 2 shows the allowable number of exceedances for various samples sizes up to 199 samples. The Department's annual sampling plans and available resources generally allow for at least eight samples per sampling location except in reservoirs where fewer samples (i.e. 3 samples) may be collected due to sample holding time and resource constraints. The number of exceedances in each range of sample sizes was calculated using the binomial distribution function. This number is the number of exceedances of a particular water quality criterion needed to say with 90% confidence that the criterion is exceeded in more than 10% of the population represented by the available samples. This table will be used to determine the number of exceedances of Alabama numeric water quality criteria listed in ADEM Administrative Code 335-6-10 (for dissolved oxygen, temperature, turbidity, pH, and bacteria), consistent with the assessment methodology for each use discussed earlier, necessary to establish that a waterbody segment is not fully supporting its designated uses. This approach is consistent with ADEM Administrative Code 335-6-10 which recognizes that natural conditions may cause sporadic excursions of numeric water quality criteria and with EPA's 1997 305(b) guidance. For conventional water quality parameters, there must be at least eight temporally independent samples collected during the previous six year period to be considered adequate for making use support determinations, except where fewer samples are determined to be adequate as discussed earlier. As used in this context, temporally independent means that the samples were collected at an interval appropriate to capture the expected variation in the parameter. For example, dissolved oxygen, temperature and pH measurements should capture the normal diurnal variation that occurs in the parameters and temporal independence may occur in several hours (i.e. morning versus afternoon). Measurements for turbidity and bacteria should typically be at least 24 hours apart.

It is the intent of the methodology to ensure that an adequate number of samples are available for use in the assessment process and for developing future monitoring plans. Smaller sample sizes may be appropriate in certain circumstances where there is a clear indication that exceedances of the criteria are not due to natural conditions. For example, a data set comprised of fewer than the required minimum number of samples collected monthly may be sufficient to determine that a waterbody is not supporting its use when a significant number (more than two) exceed a particular criterion. Conversely, a data set with fewer than the required minimum number of samples collected monthly may be sufficient to determine that a waterbody is fully supporting its use if none of the samples exceed any of the criteria and there is sufficient supporting information to support this conclusion (i.e. biological assessment indicates full use support). The decision to use smaller data sets for making use support decisions will be made on a case by case basis using best professional judgment. The basis for these decisions will be documented in the ADB.

Table 2

Minimum Number of Samples Exceeding the Numeric Criterion Necessary for Listing*

Sample Size	Number of Exceedances	Sample Size	Number of Exceedances
8 thru 11	2	97 thru 104	14
12 thru 18	3	105 thru 113	15
19 thru 25	4	114 thru 121	16
26 thru 32	5	122 thru 130	17
33 thru 40	6	131 thru 138	18
41 thru 47	7	139 thru 147	19
48 thru 55	8	148 thru 156	20
56 thru 63	9	157 thru 164	21
64 thru 71	10	165 thru 173	22
72 thru 79	11	174 thru 182	23
80 thru 88	12	183 thru 191	24
89 thru 96	13	192 thru 199	25

* - For conventional parameters, including bacteria, at the 90 percent confidence level

5.0 Removing a Waterbody from Category 5

Waterbodies may be removed from a 303(d) list (category 5) for various reasons, including:

- Assessment of more recent water quality data demonstrates that the waterbody is meeting all applicable water quality standards. (Move to Category 1)
- A review of the original listing decision demonstrates that the waterbody should not have been included in Category 5. (Move to Category 1 or Category 2)
- TMDL has been completed. (Move to Category 4a)
- Other pollution control requirements are reasonably expected to result in the attainment of the water quality standards in the near future. These requirements must be specifically applicable to the particular water quality problem. (Move to Category 4b)
- Impairment is not caused by a pollutant. (Move to Category 4c)
- Natural causes – When it can be demonstrated the exceedance of a numeric water quality criterion is due to natural conditions and not to human disturbance activities, the water may be removed from Category 5. (Move to Category 1)

Table 3 shows the allowable number of exceedances of criteria for conventional pollutants for various sample sizes and a 90% confidence level. This table will be used to determine the number of allowable exceedances of Alabama numeric water quality criteria for pollutants listed in ADEM Administrative Code 335-6-10, with the exception of chlorophyll *a* criteria and the toxics criteria listed in the appendix to ADEM Administrative Code 335-6-10, for the waterbody to be removed from a 303(d) list for a specific pollutant (move to Category 1). In addition, the original basis for listing the waterbody will be considered as a part of the delisting process. Included in this evaluation will be a review of pollutant sources to determine which ones may have been removed or remediated, changes in land practices or uses, installation of new treatment facilities or best management practices, and changes in stream hydrology or morphology.

Table 3

Maximum Number of Samples Exceeding the Numeric Criterion Necessary for Delisting*

Sample Size	Number of Exceedances	Sample Size	Number of Exceedances
8 thru 21	0	104 thru 115	7
22 thru 37	1	116 thru 127	8
38 thru 51	2	128 thru 139	9
52 thru 64	3	140 thru 151	10
65 thru 77	4	152 thru 163	11
78 thru 90	5	164 thru 174	12
91 thru 103	6	175 thru 186	13

* - For conventional parameters, including bacteria, at the 90 percent confidence level

When a waterbody has been included in Category 5 due to a fish consumption advisory, the waterbody will be moved to Category 1 when subsequent fish tissue results indicate that pollutant concentrations have declined and a fish consumption advisory is no longer needed. The determination that a fish consumption advisory is no longer needed is made by the Alabama Department of Public Health.

For waters originally placed in Category 5 due to a specific toxic pollutant or specific toxic pollutants, there should be no violations of the appropriate criteria in a minimum of 8 samples collected over a three year period before the cause of impairment is removed or the water is placed in Category 1.

6.0 Estimating the Size of the Assessed Waterbody

Waterbodies are assessed on the basis of assessment units. Assessment units vary in size depending on the waterbody type, watershed characteristics, designated use, and the location of monitoring stations. In most cases, individual assessments will lie completely within a designated use or multiple uses. For example, an assessment unit will not generally be partially within one designated use and partially within a different designated use. However, assessment units may be assigned more than one designated use. For example, an assessment unit may have classified uses of both Fish and Wildlife and Public Water Supply provided both uses are assigned to the entire assessment unit. An assessment unit may be defined as a stream, the mainstem of a river, embayment, portion of a lake or reservoir, or a part of an estuary or coastal water.

A monitoring unit is defined as the watershed draining to, or close to, a sampling location and is made up of many assessment units (individual reaches). A monitoring unit will generally have a drainage area of more than 10 square miles and will be characterized by a predominant land use / land cover. When it is necessary to better characterize assessment units within the larger monitoring units, new monitoring units can be delineated based on the location of the additional sampling location or locations. Water quality data and information gathered at a sampling location which defines a monitoring unit will be the primary means for assigning a use support status to assessment units within the monitoring unit.

The spatial extent of each monitoring unit will be determined using information contained in the Department's Geographic Information System (GIS). Specifically, stream coverages contained within the National Hydrography Dataset (NHD) will be the basis for determining the size of assessed waters. This database of natural and constructed surface waters is a comprehensive set of digital spatial data that contains information about surface water features such as lakes, ponds, streams, rivers, springs and wells. Within the NHD, surface water features are combined to form "reaches", which provide the framework for linking water-related data to the NHD surface drainage network. These linkages enable the analysis and display of these water-related data in upstream and downstream order. Characteristics such as stream length or reservoir area can be aggregated within a monitoring unit to estimate the size of assessed waters.

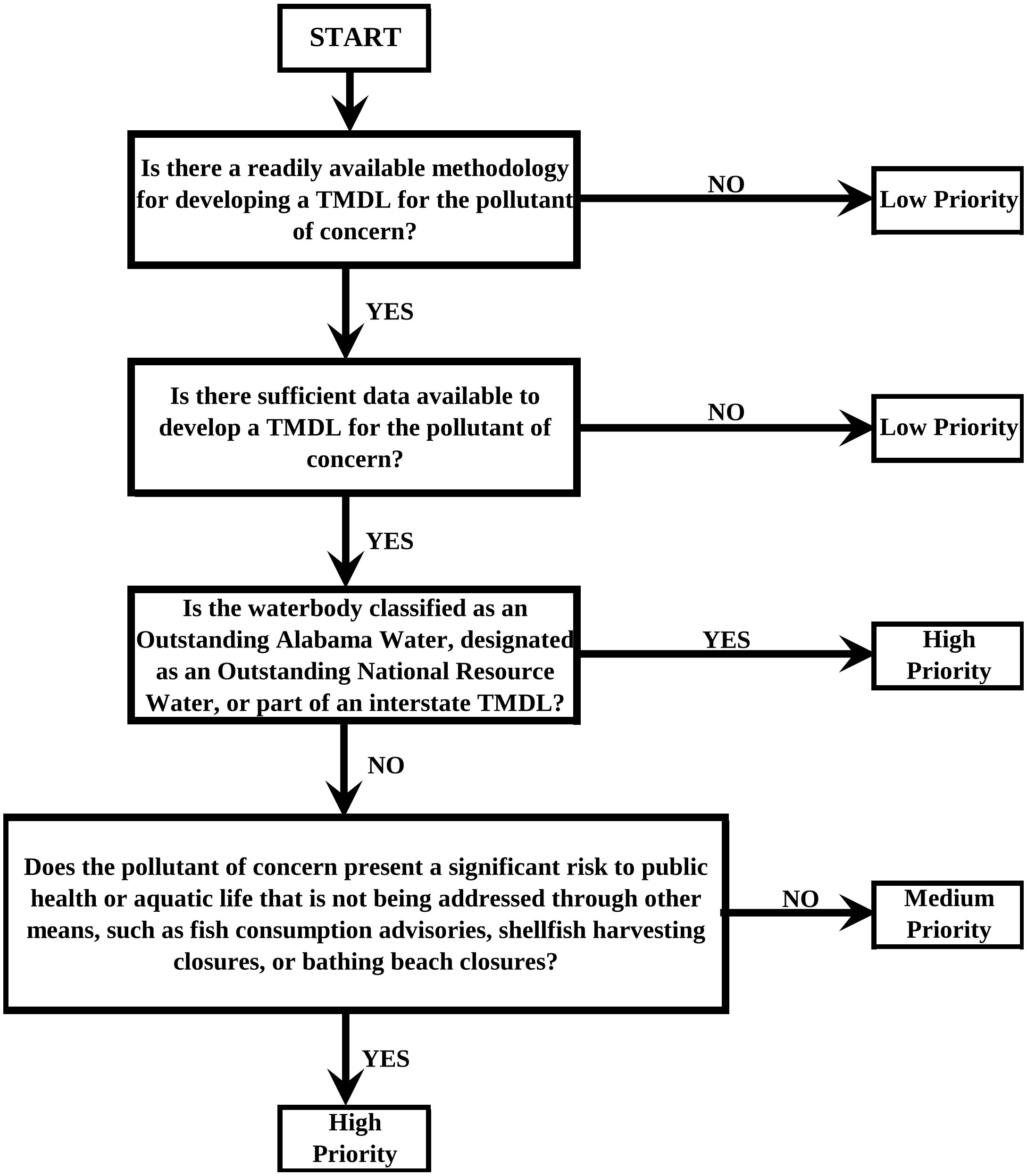
7.0 Ranking and Prioritizing Impaired Waters

Waters in Category 5 will be prioritized based on the nature of the pollutant of concern. Pollutants that relate directly to human health issues rank "high", while more conventional water quality parameters rank "medium" while other non-conventional or legacy pollutant impacts such as contaminated sediments, or impaired habitat rank "low". An example of high priority pollutants are toxics. Dissolved oxygen, pH, and unionized ammonia are examples of medium priority. **Figure 16** describes the general approach to assigning a ranking to each TMDL included in Category 5. However, the TMDL development schedule may not always consider only the ranking of the impaired waterbody. The following factors may be used to determine the timing for the development of the TMDL.

- TMDL complexity
- Pollutants of concern
- Need for additional data and information
- Sources of the pollutants
- Severity of the impairment
- Spatial extent of impairment
- Designated uses of the waterbodies
- General watershed management activities (e.g. 319 grant activities and watershed management planning)
- Existence of endangered and sensitive aquatic species
- Degree of public interest and support for particular waterbodies.

Figure 16

Alabama's TMDL Prioritization Strategy



Waters which are currently listed on the §303(d) list will have their TMDL developed within 8 to 13 years unless they become eligible for delisting. TMDLs for Category 5 waters will be developed no later than 13 years after the water is first placed in Category 5.

The Integrated Monitoring Report will include proposed schedules (both long term and annually) for the development of TMDLs.

The Department will communicate with bordering states concerning the status of shared waters. When requested, the state will provide data concerning shared waters to the adjacent state.

8.0 Schedule for Assessing State Waters

The State has developed a Watershed Management Schedule and has been operating under the rotating basin plan since 1997. This schedule has the state divided into 5 river basin groups which are sampled on a five year rotating basis. The rotating basin schedule is as follows:

- 2005 - Alabama, Coosa, and Tallapoosa River Basins
- 2006 – Escatawpa, Lower Tombigbee, Upper Tombigbee, and Mobile River Basins
- 2007 – Cahaba and Black Warrior River Basins
- 2008 – Tennessee River Basin
- 2009 – Chipola, Choctawhatchee, Perdidio-Escambia, and Chattahoochee River Basins
- 2010 – Tallapoosa, Alabama, and Coosa River Basins
- 2011 – Escatawpa, Lower Tombigbee, Upper Tombigbee, and Mobile River Basins

The Integrated Monitoring and Assessment Report will include a comprehensive monitoring and assessment plan that describes the state's proposed schedule for the following two years. Elements of this plan include: a description of the sampling approach (i.e. rotating basin and fixed ambient), and a list of the parameters to be collected (i.e. physical, chemical, and biological). The report will also include a schedule (both long term and annually) for collecting data and information for basic assessments and for TMDLs.

9.0 Public Participation

The Integrated Report will combine the Water Quality Inventory Report (§305(b)) with the Impaired Waterbodies (§303(d)) listing. Category 5 in the Integrated Report is considered to be the Impaired Waterbodies list. The remaining categories are considered the Water Quality Inventory. This methodology lays out the framework for assessing data and determining which of the five categories the waterbody will be assigned to. The entire Integrated List will follow the same public process as the §303(d) listing but Categories 1 through 4 and the monitoring schedule will be provided for informational purposes only since these schedules are subject to change as resources allow.

The Department will solicit the submittal of data and information for use in developing the Integrated Report. The public notice requesting data will be published in four major newspapers in the state and on the Department's Website. The time period for submitting data will be specified in the public notice. The data must be received by the Department by October 31 in the year prior to the report being due to EPA. Data submitted after the specified period will be considered in the development of subsequent Integrated Reports. The Department reviews all existing and readily available data and is committed to using only data with acceptable quality assurance to develop the Integrated Report. Only electronic data or data available in published reports are considered "readily available". Typically, the Department uses Microsoft databases (i.e., Excel, Access) or the Water Resources Database (WRDB) for database management and retrieval.

The Department will publish notice of the availability of the Integrated Water Quality Monitoring and Assessment Methodology and Draft Integrated Report in four major newspapers of general circulation throughout the State and on the Department Website. Adjacent states, federal and interstate agencies shall also be noticed as necessary. The Department will coordinate with neighboring states during the development of the Integrated Report, as needed. The comment period on a proposed Category 5 (§303(d)) list will be a minimum of 30 days.

The Integrated Report, which will include the integrated List, expected monitoring schedules, TMDL schedules, as well as any other information usually included in the §305(b) Report, will be submitted to the USEPA as required by §305(b) of the Clean Water Act. The Department will post the availability of the Integrated Report on its web page at that time.

10.0 References

ADEM, 2004. Alabama's 2004 Integrated Water Quality Monitoring & Assessment Report. Alabama Department of Environmental Management. Montgomery, AL

ADEM, 2005. ADEM Administrative Code R. 335-6-10, Water Quality Criteria. Alabama Department of Environmental Management, Montgomery, AL.

ADEM, 2005. ADEM Administrative Code R. 335-6-11, Water Use Classifications for Interstate and Intrastate Waters. Alabama Department of Environmental Management, Montgomery, AL.

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<u>APPENDIX</u>

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER DIVISION - WATER QUALITY PROGRAM

CHAPTER 335-6-10
WATER QUALITY CRITERIA

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335-6-10-.01 Purpose.

(1) Title 22, Section 22-22-1 et seq., Code of Alabama 1975, includes as its purpose "... to conserve the waters of the State and to protect, maintain and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and aquatic life and for domestic, agricultural, industrial, recreational and other legitimate beneficial uses; to provide for the prevention, abatement and control of new or existing water pollution; and to cooperate with other agencies of the State, agencies of other states and the federal government in carrying out these objectives."

(2) Water quality criteria, covering all legitimate water uses, provide the tools and means for determining the manner in which waters of the State may be best utilized, provide a guide for determining waste treatment requirements, and provide the basis for standards of quality for State waters and portions thereof. Water quality criteria are not intended to freeze present uses of water, nor to exclude other uses not now possible. They are not a device to insure the lowest common denominator of water quality, but to encourage prudent use of the State's water resources and to enhance their quality and productivity commensurate with the stated purpose of Title 22, Section 22-22-1 et seq., Code of Alabama 1975.

(3) Water quality criteria herein set forth have been developed by the Commission for those uses of surface waters known and expected to exist over the State.

They are based on present scientific knowledge, experience and judgment. Characteristics or parameters included in the criteria are those of fundamental significance to a determination of water quality and are those which are and can be routinely monitored and compared to data that are generally available. It is the intent that these criteria will be applied only after reasonable opportunity for mixture of wastes with receiving waters has been afforded. The reasonableness of the opportunity for mixture of wastes and receiving waters shall be judged on the basis of the physical characteristics of the receiving waters and approval by the Department of the method in which the discharge is physically made.

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991.

335-6-10-.02 Definitions.

(1) "Commission" means the Environmental Management Commission, established by the Environmental Management Act, Code of Alabama 1975, §§ 22-22A-1 to 22-22A-16.

(2) "Department" means the Alabama Department of Environmental Management, established by the Alabama Environmental Management Act, Code of Alabama 1975, §§ 22-22A-1 to 22-22A-16.

(3) "Existing Uses" means those legitimate beneficial uses of a water body attained in fact on or after November 28, l975, whether or not they are included as classified uses in ADEM Administrative Code Rule 335-6-11-.02.

(4) "Industrial Waste" means liquid or other wastes resulting from any process of industry, manufacture, trade or business or from the development of natural resources.

(5) "NPDES" means National Pollutant Discharge Elimination System.

(6) "Other Wastes" means all other substances, whether liquid, gaseous or solid, from all other sources including, but not limited to, any vessels, or other conveyances traveling or using the waters of this State, except industrial wastes or sewage, which may cause pollution of any waters of the State.

(7) "Pollutant" includes but is not limited to dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. Pollutant does not mean (a) sewage from vessels; or (b) water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the

well used either to facilitate production or for disposal purposes is approved by authority of the State, and if the Department determines that such injection or disposal will not result in the degradation of ground or surface water resources.

(8) "Pollution" means the discharge of a pollutant or combination of pollutants.

(9) "Sewage" means water-carried human wastes from residences, buildings, industrial establishments or other places including, but not limited to, any vessels, or other conveyances traveling or using the waters of this State, together with such ground, surface, storm or other waters as may be present.

(10) "State Waters" or "Waters of the State" means all waters of any river, stream, watercourse, pond, lake, coastal, or surface water, wholly or partially within the State, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce.

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991.

335-6-10-.03 Water Use Classifications.

(1) Outstanding Alabama Water

(2) Public Water Supply

(3) Swimming and Other Whole Body Water-Contact Sports

(4) Shellfish Harvesting

(5) Fish and Wildlife

(6) Limited Warmwater Fishery

(7) Agricultural and Industrial Water Supply

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; December 30, 1992; September 7, 2000.

335-6-10-.04 Antidegradation Policy.

(1) The purpose and intent of the water quality standards is to conserve the waters of the State of Alabama and to protect, maintain and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate beneficial uses; and to provide for the prevention, abatement and control of new or existing water pollution.

(2) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. Uses and the water quality to support such uses were established through public participation in the initial establishment, and periodic review, of water quality standards. Should the Department determine that an existing use is not encompassed in the classification of a waterbody, that use shall be recognized.

(3) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected, except that a new or increased discharge of pollutants may be allowed, after intergovernmental coordination and public participation pursuant to applicable permitting and management processes, when the person proposing the new or increased discharge of pollutants demonstrates that the proposed discharge is necessary for important economic or social development. In such cases, water quality adequate to protect existing uses fully shall be maintained. All new and existing point source discharges shall be subject to the highest statutory and regulatory requirements, and nonpoint source discharges shall use best management practices adequate to protect water quality consistent with the Department's nonpoint source control program.

(4) Where high quality waters constitute an outstanding National resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(5) Developments constituting a new or increased source of thermal pollution shall assure that such release will not impair the propagation of a balanced indigenous population of fish and aquatic life.

(6) In applying these policies and requirements, the State of Alabama will recognize and protect the interests of the federal government. Toward this end the Department will consult and cooperate with the Environmental Protection Agency on all matters affecting the federal interest.

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991.

335-6-10-.05 General Conditions Applicable to All Water Quality Criteria.

(1) The quality of any waters receiving sewage, industrial wastes or other wastes, regardless of their use, shall be such as will not cause the best usage of any other waters to be adversely affected by such sewage, industrial wastes or other wastes.

(2) Tests or analytical procedures to determine compliance or noncompliance with water quality criteria shall be in accordance with the methods specified in 40 CFR 136.3 (2003). Where other tests or analytical procedures are found to be more applicable and satisfactory, these may be used upon acceptance and approval by the Department.

(3) In making any tests or analytical determinations to determine compliance or noncompliance with water quality criteria, samples shall be collected in such manner and at such locations approved by a duly authorized representative of the Department as being representative of the receiving waters after reasonable opportunity for dilution and mixture with the wastes discharged thereto. Mixing zones, i.e., that portion of the receiving waters where mixture of effluents and natural waters take place, shall not preclude passage of free-swimming and drifting aquatic organisms to the extent that their populations are significantly affected.

(4) Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. The criteria contained herein relate to the condition of waters as affected by the discharge of sewage, industrial wastes or other wastes, not to conditions resulting from natural forces.

(5) All waters, where attainable, shall be suitable for recreation in and on the waters during the months of June through September except that recreational use is not recommended in the vicinity of discharges or other conditions which the Department or the Department of Public Health does not control.

(6) Where necessary to attain compliance with a new water quality standard, existing permits for the discharge of wastewaters shall be modified or reissued to limit the discharge of a substance causing or contributing to the failure of a water of the state to meet the new standard. Compliance with the modified limit shall be required as soon as practical, but in all cases within three years of the adoption of the new standard.

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991; January 14, 2005.

335-6-10-.06 Minimum Conditions Applicable to All State Waters. The following minimum conditions are applicable to all State waters, at all places and at all times, regardless of their uses:

(a) State waters shall be free from substances attributable to sewage, industrial wastes or other wastes that will settle to form bottom deposits which are unsightly, putrescent or interfere directly or indirectly with any classified water use.

(b) State waters shall be free from floating debris, oil, scum, and other floating materials attributable to sewage, industrial wastes or other wastes in amounts sufficient to be unsightly or interfere directly or indirectly with any classified water use.

(c) State waters shall be free from substances attributable to sewage, industrial wastes or other wastes in concentrations or combinations which are toxic or harmful to human, animal or aquatic life to the extent commensurate with the designated usage of such waters.

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981.

335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters.

(1) The U. S. Environmental Protection Agency has listed the chemical constituents given in Table 1 as toxic pollutants pursuant to Section 307(a)(1) of the Federal Water Pollution Control Act (FWPCA). Concentrations of these toxic pollutants in State waters shall not exceed the criteria indicated in Table 1 to the extent commensurate with the designated usage of such waters.

(a) The freshwater and marine aquatic life criteria for certain of the pollutants are dependent on hardness or pH. For these pollutants, the criteria are given by the following equations. In the hardness-dependent equations for metals, a conversion factor converts the total recoverable value to a criterion expressed as the dissolved fraction in the water column. All numeric values listed for metals in Table 1 at the end of this chapter are expressed as dissolved metals unless otherwise noted.

1. Cadmium

(i) freshwater acute aquatic life:

$$\text{conc. } (\mu g/l) = (e^{(1.0166[\ln(\text{hardness in mg/l as CaCO}_3)]-3.924)})(CF); \qquad \textbf{(Eq. 1)}$$

conversion factor (CF) = 1.136672-[ln(hardness)(0.041838)]

(ii) freshwater chronic aquatic life:

$$\text{conc. } (\mu g/l) = (e^{(0.7409[\ln(\text{hardness in mg/l as CaCO}_3)]-4.719)})(CF); \qquad \textbf{(Eq. 2)}$$

conversion factor (CF) = 1.101672-[ln(hardness)(0.041838)]

2. Chromium (trivalent)

(i) freshwater acute aquatic life:

conc. (µg/l) = $(e^{(0.8190[\ln(\text{hardness in mg/l as } CaCO_3)]+3.7256)})(CF)$; **(Eq. 3)**

conversion factor (CF) = 0.316

(ii) freshwater chronic aquatic life:

conc. (µg/l) = $(e^{(0.8190[\ln(\text{hardness in mg/l as } CaCO_3)]+0.6848)})(CF)$; **(Eq. 4)**

conversion factor (CF) = 0.860

3. Copper

(i) freshwater acute aquatic life:

conc. (µg/l) = $(e^{(0.9422[\ln(\text{hardness in mg/l as } CaCO_3)]-1.700)})(CF)$; **(Eq. 5)**

conversion factor (CF) = 0.960

(ii) freshwater chronic aquatic life:

conc. (µg/l) = $(e^{(0.8545[\ln(\text{hardness in mg/l as } CaCO_3)]-1.702)})(CF)$; **(Eq. 6)**

conversion factor (CF) = 0.960

4. Lead

(i) freshwater acute aquatic life:

conc. (µg/l) = $(e^{(1.273[\ln(\text{hardness in mg/l as } CaCO_3)]-1.460)})(CF)$; **(Eq. 7)**

conversion factor (CF) = 1.46203-[ln(hardness)(0.145712)]

(ii) freshwater chronic aquatic life:

conc. (µg/l) = $(e^{(1.273[\ln(\text{hardness in mg/l as } CaCO_3)]-4.705)})(CF)$; **(Eq. 8)**

conversion factor (CF) = 1.46203-[ln(hardness)(0.145712)]

5. Nickel

(i) freshwater acute aquatic life:

conc. (µg/l) = $(e^{(0.8460[\ln(\text{hardness in mg/l as } CaCO_3)]+2.255)})(CF)$; **(Eq. 9)**

conversion factor (CF) = 0.998

(ii) freshwater chronic aquatic life:

conc. (µg/l) = $(e^{(0.8460[\ln(\text{hardness in mg/l as } CaCO_3)]+0.0584)})(CF)$; **(Eq. 10)**

conversion factor (CF) = 0.997

6. Pentachlorophenol

(i) freshwater acute aquatic life:

conc. (µg/l) = $e^{[1.005(pH)-4.869]}$ **(Eq. 11)**

(ii) freshwater chronic aquatic life:

conc. (µg/l) = $e^{[1.005(pH)-5.134]}$ **(Eq. 12)**

7. Silver

(i) freshwater acute aquatic life:

conc. (µg/l) = $(e^{(1.72[\ln(\text{hardness in mg/l as } CaCO_3)]-6.59)})(CF)$; **(Eq. 13)**

conversion factor (CF) = 0.85

8. Zinc

(i) freshwater acute aquatic life:

conc. (µg/l) = $(e^{(0.8473[\ln(\text{hardness in mg/l as } CaCO_3)]+0.884)})(CF)$; **(Eq. 14)**

conversion factor (CF) = 0.978

(ii) freshwater chronic aquatic life:

conc. (µg/l) = $(e^{(0.8473[\ln(\text{hardness in mg/l as } CaCO_3)]+0.884)})(CF)$; **(Eq. 15)**

conversion factor (CF) = 0.986

(b) The marine aquatic life criteria apply only to interstate and coastal waters of the Mobile River - Mobile Bay Basin and interstate and coastal waters of the Perdido River Basin, as identified in Rule 335-6-11-.02 of the Department's regulations. The acute aquatic life criteria apply to all waters of the State. The chronic aquatic life criteria apply only to waters classified Outstanding Alabama Water, Public Water Supply, Swimming and Other Whole Body Water-Contact Sports, Shellfish Harvesting, Fish and Wildlife, and Limited Warmwater Fishery, as identified in Rule 335-6-11-.02 of the Department's regulations.

(c) For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in

10 years ($7Q_{10}$) shall be the basis for applying the chronic aquatic life criteria, except as noted in Rule 335-6-10-.09(6), and the minimum 1-day low flow that occurs once in 10 years ($1Q_{10}$) shall be the basis for applying the acute aquatic life criteria, except as noted in Rule 335-6-10-.09(7)(c)(5). Where a permit specifies a minimum flow greater than $7Q_{10}$, the specified minimum flow may be used as the basis for applying the acute and chronic aquatic life criteria for that permit.

(d) Except as noted in Table 1, two human health criteria are provided for each pollutant--a criterion for consumption of water and fish, and a criterion for consumption of fish only. For certain pollutants, the human health criterion for consumption of water and fish may represent a maximum contaminant level (MCL) developed under the Safe Drinking Water Act.

1. For pollutants classified by the U.S. Environmental Protection Agency as non-carcinogens, the criteria shall be given by the following equations, except where numeric values are given in Table 1.

(i) Consumption of water and fish:

conc. (mg/l) = (HBW x RfD)/[(FCR x BCF) + WCR] **(Eq. 16)**

(ii) Consumption of fish only:

conc. (mg/l) = (HBW x RfD)/(FCR x BCF) **(Eq. 17)**

where: HBW = human body weight, set at 70 kg

RfD = reference dose, in mg/(kg-day)

FCR = fish consumption rate, set at 0.030 kg/day

BCF = bioconcentration factor, in l/kg

WCR = water consumption rate, set at 2 l/day

(iii) The values used for the reference dose (RfD) shall be values available through the U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS), and values used for the bioconcentration factor (BCF) shall be values contained in ambient water quality criteria documents published by the U.S. Environmental Protection Agency, except where other values are established pursuant to subparagraph (1)(g). The RfD and BCF values for specific pollutants are provided in Appendix A.

2. For pollutants classified by the U.S. Environmental Protection Agency as carcinogens, the criteria shall be given by the following equations, except where numeric values are given in Table 1.

(i) Consumption of water and fish:

conc. (mg/l) = (HBW x RL)/(CPF x [(FCR x BCF) + WCR]) **(Eq. 18)**

(ii) Consumption of fish only:

conc. (mg/l) = (HBW x RL)/(CPF x FCR x BCF) **(Eq. 19)**

where: HBW = human body weight, set at 70 kg

RL = risk level, set at 1 x 10^{-5}

CPF = cancer potency factor, in (kg-day)/mg

FCR = fish consumption rate, set at 0.030 kg/day

BCF = bioconcentration factor, in l/kg

WCR = water consumption rate, set at 2 l/day

(iii) The values used for the cancer potency factor (CPF) shall be values available through the U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS), and values used for the bioconcentration factor (BCF) shall be values contained in ambient water quality criteria documents published by the U.S. Environmental Protection Agency, except where other values are established pursuant to subparagraph (1)(g). The CPF and BCF values for specific pollutants are provided in Appendix A.

(e) The criteria given in Table 1 for consumption of water and fish, or computed from equation 16 or equation 18 for consumption of water and fish, shall apply only to those waters of the State classified Public Water Supply, as identified in Rule 335-6-11-.02 of the Department's regulations. The criteria given in Table 1 for consumption of fish only, or computed from equation 17 or equation 19 for consumption of fish only, shall apply to all waters of the State.

(f) For the purposes of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 10 years ($7Q_{10}$) shall be the basis for applying the human health criteria for pollutants classified as non-carcinogens, and the mean annual flow shall be the basis for applying the human health criteria for pollutants classified as carcinogens; except that where a permit specifies a minimum flow greater than $7Q_{10}$, the specified minimum flow may be used as the basis for applying the human health criteria for pollutants classified as non-carcinogens for that permit.

(g) Numeric criteria may be computed by the Department from equations 16, 17, 18, and 19 using values for the reference dose (RfD), cancer potency factor (CPF), and bioconcentration factor (BCF) determined by the Department in consultation with the State Department of Public Health after review of information available from sources other than the U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS) or ambient water quality criteria documents. Such criteria, or the RfD, CPF, and BCF values used to compute criteria, shall not be effective until adopted following established rulemaking procedures.

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: March 2, 1990. **Amended:** April 3, 1991; May 28, 1992; August 29, 1994; May 30, 1997; September 7, 2000; January 12, 2001; January 14, 2005; September 21, 2005; May 29, 2007.

335-6-10-.08 Waste Treatment Requirements. The following treatment requirements apply to all industrial waste discharges, sewage treatment plants, and combined waste treatment plants:

(a) As a minimum, secondary treatment or "equivalent to secondary treatment" as provided for in rules and regulations promulgated by the U.S. Environmental Protection Agency at 40 CFR Part 133 (1990), shall be applied to all waste discharges. The term "secondary treatment" is applied to biologically degradable waste and is interpreted to mean a facility which at design flow is capable of removing substantially all floating and settleable solids and to achieve a minimum removal of 85 percent of both the 5-day biochemical oxygen demand and suspended solids which, in the case of municipal wastes, is generally considered to produce an effluent quality containing a BOD_5 concentration of 30 mg/l and a suspended solids concentration of 30 mg/l. For municipal waste treatment facilities with effluent concentration limitations that are more stringent than secondary treatment, minimum removal of 85 percent of both the 5-day biochemical oxygen demand and suspended solids shall be at the Department's discretion. Disinfection, where necessary, will also be required. Waste treatment requirements also include those established under the provisions of Sections 301, 304, 306, and 307 of the Federal Water Pollution Control Act (FWPCA). In addition, the Department may require secondary treatment of biologically degradable industrial wastewaters when the application of guidelines published under federal law do not produce a similar reduction in the parameters of concern. In the application of this requirement, consideration will be given to efficiencies achieved through in-process improvements.

(b) In all cases an analysis of water use and flow characteristics for the receiving stream shall be provided to determine the degree of treatment required. Where indicated by the analysis, a higher degree of treatment may be required.

(c) The minimum 7-day low flow that occurs once in 10 years shall be the basis for design criteria.

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991; January 14, 2005.

335-6-10-.09 Specific Water Quality Criteria.

(1) **OUTSTANDING ALABAMA WATER**

(a) Best usage of waters: activities consistent with the natural characteristics of the waters.

(b) Conditions related to best usage:

1. High quality waters that constitute an outstanding Alabama resource, such as waters of state parks and wildlife refuges and waters of exceptional recreational or ecological significance, may be considered for classification as an Outstanding Alabama Water (OAW).

(c) Specific criteria:

1. Sewage, industrial wastes, or other wastes:

(i) Existing point source discharges to an Outstanding Alabama Water shall be allowed; however, within three years of assignment of the OAW classification or at permit renewal, whichever is later, existing point sources shall be required to meet the effluent limitations specified for new point source discharges in subparagraph (ii) hereof.

(ii) New point source discharges or expansions of existing point source discharges shall not be allowed unless a thorough evaluation of all practicable treatment and disposal alternatives by the permit applicant has demonstrated to the satisfaction of the Department that there is no feasible alternative to discharge to the waters classified OAW. At a minimum, domestic wastewater discharges shall be required to meet monthly average effluent limitations of 15 mg/l biochemical oxygen demand (5-day), 3 mg/l ammonia nitrogen, and 6 mg/l dissolved oxygen, and shall be required to provide disinfection of the effluent. Non-domestic wastewater discharges shall be required to provide a comparably stringent level of treatment as determined by the Department.

(iii) Effluent limitations for new point source discharges or expansions of existing point source discharges to waters upstream of, or tributary to, waters classified OAW shall be established by the Department such that the impact of the discharge within the waters classified OAW is no greater than if the discharge occurred at the OAW boundary at the treatment levels specified in subparagraph (ii) hereof.

(iv) All NPDES permits shall contain toxics limits that will ensure compliance with all applicable water quality standards. Such limits shall be acute and chronic toxicity limits for individual toxic substances, whole effluent toxicity limits, or both. For permittees subject to whole effluent toxicity limitations, both acute and chronic testing will be required. Whole effluent acute toxicity will be demonstrated if the effluent causes more than 10 percent mortality of test organisms when tested at an effluent concentration of 100 percent. For permittees whose discharge will result in an in-stream waste concentration of 10 percent or more, whole effluent chronic toxicity limits will be based on an in-stream concentration of 100 percent; for permittees whose discharge will result in an in-stream waste concentration of less than 10 percent, whole effluent chronic toxicity limits will be based on the in-stream waste concentration.

(v) Nonpoint source discharges shall use best management practices adequate to protect water quality consistent with the Department's nonpoint source control program.

(vi) All NPDES permits and nonpoint sources shall incorporate or employ water pollution prevention or waste reduction measures as established by the Department.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5. For salt waters and estuarine waters to which this classification is assigned, wastes as herein described shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.5, nor greater than 8.5.

3. Temperature:

(i) The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90 °F.

(ii) The maximum temperature in streams, lakes, and reservoirs in the Tennessee and Cahaba River Basins, and for that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been classified by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye, shall not exceed 86 °F.

(iii) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 5 °F in streams, lakes, and reservoirs in non-coastal and non-estuarine areas.

(iv) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 4 °F in coastal or estuarine waters during the period October through May, nor shall the rise exceed 1.5 °F during the period June through September.

(v) In lakes and reservoirs there shall be no withdrawal from, nor discharge of heated waters to, the hypolimnion unless it can be shown that such discharge or withdrawal will be beneficial to water quality.

(vi) In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained, and there shall be no thermal block to the migration of aquatic organisms.

(vii) Thermal permit limitations in NPDES permits may be less stringent than those required by subparagraphs (i) - (iv) hereof when a showing by the discharger has been made pursuant to Section 316 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. § 1251 et seq. or pursuant to a study of an equal or more stringent nature required by the State of Alabama authorized by Title 22, Section 22-22-9(c), Code of Alabama 1975, that such limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, in and on the body of water to which the discharge is made. Any such demonstration shall take into account the interaction of the thermal discharge component with other pollutants discharged.

4. Dissolved oxygen:

(i) For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5.5 mg/l at all times; except under extreme conditions due to natural causes, it may range between 5.5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to hydroelectric turbine discharges from existing hydroelectric generation impoundments. All new hydroelectric generation impoundments, including addition of new hydroelectric generation units to existing impoundments, shall be designed so that the discharge will contain at least 5.5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency, in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities.

(ii) In coastal waters, surface dissolved oxygen concentrations shall not be less than 5.5 mg/l, except where natural phenomena cause the value to be depressed.

(iii) In estuaries and tidal tributaries, dissolved oxygen concentrations shall not be less than 5.5 mg/l, except in dystrophic waters or where natural conditions cause the value to be depressed.

(iv) In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Toxic substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or

by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs in estuarine or salt waters or the propagation thereof.

6. Taste, odor, and color-producing substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs in estuarine and salt waters or adversely affect the propagation thereof; impair the palatability or marketability of fish and wildlife or shrimp and crabs in estuarine and salt waters; or unreasonably affect the aesthetic value of waters for any use under this classification.

7. Bacteria: in non-coastal waters, bacteria of the fecal coliform group shall not exceed a geometric mean of 200 colonies/100 ml. In coastal waters, bacteria of the enterococci group shall not exceed a geometric mean of 35 colonies/100 ml nor exceed a maximum of 104 colonies/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours.

8. Radioactivity: the concentrations of radioactive materials present shall not exceed the requirements of the State Department of Public Health.

9. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

(2) **PUBLIC WATER SUPPLY**

(a) Best usage of waters: source of water supply for drinking or food-processing purposes.∗

(b) Conditions related to best usage: the waters, if subjected to treatment approved by the Department equal to coagulation, sedimentation, filtration and disinfection, with additional treatment if necessary to remove naturally present impurities, and which meet the requirements of the Department, will be considered safe for drinking or food-processing purposes.

(c) Other usage of waters: it is recognized that the waters may be used for incidental water contact and recreation during June through September, except that water

∗ **NOTE:** In determining the safety or suitability of waters for use as sources of water supply for drinking or food-processing purposes after approved treatment, the Commission will be guided by the physical and chemical standards specified by the Department.

contact is strongly discouraged in the vicinity of discharges or other conditions beyond the control of the Department or the Alabama Department of Public Health.

(d) Conditions related to other usage: the waters, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports.

(e) Specific criteria:

1. Sewage, industrial wastes, or other wastes: none which are not effectively treated or controlled in accordance with Rule 335-6-10-.08.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5.

3. Temperature:

(i) The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90 °F.

(ii) The maximum temperature in streams, lakes, and reservoirs in the Tennessee and Cahaba River Basins, and for that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye, shall not exceed 86 °F.

(iii) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 5 °F in streams, lakes, and reservoirs in non-coastal and non-estuarine areas.

(iv) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 4 °F in coastal or estuarine waters during the period October through May, nor shall the rise exceed 1.5 °F during the period June through September.

(v) In lakes and reservoirs there shall be no withdrawal from, nor discharge of heated waters to, the hypolimnion unless it can be shown that such discharge or withdrawal will be beneficial to water quality.

(vi) In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained, and there shall be no thermal block to the migration of aquatic organisms.

(vii) Thermal permit limitations in NPDES permits may be less stringent than those required by subparagraphs (i) - (iv) hereof when a showing by the discharger has been made pursuant to Section 316 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C.§ 1251 et seq. or pursuant to a study of an equal or more stringent nature required by the State of Alabama authorized by Title 22, Section 22-22-9(c), Code of Alabama, 1975, that such limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, in and on the body of water to which the discharge is made. Any such demonstration shall take into account the interaction of the thermal discharge component with other pollutants discharged.

4. Dissolved oxygen:

(i) For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5 mg/l at all times; except under extreme conditions due to natural causes, it may range between 5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to discharges from existing hydroelectric generation impoundments. All new hydroelectric generation impoundments, including addition of new hydroelectric generation units to existing impoundments, shall be designed so that the discharge will contain at least 5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency, in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities.

(ii) In coastal waters, surface dissolved oxygen concentrations shall not be less than 5 mg/l, except where natural phenomena cause the value to be depressed.

(iii) In estuaries and tidal tributaries, dissolved oxygen concentrations shall not be less than 5 mg/l, except in dystrophic waters or where natural conditions cause the value to be depressed.

(iv) In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Toxic substances; color producing; heated liquids; or other deleterious substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, and only such temperatures as will not render the waters unsafe or unsuitable as a source of water supply for drinking or food-processing purposes, or exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish, wildlife and aquatic life, or adversely affect the aesthetic value of waters for any use under this classification.

6. Taste and odor producing substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances or wastes, as will not cause taste and odor difficulties in water supplies which

cannot be corrected by treatment as specified under subparagraph (b), or impair the palatability of fish.

7. Bacteria:

(i) In non-coastal waters, bacteria of the fecal coliform group shall not exceed a geometric mean of 1,000 colonies/100 ml; nor exceed a maximum of 2,000 colonies/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. In coastal waters, bacteria of the enterococci group shall not exceed a maximum of 275 colonies/100 ml in any sample.

(ii) For incidental water contact and recreation during June through September, the bacterial quality of water is acceptable when a sanitary survey by the controlling health authorities reveals no source of dangerous pollution and when the geometric mean fecal coliform organism density does not exceed 200 colonies/100 ml in non-coastal waters. In coastal waters, bacteria of the enterococci group shall not exceed a geometric mean of 35 colonies/100 ml nor exceed a maximum of 158 colonies/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. When the geometric mean bacterial organism density exceeds these levels, the bacterial water quality shall be considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters. Waters in the immediate vicinity of discharges of sewage or other wastes likely to contain bacteria harmful to humans, regardless of the degree of treatment afforded these wastes, are not acceptable for swimming or other whole body water-contact sports.

8. Radioactivity: no radionuclide or mixture of radionuclides shall be present at concentrations greater than those specified by the requirements of the State Department of Public Health.

9. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters, without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

(3) **SWIMMING AND OTHER WHOLE BODY WATER-CONTACT SPORTS**

(a) Best usage of waters: swimming and other whole body water-contact sports.∗

∗ **NOTE**: In assigning this classification to waters intended for swimming and water-contact sports, the Commission will take into consideration the relative proximity of discharges of wastes and will recognize

(b) Conditions related to best usage: the waters, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports. The quality of waters will also be suitable for the propagation of fish, wildlife and aquatic life. The quality of salt waters and estuarine waters to which this classification is assigned will be suitable for the propagation and harvesting of shrimp and crabs.

(c) Specific criteria:

1. Sewage, industrial wastes, or other wastes: none which are not effectively treated or controlled in accordance with Rule 335-6-10-.08.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5. For estuarine waters and salt waters to which this classification is assigned, wastes as described herein shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.5, nor greater than 8.5.

3. Temperature:

(i) The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90 °F.

(ii) The maximum temperature in streams, lakes, and reservoirs in the Tennessee and Cahaba River Basins, and for that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye, shall not exceed 86 °F.

(iii) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 5 °F in streams, lakes, and reservoirs in non-coastal and non-estuarine areas.

(iv) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 4 °F in coastal or estuarine waters during the period October through May, nor shall the rise exceed 1.5 °F during the period June through September.

(v) In lakes and reservoirs there shall be no withdrawal from, nor discharge of heated waters to, the hypolimnion unless it can be shown that such discharge or withdrawal will be beneficial to water quality.

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the potential hazards involved in locating swimming areas close to waste discharges. The Commission will not assign this classification to waters, the bacterial quality of which is dependent upon adequate disinfection of waste and where the interruption of such treatment would render the water unsafe for bathing.

(vi) In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained, and there shall be no thermal block to the migration of aquatic organisms.

(vii) Thermal permit limitations in NPDES permits may be less stringent than those required by subparagraphs (i) - (iv) hereof when a showing by the discharger has been made pursuant to Section 316 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. § 1251 et seq. or pursuant to a study of an equal or more stringent nature required by the State of Alabama authorized by Title 22, Section 22-22-9(c), Code of Alabama, 1975, that such limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, in and on the body of water to which the discharge is made. Any such demonstration shall take into account the interaction of the thermal discharge component with other pollutants discharged.

4. Dissolved oxygen:

(i) For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5 mg/l at all times; except under extreme conditions due to natural causes, it may range between 5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to discharges from existing hydroelectric generation impoundments. All new hydroelectric generation impoundments, including addition of new hydroelectric generation units to existing impoundments, shall be designed so that the discharge will contain at least 5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency, in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities.

(ii) In coastal waters, surface dissolved oxygen concentrations shall not be less than 5 mg/l, except where natural phenomena cause the value to be depressed.

(iii) In estuaries and tidal tributaries, dissolved oxygen concentrations shall not be less than 5 mg/l, except in dystrophic waters or where natural conditions cause the value to be depressed.

(iv) In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Toxic substances; color producing substances; odor producing substances; or other deleterious substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances or wastes, as will not render the water unsafe or unsuitable for swimming and water-contact sports; exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish, wildlife, and

aquatic life or, where applicable, shrimp and crabs; impair the palatability of fish, or where applicable, shrimp and crabs; impair the waters for any other usage established for this classification or unreasonably affect the aesthetic value of waters for any use under this classification.

6. Bacteria:

(i) Waters in the immediate vicinity of discharges of sewage or other wastes likely to contain bacteria harmful to humans, regardless of the degree of treatment afforded these wastes∗, are not acceptable for swimming or other whole body water-contact sports.

(ii) In all other areas, the bacterial quality of water is acceptable when a sanitary survey by the controlling health authorities reveals no source of dangerous pollution and when the geometric mean fecal coliform organism density does not exceed 200 colonies/100 ml in non-coastal waters. In coastal waters, bacteria of the enterococci group shall not exceed a geometric mean of 35 colonies/100 ml nor exceed a maximum of 104 colonies/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. When the geometric mean bacterial organism density exceeds these levels, the bacterial water quality shall be considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters.

(iii) The policy of nondegradation of high quality waters shall be stringently applied to bacterial quality of recreational waters.

7. Radioactivity: the concentrations of radioactive materials present shall not exceed the requirement of the State Department of Public Health.

8. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters, without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

(4) **SHELLFISH HARVESTING**

∗ **NOTE**: In assigning this classification to waters intended for swimming and water-contact sports, the Commission will take into consideration the relative proximity of discharges of wastes and will recognize the potential hazards involved in locating swimming areas close to waste discharges. The Commission will not assign this classification to waters, the bacterial quality of which is dependent upon adequate disinfection of waste and where the interruption of such treatment would render the water unsafe for bathing.

(a) Best usage of waters: propagation and harvesting of shellfish for sale or use as a food product.

(b) Conditions related to best usage: waters will meet the sanitary and bacteriological standards included in the *National Shellfish Sanitation Program Model Ordinance*, *1999*, *Chapter IV*, published by the Food and Drug Administration, U.S. Department of Health and Human Services and the requirements of the State Department of Public Health. The waters will also be of a quality suitable for the propagation of fish and other aquatic life, including shrimp and crabs.

(c) Other usage of waters: it is recognized that the waters may be used for incidental water contact and recreation during June through September, except that water contact is strongly discouraged in the vicinity of discharges or other conditions beyond the control of the Department or the Alabama Department of Public Health.

(d) Conditions related to other usage: the waters, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports.

(e) Specific criteria:

1. Sewage, industrial wastes, or other wastes: none which are not effectively treated in accordance with Rule 335-6-10-.08.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.5, nor greater than 8.5.

3. Temperature:

(i) The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90 °F.

(ii) The maximum temperature in streams, lakes, and reservoirs in the Tennessee and Cahaba River Basins, and for that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye, shall not exceed 86 °F.

(iii) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 5 °F in streams, lakes, and reservoirs in non-coastal and non-estuarine areas.

(iv) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 4 °F in coastal or estuarine waters during the period October through May, nor shall the rise exceed 1.5 °F during the period June through September.

(v) In lakes and reservoirs there shall be no withdrawal from, nor discharge of heated waters to, the hypolimnion unless it can be shown that such discharge or withdrawal will be beneficial to water quality.

(vi) In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained, and there shall be no thermal block to the migration of aquatic organisms.

(vii) Thermal permit limitations in NPDES permits may be less stringent than those required by subparagraphs (i) - (iv) hereof when a showing by the discharger has been made pursuant to Section 316 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. § 1251 et seq. or pursuant to a study of an equal or more stringent nature required by the State of Alabama authorized by Title 22, Section 22-22-9(c), Code of Alabama, 1975, that such limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, in and on the body of water to which the discharge is made. Any such demonstration shall take into account the interaction of the thermal discharge component with other pollutants discharged.

4. Dissolved oxygen:

(i) For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5 mg/l at all times; except under extreme conditions due to natural causes, it may range between 5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to discharges from existing hydroelectric generation impoundments. All new hydroelectric generation impoundments, including addition of new hydroelectric generation units to existing impoundments, shall be designed so that the discharge will contain at least 5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency, in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities.

(ii) In coastal waters, surface dissolved oxygen concentrations shall not be less than 5 mg/l, except where natural phenomena cause the value to be depressed.

(iii) In estuaries and tidal tributaries, dissolved oxygen concentrations shall not be less than 5 mg/l, except in dystrophic waters or where natural conditions cause the value to be depressed.

(iv) In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Toxic substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs; or affect the marketability of fish and shellfish, including shrimp and crabs.

6. Color, taste, and odor-producing substances and other deleterious substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and shellfish, including shrimp and crabs; adversely affect marketability or palatability of fish and shellfish, including shrimp and crabs; or unreasonably affect the aesthetic value of waters for any use under this classification.

7. Bacteria:

(i) Not to exceed the limits specified in the *National Shellfish Sanitation Program Model Ordinance, 1999, Chapter IV*, published by the Food and Drug Administration, U. S. Department of Health and Human Services.

(ii) For incidental water contact and recreation during June through September, the bacterial quality of water is acceptable when a sanitary survey by the controlling health authorities reveals no source of dangerous pollution and when the geometric mean fecal coliform organism density does not exceed 200 colonies/100 ml in non-coastal waters. In coastal waters, bacteria of the enterococci group shall not exceed a geometric mean of 35 colonies/100 ml nor exceed a maximum of 104 colonies/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. When the geometric mean bacterial organism density exceeds these levels, the bacterial water quality shall be considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters. Waters in the immediate vicinity of discharges of sewage or other wastes likely to contain bacteria harmful to humans, regardless of the degree of treatment afforded these wastes, are not acceptable for swimming or other whole body water-contact sports.

8. Radioactivity: the concentrations of radioactive materials present shall not exceed the requirements of the State Department of Public Health.

9. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

(5) **FISH AND WILDLIFE**

(a) Best usage of waters: fishing, propagation of fish, aquatic life, and wildlife, and any other usage except for swimming and water-contact sports or as a source of water supply for drinking or food-processing purposes.

(b) Conditions related to best usage: the waters will be suitable for fish, aquatic life and wildlife propagation. The quality of salt and estuarine waters to which this classification is assigned will also be suitable for the propagation of shrimp and crabs.

(c) Other usage of waters: it is recognized that the waters may be used for incidental water contact and recreation during June through September, except that water contact is strongly discouraged in the vicinity of discharges or other conditions beyond the control of the Department or the Alabama Department of Public Health.

(d) Conditions related to other usage: the waters, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports.

(e) Specific criteria:

1. Sewage, industrial wastes, or other wastes: none which are not effectively treated in accordance with Rule 335-6-10-.08.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5. For salt waters and estuarine waters to which this classification is assigned, wastes as herein described shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.5, nor greater than 8.5.

3. Temperature:

(i) The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90° F.

(ii) The maximum temperature in streams, lakes, and reservoirs in the Tennessee and Cahaba River Basins, and for that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye, shall not exceed 86 °F.

(iii) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 5 °F in streams, lakes, and reservoirs in non-coastal and non-estuarine areas.

(iv) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 4 °F in coastal or estuarine waters during the period October through May, nor shall the rise exceed 1.5 °F during the period June through September.

(v) In lakes and reservoirs there shall be no withdrawal from, nor discharge of heated waters to, the hypolimnion unless it can be shown that such discharge or withdrawal will be beneficial to water quality.

(vi) In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained, and there shall be no thermal block to the migration of aquatic organisms.

(vii) Thermal permit limitations in NPDES permits may be less stringent than those required by subparagraphs (i) - (iv) hereof when a showing by the discharger has been made pursuant to Section 316 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. § 1251 et seq. or pursuant to a study of an equal or more stringent nature required by the State of Alabama authorized by Title 22, Section 22-22-9(c), Code of Alabama, 1975, that such limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, in and on the body of water to which the discharge is made. Any such demonstration shall take into account the interaction of the thermal discharge component with other pollutants discharged.

4. Dissolved oxygen:

(i) For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5 mg/l at all times; except under extreme conditions due to natural causes, it may range between 5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to discharges from existing hydroelectric generation impoundments. All new hydroelectric generation impoundments, including addition of new hydroelectric generation units to existing impoundments, shall be designed so that the discharge will contain at least 5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency, in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities.

(ii) In coastal waters, surface dissolved oxygen concentrations shall not be less than 5 mg/l, except where natural phenomena cause the value to be depressed.

(iii) In estuaries and tidal tributaries, dissolved oxygen concentrations shall not be less than 5 mg/l, except in dystrophic waters or where natural conditions cause the value to be depressed.

(iv) In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Toxic substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs in estuarine or salt waters or the propagation thereof.

6. Taste, odor, and color-producing substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs in estuarine and salt waters or adversely affect the propagation thereof; impair the palatability or marketability of fish and wildlife or shrimp and crabs in estuarine and salt waters; or unreasonably affect the aesthetic value of waters for any use under this classification.

7. Bacteria:

(i) In non-coastal waters, bacteria of the fecal coliform group shall not exceed a geometric mean of 1,000 colonies/100 ml; nor exceed a maximum of 2,000 colonies/100 ml in any sample. In coastal waters, bacteria of the enterococci group shall not exceed a maximum of 275 colonies/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours.

(ii) For incidental water contact and recreation during June through September, the bacterial quality of water is acceptable when a sanitary survey by the controlling health authorities reveals no source of dangerous pollution and when the geometric mean fecal coliform organism density does not exceed 200 colonies/100 ml in non-coastal waters. In coastal waters, bacteria of the enterococci group shall not exceed a geometric mean of 35 colonies/100 ml nor exceed a maximum of 158 colonies/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. When the geometric bacterial coliform organism density exceeds these levels, the bacterial water quality shall be considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters. Waters in the immediate vicinity of discharges of sewage or other wastes likely to contain bacteria harmful to humans, regardless of the degree of treatment afforded these wastes, are not acceptable for swimming or other whole body water-contact sports.

8. Radioactivity: the concentrations of radioactive materials present shall not exceed the requirements of the State Department of Public Health.

9. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with

any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

(6) **LIMITED WARMWATER FISHERY**

(a) The provisions of the Fish and Wildlife water use classification at Rule 335-6-10-.09(5) shall apply to the Limited Warmwater Fishery water use classification, except as noted below. Unless alternative criteria for a given parameter are provided in paragraph (e) below, the applicable Fish and Wildlife criteria at paragraph 10-.09(5)(e) shall apply year-round. At the time the Department proposes to assign the Limited Warmwater Fishery classification to a specific waterbody, the Department may apply criteria from other classifications within this chapter if necessary to protect a documented, legitimate existing use.

(b) Best usage of waters (May through November): agricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes.

(c) Conditions related to best usage (May through November):

1. The waters will be suitable for agricultural irrigation, livestock watering, and industrial cooling waters. The waters will be usable after special treatment, as may be needed under each particular circumstance, for industrial process water supplies. The waters will also be suitable for other uses for which waters of lower quality will be satisfactory.

2. This category includes watercourses in which natural flow is intermittent, or under certain conditions non-existent, and which may receive treated wastes from existing municipalities and industries. In such instances, recognition is given to the lack of opportunity for mixture of the treated wastes with the receiving stream for purposes of compliance. It is also understood in considering waters for this classification that urban runoff or natural conditions may impact any waters so classified.

(d) Other usage of waters: none recognized.

(e) Specific criteria:

1. Dissolved oxygen (May through November): treated sewage, industrial wastes, or other wastes shall not cause the dissolved oxygen to be less than 3.0 mg/l. In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

2. Toxic substances and taste-, odor-, and color-producing substances attributable to treated sewage, industrial wastes, and other wastes: only such amounts as will not render the waters unsuitable for agricultural irrigation, livestock watering, industrial cooling, and industrial process water supply purposes; interfere with downstream water uses; or exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs in estuarine or salt waters or the propagation thereof. For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 2 years ($7Q_2$) shall be the basis for applying the chronic aquatic life criteria. The use of the $7Q_2$ low flow for application of chronic criteria is appropriate based on the historical uses and/or flow characteristics of streams to be considered for this classification.

3. Bacteria: In non-coastal waters, bacteria of the fecal coliform group shall not exceed a geometric mean of 1,000 colonies/100 ml; nor exceed a maximum of 2,000 colonies/100 ml in any sample. In coastal waters, bacteria of the enterococci group shall not exceed a maximum of 275 colonies/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours.

(7) **AGRICULTURAL AND INDUSTRIAL WATER SUPPLY**

(a) Best usage of waters: agricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes.

(b) Conditions related to best usage:

(i) The waters, except for natural impurities which may be present therein, will be suitable for agricultural irrigation, livestock watering, industrial cooling waters, and fish survival. The waters will be usable after special treatment, as may be needed under each particular circumstance, for industrial process water supplies. The waters will also be suitable for other uses for which waters of lower quality will be satisfactory.

(ii) This category includes watercourses in which natural flow is intermittent and non-existent during droughts and which may, of necessity, receive treated wastes from existing municipalities and industries, both now and in the future. In such instances, recognition must be given to the lack of opportunity for mixture of the treated wastes with the receiving stream for purposes of compliance. It is also understood in considering waters for this classification that urban runoff or natural conditions may impact any waters so classified.

(c) Specific criteria:

1. Sewage, industrial wastes, or other wastes: none which are not effectively treated or controlled in accordance with Rule 335-6-10-.08.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5. For salt waters and estuarine waters to which this classification is assigned, wastes as herein described shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.5, nor greater than 8.5.

3. Temperature: the maximum temperature rise above natural temperatures due to the addition of artificial heat shall not exceed 5 °F in streams, lakes, and reservoirs, nor shall the maximum water temperature exceed 90 °F.

4. Dissolved oxygen: sewage, industrial wastes, or other wastes shall not cause the dissolved oxygen to be less than 3.0 mg/l. In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Color, odor, and taste-producing substances, toxic substances, and other deleterious substances, including chemical compounds attributable to sewage, industrial wastes, and other wastes: only such amounts as will not render the waters unsuitable for agricultural irrigation, livestock watering, industrial cooling, industrial process water supply purposes, and fish survival, nor interfere with downstream water uses. For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 10 years ($7Q_{10}$) shall be the basis for applying the acute aquatic life criteria. The use of the $7Q_{10}$ low flow for application of acute criteria is appropriate based on the historical uses and/or flow characteristics of streams to be considered for this classification.

6. Bacteria: In non-coastal waters, bacteria of the fecal coliform group shall not exceed a geometric mean of 2,000 colonies/100 ml; nor exceed a maximum of 4,000 colonies/100 ml in any sample. In coastal waters, bacteria of the enterococci group shall not exceed a maximum of 500 colonies/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours.

7. Radioactivity: the concentrations of radioactive materials present shall not exceed the requirements of the State Department of Public Health.

8. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

Author: James E. McIndoe.

Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991; December 30, 1992; September 7, 2000; May 27, 2004; January 14, 2005.

335-6-10-.10 Special Designations.

(1) **OUTSTANDING NATIONAL RESOURCE WATER**

(a) Designation:

1. High quality waters that constitute an outstanding National resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, may be considered for designation as an Outstanding National Resource Water (ONRW). For waters designated as ONRW, existing water quality shall be maintained and protected.

(b) Specific Criteria:

1. Sewage, industrial wastes or other wastes:

(i) No new point source discharges or expansions of existing point source discharges to Outstanding National Resource Waters shall be allowed.

(ii) Existing point source discharges to the Outstanding National Resource Water shall be allowed provided they are treated or controlled in accordance with applicable laws and regulations.

(iii) New point source discharges or expansions of existing point source discharges to waters upstream of, or tributary to, Outstanding National Resource Waters shall be regulated in accordance with applicable laws and regulations, including compliance with water quality criteria for the use classification applicable to the particular water. However, no new point source discharge or expansion of an existing point source discharge to waters upstream of, or tributary to, Outstanding National Resource Waters shall be allowed if such discharge would not maintain and protect water quality within the Outstanding National Resource Water.

(iv) Nonpoint source discharges shall use best management practices adequate to protect water quality consistent with the Department's nonpoint source control program.

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: April 3, 1991.

335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes.

(1) For certain lakes and reservoirs, waterbody-specific criteria are appropriate to enhance nutrient management. The response to nutrient input may vary

significantly lake-to-lake, and for a given lake year-to-year, depending on a number of factors such as rainfall distribution and hydraulic retention time. For this reason, lake nutrient quality targets necessary to maintain and protect existing uses, expressed as chlorophyll a criteria, may also vary lake-to-lake. Because the relationship between nutrient input and lake chlorophyll a levels is not always well-understood, it may be necessary to revise the criteria as additional water quality data and improved assessment tools become available.

(2) The following lake-specific criteria apply to the waters listed below, in addition to any other applicable criteria commensurate with the designated usage of such waters.

(a) **The Alabama River Basin**

1. Claiborne Lake: those waters impounded by Claiborne Lock and Dam on the Alabama River. The lake has a surface area of 5,930 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 15 µg/l, as measured at the deepest point, main river channel, dam forebay.

2. Dannelly Lake: those waters impounded by Millers Ferry Lock and Dam on the Alabama River. The lake has a surface area of 17,200 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 17 µg/l, as measured at the deepest point, main river channel, dam forebay.

(b) **The Chattahoochee River Basin**

1. Walter F. George Lake: those waters impounded by Walter F. George Lock and Dam on the Chattahoochee River. The lake has a surface area of 45,181 acres at full power pool, 18,672 acres of which are within Alabama. The Alabama-Georgia state line is represented by the west bank of the original river channel, and the points of measurement for the criteria given below are located in Georgia waters.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 15 µg/l, as measured at the deepest point, main river channel, dam forebay; or 18 µg/l, as measured at the deepest point, main river channel, approximately 0.25 miles upstream of U.S. Highway 82.

2. Lake Harding: those waters impounded by Bartletts Ferry Dam on the Chattahoochee River. The lake has a surface area of 5850 acres at full pool, 2,176 acres

of which are within Alabama. The point of measurement for the criterion given below is located in Georgia waters.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll _a_ samples collected monthly April through October shall not exceed 15 µg/l, as measured at the deepest point, main river channel, dam forebay.

3. West Point Lake: those waters impounded by West Point Dam on the Chattahoochee River. The lake has a surface area of 25,864 acres at full power pool, 2,765 acres of which are within Alabama. The point of measurement for the criterion given below is located in Georgia waters.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of photic-zone composite chlorophyll _a_ samples collected monthly April through October shall not exceed 27 µg/l, as measured at the LaGrange, Georgia Water Intake.

(c) **The Coosa River Basin**

1. Weiss Lake: those waters impounded by Weiss Dam on the Coosa River. The lake has a surface area of 30,200 acres at full pool.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of photic-zone composite chlorophyll _a_ samples collected monthly April through October shall not exceed 20 µg/l, as measured at the deepest point, main river channel, power dam forebay; or 20 µg/l, as measured at the deepest point, main river channel, immediately upstream of causeway (Alabama Highway 9) at Cedar Bluff. If the mean of photic-zone composite chlorophyll _a_ samples collected monthly April through October is significantly less than 20 µg/l for a given year, the Department will re-evaluate the chlorophyll _a_ criteria, associated nutrient management strategies, and available data and information, and recommend changes, if appropriate, to maintain and protect existing uses.

(d) **The Lower Tombigbee River Basin**

1. Coffeeville Lake: those waters impounded by Coffeeville Dam on the Tombigbee River. The lake has a surface area of 8,500 acres at full pool.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of photic-zone composite chlorophyll _a_ samples collected monthly April through October shall not exceed 10 µg/l, as measured at the deepest point, main river channel, upstream of the lock canal.

(e) **The Perdido/Escambia River Basin**

1. Lake Jackson: This natural lake, located in Florala, Alabama, has a surface area of 256 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 7 µg/l, as measured at mid-lake.

2. Point A Lake: those waters impounded by Point A Dam on the Conecuh River. The lake has a surface area of 900 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 9 µg/l, as measured at the deepest point, main river channel, dam forebay.

3. Gantt Lake: those waters impounded by Gantt Dam on the Conecuh River. The lake has a surface area of 2,767 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 11 µg/l, as measured at the deepest point, main river channel, dam forebay.

(f) **The Tallapoosa River Basin**

1. Thurlow Lake: those waters impounded by Thurlow Dam on the Tallapoosa River. The reservoir has a surface area of 574 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 5 µg/l, as measured at the deepest point, main river channel, dam forebay.

2. Yates Lake: those waters impounded by Yates Dam on the Tallapoosa River. The lake has a surface area of 2,000 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 5 µg/l, as measured at the deepest point, main river channel, dam forebay.

3. Lake Martin: those waters impounded by Martin Dam on the Tallapoosa River. The lake has a surface area of 40,000 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 5 µg/l, as measured at the deepest point, main river channel, dam forebay; or 5 µg/l, as measured at the deepest point main river channel, immediately upstream of Blue Creek embayment; or 5 µg/l as measured at the deepest point, main creek channel, immediately upstream of Alabama Highway 63 (Kowaliga) bridge.

4. R.L. Harris Lake: those waters impounded by R.L. Harris Dam on the Tallapoosa River. The lake has a surface area of 10,660 acres at full pool.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of photic-zone composite chlorophyll _a_ samples collected monthly April through October shall not exceed 10 µg/l, as measured at the deepest point, main river channel, dam forebay; or 12 µg/l, as measured at the deepest point, main river channel, immediately upstream of the Tallapoosa River - Little Tallapoosa River confluence.

(g) **The Tennessee River Basin**

1. Pickwick Lake: those waters impounded by Pickwick Dam on the Tennessee River. The reservoir has a surface area of 43,100 acres at full pool, 33,700 acres of which are within Alabama. The point of measurement for the criterion given below is located in Tennessee waters.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll _a_ samples collected monthly April through September shall not exceed 18 µg/l, as measured at the deepest point, main river channel, dam forebay.

2. Wilson Lake: those waters impounded by Wilson Dam on the Tennessee River. The lake has a surface area of 15,930 acres at full pool.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll _a_ samples collected monthly April through September shall not exceed 18 µg/l, as measured at the deepest point, main river channel, dam forebay.

3. Wheeler Lake: those waters impounded by Wheeler Dam on the Tennessee River. The lake has a surface area of 67,100 acres at full pool.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll _a_ samples collected monthly April through September shall not exceed 18 µg/l, as measured at the deepest point, main river channel, dam forebay.

4. Guntersville Lake: those waters impounded by Guntersville Dam on the Tennessee River. The lake has a surface area of 69,700 acres at full pool, 67,900 of which are within Alabama.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of photic-zone composite chlorophyll _a_ samples collected monthly April through September shall not exceed 18 µg/l, as measured at the deepest point, main river channel, dam forebay.

5. Cedar Creek Lake: those waters impounded by Cedar Creek Dam on Cedar Creek. The reservoir has a surface area of 4,200 acres at full pool.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll _a_ samples collected monthly April through October shall not exceed 8 µg/l, as measured at the deepest point, main creek channel, dam forebay.

6. Little Bear Creek Lake: those waters impounded by Little Bear Dam on Little Bear Creek. The reservoir has a surface area of 1,600 acres at full pool.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll _a_ samples collected monthly April through October shall not exceed 8 µg/l, as measured at the deepest point, main creek channel, dam forebay.

(h) **The Upper Tombigbee River Basin**

1. Demopolis Lake: those waters impounded by Demopolis Dam downstream of the confluence of the Tombigbee and the Black Warrior Rivers. The lake has a surface area of 10,000 acres at full pool.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of photic-zone composite chlorophyll _a_ samples collected monthly April through October shall not exceed 10 µg/l, as measured at the deepest point, main river channel, dam forebay.

2. Gainesville Lake: those waters impounded by Gainesville Dam on the Tombigbee River. The lake has a surface area of 6,400 acres at full pool.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of photic-zone composite chlorophyll _a_ samples collected monthly April through October shall not exceed 14 µg/l, as measured at the deepest point, main river channel, dam forebay.

(i) **The Warrior River Basin**

1. Warrior Lake: those waters impounded by Warrior Lock and Dam on the Black Warrior River. The lake has a surface area of 7,800 acres at full pool.

(i) Chlorophyll _a_ (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll _a_ samples collected monthly April through October shall not exceed 12 µg/l, as measured at the deepest point, main river channel, dam forebay.

2. Oliver Lake: those waters impounded by William Bacon Oliver Lock and Dam on the Black Warrior River. The lake has a surface area of 800 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 12 μg/l, as measured at the deepest point, main river channel, dam forebay.

3. Holt Lake: those waters impounded by Holt Lock and Dam on the Black Warrior River. The lake has a surface area of 3,200 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 16 μg/l, as measured at the deepest point, main river channel, dam forebay.

4. Lake Tuscaloosa: those waters impounded by Lake Tuscaloosa Dam on the North River. The lake has a surface area of 5,885 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 8 μg/l, as measured at the deepest point, main river channel, dam forebay.

5. Bankhead Lake: those waters impounded by John Hollis Bankhead Lock and Dam on the Black Warrior River. The lake has a surface area of 9,200 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 16 μg/l, as measured at the deepest point, main river channel, dam forebay.

6. Smith Lake: those waters impounded by Lewis M. Smith Dam on the Sipsey Fork River. The lake has a surface area of 21,200 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 5 μg/l, as measured at the deepest point, main river channel, dam forebay; 5 μg/l, as measured at the deepest point, main river channel, at Duncan Creek/Sipsey River confluence (downstream of the Alabama Highway 257 bridge); and 5 μg/l, as measured at the deepest point, main river channel, immediately downstream of Brushy Creek confluence.

7. Inland Lake: those waters impounded by Inland Lake Dam on the Blackburn Fork of the Little Warrior River. The lake has a surface area of 1,095 acres at full pool.

(i) Chlorophyll a (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone composite chlorophyll a samples collected monthly April through October shall not exceed 6 µg/l, as measured at the deepest point, main river channel, dam forebay.

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: January 12, 2001. **Amended:** May 16, 2002; May 27, 2004; September 21, 2005.

335-6-10-.12 Implementation of the Antidegradation Policy.

(1) The antidegradation policy at Rule 335-6-10-.04 addresses three categories of waters/uses:

(a) High quality waters that constitute an outstanding national resource (Tier 3);

(b) Waters where the quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (Tier 2); and

(c) Existing instream water uses and the level of water quality necessary to protect the existing uses (Tier 1).

(2) Tier 3 waters are those waters designated pursuant to the Outstanding National Resource Water (ONRW) special designation at Rule 335-6-10-.10, and are identified in Rule 335-6-11-.02.

(3) Tier 1 waters are:

(a) Those waters (except waters assigned the use classification of Outstanding Alabama Water, which are Tier 2 waters) identified on the most recent EPA-approved Section 303(d) list;

(b) Those waters (except waters assigned the use classification of Outstanding Alabama Water, which are Tier 2 waters) for which attainment of applicable water quality standards has been, or is expected to be, achieved through implementation of effluent limitations more stringent than technology-based controls (BPT, BAT, and secondary treatment); and

(c) Those waters assigned the use classification of Limited Warmwater Fishery or Agricultural and Industrial Water Supply (as identified in Rule 335-6-11-.02).

(4) Tier 2 waters are all other waters (those waters not identified as either Tier 3 waters or Tier 1 waters), including all waters assigned the use classification of Outstanding Alabama Water (as identified in Rule 335-6-11-.02).

(5) All new or expanded discharges to Tier 2 waters (except discharges eligible for coverage under general permits) covered by the NPDES permitting program are potentially subject to the provisions of Rule 335-6-10-.04(3). Applicants for such discharges are required to demonstrate that the proposed discharge is necessary for important economic or social development as a part of the permit application process.

(6) After receipt of a permit application for a potentially covered discharge, the Department will determine whether the proposed discharge is to a Tier 2 water, as defined in paragraph (4) above. Of necessity, this determination will be made on a case-by-case basis.

(7) The basic framework of the permitting process is unchanged for a covered discharge to a Tier 2 water. However, the process is enhanced to document the consideration of Tier 2 provisions. The additional documentation includes:

(a) The Department's determination that the application is for a new or expanded discharge;

(b) The Department's determination that the receiving stream is considered to be a Tier 2 water; and

(c) The Department's determination, based on the applicant's demonstration, that the proposed discharge is necessary for important economic or social development in the area in which the waters are located.

(8) All three items will be documented in the permit file and/or fact sheet, and will be used by the Department in its decision process. The public notice process will be used to announce a preliminary Department decision to deny or to allow a covered discharge to a Tier 2 water, while the final determination will be made concurrently with the final Department decision regarding the permit application for a covered discharge.

(9) Documentation by the applicant shall include:

(a) An evaluation of discharge alternatives completed by a Registered Professional Engineer licensed to practice in the State of Alabama.

1. The applicant shall document the discharge alternatives evaluation by completing and submitting the following forms, or by submitting the same information in another format acceptable to the Department:

(i) ADEM Form 311, Alternatives Analysis; and, as applicable,

(ii) ADEM Form 312, Calculation of Total Annualized Costs for Public-Sector Projects, or ADEM Form 313, Calculation of Total Annualized Costs for Private-Sector Projects. Alternatives with total annualized project costs that are less than 110% of the total annualized project costs for the Tier 2 discharge proposal are considered viable alternatives.

(b) A demonstration that the proposed discharge will support important economic or social development in the area in which the waters are located, documented by the applicant's response, in writing, to the following questions. The applicant shall provide supporting information for each response.

1. What environmental or public health problem will the discharger be correcting?

2. How much will the discharger be increasing employment (at its existing facility or as the result of locating a new facility)?

3. How much reduction in employment will the discharger be avoiding?

4. How much additional state or local taxes will the discharger be paying?

5. What public service to the community will the discharger be providing?

6. What economic or social benefit will the discharger be providing to the community?

(10) The following forms are embodied in this rule:

(a) ADEM Form 311 Alternatives Analysis

(b) ADEM Form 312 Calculation of Total Annualized Costs for Public-Sector Projects

(c) ADEM Form 313 Calculation of Total Annualized Costs for Private-Sector Projects

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§ 22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: August 1, 2002.

Alternatives Analysis

Applicant/Project: ___________________________

All new or expanded discharges (except discharges eligible for coverage under general permits) covered by the NPDES permitting program are subject to the provisions of the antidegradation policy. Applicants for such discharges to Tier 2 waters are required to demonstrate " . . . that the proposed discharge is necessary for important economic or social development." As a part of this demonstration, the applicant must complete an evaluation of the discharge alternatives listed below, to include calculation of total annualized project costs for each technically feasible alternative (using ADEM Form 312 for public-sector projects and ADEM Form 313 for private-sector projects). Alternatives with total annualized project costs that are less than 110% of the total annualized project costs for the Tier 2 discharge proposal are considered viable alternatives.

Alternative	Viable	Non-Viable	Comment
1 Land Application			
2 Pretreatment/Discharge to POTW			
3 Relocation of Discharge			
4 Reuse/Recycle			
5 Process/Treatment Alternatives			
6 On-site/Sub-surface Disposal			
(other project-specific alternatives			
identified by the applicant or the			
Department; attach additional			
sheets if necessary)			
7			
8			
9			

Pursuant to ADEM Administrative Code Rule 335-6-3-.04, I certify on behalf of the applicant that I have completed an evaluation of the discharge alternatives identified above,

Signature: ________________________________

(Professional Engineer)

Date: ________________________________

and reached the conclusions indicated.

(Supporting documentation to be attached, referenced, or otherwise handled as appropriate.)

ADEM Form 311 3/02

Appendix A

Calculation of Total Annualized Project Costs for Public-Sector Projects

A. Capital Costs

Capital Cost of Project	$
Other One-Time Costs of Project (Please List, if any)	
	$
	$
	$
Total Capital Costs (Sum column)	$ (1)
Portion of Capital Costs to be Paid for with Grant Monies	$ (2)
Capital Costs to be Financed [Calculate: (1) – (2)]	$ (3)
Type of Financing (e.g., G.O. bond, revenue bond, bank loan)	
Interest Rate for Financing (expressed as decimal)	(i)
Time Period of Financing (in years)	(n)
Annualization Factor $= \dfrac{i}{(1+i)^n - 1} + i$	(4)
Annualized Capital Cost [Calculate: (3) x (4)]	(5)

B. Operating and Maintenance Costs

Annual Costs of Operation and Maintenance (including but not limited to: monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement.) (Please list below.)

	$
	$
	$
	$
Total Annual O & M Costs (Sum column)	$ (6)

C. Total Annual Cost of Pollution Control Project

Total Annual Cost of Pollution Control Project [(5) + (6)]	$ (7)

ADEM Form 312 3/02

Calculation of Total Annualized Project Costs for Private-Sector Projects

Capital Costs to be Financed (Supplied by applicant)	$	(1)
Interest rate for Financing (Expressed as a decimal)		(i)
Time Period of Financing (Assume 10 years*)	10 years	(n)
Annualization Factor $= \dfrac{i}{(1+i)^{10} - 1} + i$		(2)
Annualized Capital Cost [Calculate: (1) x (2)]	$	(3)
Annual Cost of Operation and Maintenance (including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement)**	$	(4)
Total Annual Cost of Pollution Control Project [(3) + (4)]	$	(5)

* While actual payback schedules may differ across projects and companies, assume equal annual payments over a 10-year period for consistency in comparing projects.

** For recurring costs that occur less frequently than once a year, pro rate the cost over the relevant number of years (e.g., for pumps replaced once every three years, include one-third of the cost in each year).

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Appendix A

TABLE 1
TOXIC POLLUTANT CRITERIA

Pollutant	Aquatic Life Criteria (in µg/l unless otherwise noted)				Human Health Criteria (in µg/l unless otherwise noted)	
	Freshwater Acute	Freshwater Chronic	Marine Acute	Marine Chronic	Consumption of Water and Fish	Consumption of Fish Only
Acenaphthene					Eq. 16	Eq. 17
Acrolein					Eq. 16	Eq. 17
Acrylonitrile [1]					Eq. 18	Eq. 19
Aldrin [1]	3.0		1.3		Eq. 18	Eq. 19
Anthracene					Eq. 16	Eq. 17
Antimony					Eq. 16	Eq. 17
Arsenic [1]	340 (tri)	150 (tri)	69 (tri)	36 (tri)	Eq. 18	Eq. 19
Asbestos					7,000,000 fibers/l	(MCL)
Benzene [1]					Eq. 18	Eq. 19
Benzidine [1]					Eq. 18	Eq. 19
Benzo(a)anthracene [1]					Eq. 18	Eq. 19
Benzo(a)pyrene [1]					Eq. 18	Eq. 19
Benzo(b)fluoranthene [1]					Eq. 18	Eq. 19
Benzo(k)fluoranthene [1]					Eq. 18	Eq. 19
Bis(2-chloroethyl)ether [1]					Eq. 18	Eq. 19
Bis(2-chloroisopropyl)ether					Eq. 16	Eq. 17
Bis(2-ethylhexyl)phthalate [1]					Eq. 18	Eq. 19
Bromoform [1]					Eq. 18	Eq. 19
Butylbenzyl phthalate					Eq. 16	Eq. 17
Cadmium	Eq. 1	Eq. 2	40	8.8		
Carbon tetrachloride [1]					Eq. 18	Eq. 19
Chlordane [1]	2.4	0.0043	0.09	0.004	Eq. 18	Eq. 19
Chlorobenzene					Eq. 16	Eq. 17
Chlorodibromomethane [1]					Eq. 18	Eq. 19
Chloroform [1]					Eq. 18	Eq. 19

Appendix A

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Pollutant	Aquatic Life Criteria (in µg/l unless otherwise noted)				Human Health Criteria (in µg/l unless otherwise noted)	
	Freshwater Acute	Freshwater Chronic	Marine Acute	Marine Chronic	Consumption of Water and Fish	Consumption of Fish Only
2-Chloronaphthalene					Eq. 16	Eq. 17
2-Chlorophenol					Eq. 16	Eq. 17
Chromium (trivalent)	Eq. 3	Eq. 4				
Chromium (hexavalent)	16	11	1100	50		
Chrysene [1]					Eq. 18	Eq. 19
Copper	Eq. 5	Eq. 6	4.8	3.1	1300 (MCL)	
Cyanide (free)	22	5.2	1.0	1.0	Eq. 16	Eq. 17
4,4'-DDD [1]					Eq. 18	Eq. 19
4,4'-DDE [1]					Eq. 18	Eq. 19
4,4'-DDT [1]	1.1	0.001	0.13	0.001	Eq. 18	Eq. 19
Dibenzo(a,h)anthracene [1]					Eq. 18	Eq. 19
1,2-Dichlorobenzene					Eq. 16	Eq. 17
1,3-Dichlorobenzene					Eq. 16	Eq. 17
1,4-Dichlorobenzene					Eq. 16	Eq. 17
3,3'-Dichlorobenzidine [1]					Eq. 18	Eq. 19
Dichlorobromomethane [1]					Eq. 18	Eq. 19
1,2-Dichloroethane [1]					Eq. 18	Eq. 19
1,1-Dichloroethylene					Eq. 16	Eq. 17
2,4-Dichlorophenol					Eq. 16	Eq. 17
1,2 Dichloropropane [1]					Eq. 18	Eq. 19
1,3 Dichloropropylene [1]					Eq. 18	Eq. 19
Dieldrin [1]	0.24	0.056	0.71	0.0019	Eq. 18	Eq. 19
2,4-Dimethylphenol					Eq. 16	Eq. 17
Diethyl phthalate					Eq. 16	Eq. 17
Dimethyl phthalate					Eq. 16	Eq. 17

TABLE 1
TOXIC POLLUTANT CRITERIA

Pollutant	Aquatic Life Criteria (in µg/l unless otherwise noted)				Human Health Criteria (in µg/l unless otherwise noted)	
	Freshwater Acute	Freshwater Chronic	Marine Acute	Marine Chronic	Consumption of Water and Fish	Consumption of Fish Only
Di-n-butyl phthalate					Eq. 16	Eq. 17
4,6-Dinitro-2-methylphenol					Eq. 16	Eq. 17
2,4 Dinitrotoluene [1]					Eq. 18	Eq. 19
2,4-Dinitrophenol					Eq. 16	Eq. 17
Dioxin (2,3,7,8-TCDD) [1]					Eq. 18	Eq. 19
1,2-Diphenylhydrazine [1]					Eq. 18	Eq. 19
Endosulfan (alpha)	0.22	0.056	0.034	0.0087	Eq. 16	Eq. 17
Endosulfan (beta)	0.22	0.056	0.034	0.0087	Eq. 16	Eq. 17
Endosulfan sulfate					Eq. 16	Eq. 17
Endrin	0.086	0.036	0.037	0.0023	Eq. 16	Eq. 17
Endrin aldehyde					Eq. 16	Eq. 17
Ethylbenzene					Eq. 16	Eq. 17
Fluoranthene					Eq. 16	Eq. 17
Fluorene					Eq. 16	Eq. 17
Heptachlor [1]	0.52	0.0038	0.053	0.0036	Eq. 18	Eq. 19
Heptachlor epoxide [1]	0.52	0.0038	0.053	0.0036	Eq. 18	Eq. 19
Hexachlorobenzene [1]					Eq. 18	Eq. 19
Hexachlorobutadiene [1]					Eq. 18	Eq. 19
Hexachlorocyclohexane (alpha) [1]					Eq. 18	Eq. 19
Hexachlorocyclohexane (beta) [1]					Eq. 18	Eq. 19
Hexachlorocyclohexane (gamma)	0.95		0.16		Eq. 16	Eq. 17
Hexachlorocyclopentadiene					Eq. 16	Eq. 17
Hexachloroethane [1]					Eq. 18	Eq. 19
Indeno (1,2,3-cd) pyrene [1]					Eq. 18	Eq. 19
Isophorone [1]					Eq. 18	Eq. 19
Lead	Eq. 7	Eq. 8	210	8.1		

Appendix A

TABLE 1
TOXIC POLLUTANT CRITERIA

Pollutant	Aquatic Life Criteria (in µg/l unless otherwise noted)				Human Health Criteria (in µg/l unless otherwise noted)	
	Freshwater Acute	Freshwater Chronic	Marine Acute	Marine Chronic	Consumption of Water and Fish	Consumption of Fish Only
Mercury (total recoverable)	2.4	0.012	2.1	0.025	Eq. 16	Eq. 17
Methyl bromide					Eq. 16	Eq. 17
Methylene chloride [1]					Eq. 18	Eq. 19
Nickel	Eq. 9	Eq. 10	74	8.2	Eq. 16	Eq. 17
Nitrobenzene					Eq. 16	Eq. 17
N-Nitrosodimethylamine [1]					Eq. 18	Eq. 19
N-Nitrosodi-n-propylamine [1]					Eq. 18	Eq. 19
N-Nitrosodiphenylamine [1]					Eq. 18	Eq. 19
PCB-1016 [1,2]		0.014		0.03	Eq. 18	Eq. 19
PCB-1221 [1,2]		0.014		0.03	Eq. 18	Eq. 19
PCB-1232 [1,2]		0.014		0.03	Eq. 18	Eq. 19
PCB-1242 [1,2]		0.014		0.03	Eq. 18	Eq. 19
PCB-1248 [1,2]		0.014		0.03	Eq. 18	Eq. 19
PCB-1254 [1,2]		0.014		0.03	Eq. 18	Eq. 19
PCB-1260 [1,2]		0.014		0.03	Eq. 18	Eq. 19
Pentachlorophenol [1]	Eq. 11	Eq. 12	13	7.9	Eq. 18	Eq. 19
Phenol					Eq. 16	Eq. 17
Pyrene					Eq. 16	Eq. 17
Selenium [3]	20	5.0	290	71	Eq. 16	Eq. 17
Silver	Eq. 13		1.9			
1,1,2,2-Tetrachloroethane [1]					Eq. 18	Eq. 19
Tetrachloroethylene [1]					Eq. 18	Eq. 19
Thallium					Eq. 16	Eq. 17
Toluene					Eq. 16	Eq. 17
Toxaphene [1]	0.73	0.0002	0.21	0.0002	Eq. 18	Eq. 19

Appendix A

TABLE 1 TOXIC POLLUTANT CRITERIA						
	Aquatic Life Criteria (in µg/l unless otherwise noted)				Human Health Criteria (in µg/l unless otherwise noted)	
Pollutant	Freshwater Acute	Freshwater Chronic	Marine Acute	Marine Chronic	Consumption of Water and Fish	Consumption of Fish Only
1,2-Trans-dichloroethylene					Eq. 16	Eq. 17
Tributyltin (TBT)	0.46	0.072	0.42	0.0074		
1,2,4-Trichlorobenzene					Eq. 16	Eq. 17
1,1,2-Trichloroethane [1]					Eq. 18	Eq. 19
Trichloroethylene [1]					Eq. 18	Eq. 19
2,4,6-Trichlorophenol [1]					Eq. 18	Eq. 19
Vinyl chloride [1]					Eq. 18	Eq. 19
Zinc	Eq. 14	Eq. 15	90	81	Eq. 16	Eq. 17

[1] Pollutants considered by EPA to be carcinogenic.
[2] The criteria for Polychlorinated Biphenyls (PCBs) apply to total PCBs, which is defined as the sum of the seven particular Aroclors (1016, 1221, 1232, 1242, 1248, 1254, and 1260) listed in this table.
[3] The freshwater aquatic life criteria for selenium are expressed in terms of total recoverable metal in the water column.

APPENDIX A

POLLUTANT	CAS Registry Number	REFERENCE DOSE mg/(kg-day)	CANCER POTENCY FACTOR (kg-day)/mg	BIO-CONCENTRATION FACTOR l/kg
Acenaphthene	83329	0.06		242
Acrolein	107028	0.0156		215
Acrylonitrile	107131		0.54	30
Aldrin	309002		17	4670
Anthracene	120127	0.3		30
Antimony	7440360	0.0004		1
Arsenic	7440382		1.75	44
Benzene	71432		0.029	5.2
Benzidine	92875		230	87.5
Benzo(a)anthracene	56553		7.3	30
Benzo(a)pyrene	50328		7.3	30
Benzo(b)fluoranthene	205992		7.3	30
Benzo(k)fluoranthene	207089		7.3	30
Bis(2-chloroethyl)ether	111444		1.1	6.9
Bis(2-chloroisopropyl)ether	108601	0.04		2.47
Bis(2-ethylhexyl)phthalate	117817		0.014	130
Bromoform	75252		0.0079	3.75
Butylbenzyl phthalate	85687	0.2		414
Carbon tetrachloride	56235		0.13	18.75
Chlordane	57749		0.35	14100
Chlorobenzene	108907	0.02		10.3
Chlorodibromomethane	124481		0.084	3.75
Chloroform	67663		0.0061	3.75
2-Chloronaphthalene	91587	0.08		202

APPENDIX A

POLLUTANT	CAS Registry Number	REFERENCE DOSE mg/(kg-day)	CANCER POTENCY FACTOR (kg-day)/mg	BIO-CONCENTRATION FACTOR l/kg
2-Chlorophenol	95578	0.005		134
Chrysene	218019		7.3	30
Cyanide	57125	0.02		1
4,4'-DDD	72548		0.24	53600
4,4'-DDE	72559		0.34	53600
4,4'-DDT	50293		0.34	53600
Dibenzo(a,h)anthracene	53703		7.3	30
1,2-Dichlorobenzene	95501	0.09		55.6
1,3-Dichlorobenzene	541731	0.0134		55.6
1,4-Dichlorobenzene	106467	0.0134		55.6
3,3'-Dichlorobenzidine	91941		0.45	312
Dichlorobromomethane	75274		0.062	3.75
1,2-Dichloroethane	107062		0.091	1.2
1,1-Dichloroethylene	75354	0.05		5.6
2,4-Dichlorophenol	120832	0.003		40.7
1,2-Dichloropropane	78875		0.067	4.1
1,3-Dichloropropylene	542756		0.1	1.9
Dieldrin	60571		16	4670
Diethyl phthalate	84662	0.8		73
2,4 Dimethylphenol	105679	0.02		93.8
Dimethyl phthalate	131113	10		36
Di-n-butyl phthalate	84742	0.1		89
4,6-Dinitro-2-methylphenol	534521	0.00039		5.5
2,4-Dinitrophenol	51285	0.002		1.5

APPENDIX A

POLLUTANT	CAS Registry Number	REFERENCE DOSE mg/(kg-day)	CANCER POTENCY FACTOR (kg-day)/mg	BIO-CONCENTRATION FACTOR l/kg
2,4 Dinitrotoluene	121142		0.31	3.8
Dioxin (2,3,7,8-TCDD)	1746016		17500	5000
1,2-Diphenylhydrazine	122667		0.8	24.9
Endosulfan (alpha)	959988	0.006		270
Endosulfan (beta)	33213659	0.006		270
Endosulfan sulfate	1031078	0.006		270
Endrin	72208	0.0003		3970
Endrin aldehyde	7421934	0.0003		3970
Ethylbenzene	100414	0.1		37.5
Fluoranthene	206440	0.04		1150
Fluorene	86737	0.04		30
Heptachlor	76448		4.5	11200
Heptachlor epoxide	1024573		9.1	11200
Hexachlorobenzene	118741		1.6	8690
Hexachlorobutadiene	87683		0.078	2.78
Hexachlorocyclohexane (alpha)	319846		6.3	130
Hexachlorocyclohexane (beta)	319857		1.8	130
Hexachlorocyclohexane (gamma)	58899	0.0003		130
Hexachlorocyclopentadiene	77474	0.006		4.34
Hexachloroethane	67721		0.014	86.9
Indeno (1,2,3-cd) pyrene	193395		7.3	30
Isophorone	78591		0.00095	4.38
Mercury	7439976	0.0001		5500
Methyl bromide	74839	0.0014		3.75

APPENDIX A

POLLUTANT	CAS Registry Number	REFERENCE DOSE mg/(kg-day)	CANCER POTENCY FACTOR (kg-day)/mg	BIO-CONCENTRATION FACTOR l/kg
Methylene chloride	75092		0.0075	0.9
Nickel	7440020	0.02		47
Nitrobenzene	98953	0.0005		2.89
N-Nitrosodimethylamine	62759		51	0.026
N-Nitrosodi-n-propylamine	621647		7	1.13
N-Nitrosodiphenylamine	86306		0.0049	136
PCB-1016 [1]	12674112		2.0	31200
PCB-1221 [1]	11104282		2.0	31200
PCB-1232 [1]	11141165		2.0	31200
PCB-1242 [1]	53469219		2.0	31200
PCB-1248 [1]	12672296		2.0	31200
PCB-1254 [1]	11097691		2.0	31200
PCB-1260 [1]	11096825		2.0	31200
Pentachlorophenol	87865		0.12	11
Phenol	108952	0.6		1.4
Pyrene	129000	0.03		30
Selenium	7782492	0.005		4.8
1,1,2,2-Tetrachloroethane	79345		0.2	5
Tetrachloroethylene	127184		0.039776	30.6
Thallium	7440280	0.000068		116
Toluene	108883	0.2		10.7
Toxaphene	8001352		1.1	13100
1,2-Trans-dichloroethylene	156605	0.02		1.58
1,2,4-Trichlorobenzene	120821	0.01		114

APPENDIX A

POLLUTANT	CAS Registry Number	REFERENCE DOSE mg/(kg-day)	CANCER POTENCY FACTOR (kg-day)/mg	BIO-CONCENTRATION FACTOR l/kg
1,1,2-Trichloroethane	79005		0.057	4.5
Trichloroethylene	79016		0.0126	10.6
2,4,6-Trichlorophenol	88062		0.011	150
Vinyl chloride	75014		1.4	1.17
Zinc	7440666	0.3		47

[1] The criteria for Polychlorinated Biphenyls (PCBs) apply to total PCBs, which is defined as the sum of the seven particular Aroclors (1016, 1221,1232, 1242, 1248, 1254, and 1260) listed in this table.

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER DIVISION - WATER QUALITY PROGRAM

CHAPTER 335-6-11
WATER USE CLASSIFICATIONS FOR INTERSTATE AND INTRASTATE WATERS

TABLE OF CONTENTS

335-6-11-.01 **<u>The Use Classification System</u>.**

(1) Use classifications utilized by the State of Alabama are as follows:

Outstanding Alabama Water	OAW
Public Water Supply	PWS
Swimming and Other Whole Body Water-Contact Sports	S
Shellfish Harvesting	SH
Fish and Wildlife	F&W
Limited Warmwater Fishery	LWF
Agricultural and Industrial Water Supply	A&I

(2) Use classifications apply water quality criteria adopted for particular uses based on existing utilization, uses reasonably expected in the future, and those uses not now possible because of correctable pollution but which could be made if the effects of pollution were controlled or eliminated. Of necessity, the assignment of use classifications must take into consideration the physical capability of waters to meet certain uses.

(3) Those use classifications presently included in the standards are reviewed informally by the Department's staff as the need arises, and the entire standards package, to include the use classifications, receives a formal review at least once each three years. Efforts currently underway through local 201 planning projects will provide additional technical data on certain streams in the State, information on treatment alternatives, and applicability of various management techniques, which, when available, will hopefully lead to new decisions regarding use classifications. Of particular interest are those segments which are currently classified for any usage which has an associated degree of quality criteria considered to be less than that applicable to a classification of "Fish and Wildlife." As rapidly as it can be demonstrated that new classifications are feasible on these segments from an economic and technological viewpoint, based on the information being generated pursuant to staff studies and the planning efforts previously outlined, such improvement will be sought.

(4) Although it is not explicitly stated in the classifications, it should be understood that the use classification of "Shellfish Harvesting" is only applicable in the coastal area and,

therefore, is included only in the Mobile River Basin and the Perdido-Escambia River Basin. It should also be noted that with the exception of those segments in the "Public Water Supply" classification, every segment, in addition to being considered acceptable for its designated use, is also considered acceptable for any other use with a less stringent associated criteria.

(5) Not all waters are included by name in the use classifications since it would be a tremendous administrative burden to list all stream segments in the State. In addition, in virtually every instance where a segment is not included by name, the Department has no information or stream data upon which to base a decision relative to the assignment of a particular classification. An effort has been made, however, to include all major stream segments and all segments which, to the Department's knowledge, are currently recipients of point source discharges. Those segments which are not included by name will be considered to be acceptable for a "Fish and Wildlife" classification unless it can be demonstrated that such a generalization is inappropriate in specific instances.

Author: James E. McIndoe.
Statutory Authority: Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: May 5, 1967. **Amended:** June 19, 1967; April 1, 1970; October 16, l972; September 17, 1973; May 30, 1977; December 19, 1977; February 4, 1981; April 5, 1982; December 11, 1985; March 26, 1986; September 7, 2000.

335-6-11-.02 **Use Classifications.**

(1) **THE ALABAMA RIVER BASIN**

INTERSTATE WATERS

Stream	From	To	Classification
ALABAMA RIVER	MOBILE RIVER	Claiborne Lock and Dam	F&W
ALABAMA RIVER	Claiborne Lock and Dam	Frisco Railroad Crossing	S/F&W
ALABAMA RIVER	Frisco Railroad Crossing	River Mile 131	F&W
ALABAMA RIVER	River Mile 131	Millers Ferry Lock and Dam	PWS
ALABAMA RIVER	Millers Ferry Lock and Dam	Blackwell Bend (Six Mile Creek)	S/F&W

Stream	From	To	Classification
ALABAMA RIVER	Blackwell Bend (Six Mile Creek)	Jones Bluff Lock and Dam	F&W
ALABAMA RIVER	Jones Bluff Lock and Dam	Pintlalla Creek	S/F&W
ALABAMA RIVER	Pintlalla Creek	Its source	F&W

INTRASTATE WATERS

Stream	From	To	Classification
Little River	ALABAMA RIVER	Its source	S/F&W
Randons Creek	ALABAMA RIVER	Its source	F&W
Bear Creek	Randons Creek	Its source	F&W
Limestone Creek	ALABAMA RIVER	Its source	F&W
Double Bridges Creek	Limestone Creek	Its source	F&W
Hudson Branch	Limestone Creek	Its source	F&W
Big Flat Creek	ALABAMA RIVER	Its source	S/F&W
Pursley Creek	ALABAMA RIVER	Its source	F&W
Unnamed tributary south of Camden	Pursley Creek	Its source	F&W
Beaver Creek	ALABAMA RIVER	Its source	F&W
Cub Creek	Beaver Creek	Its source	F&W
Turkey Creek	Beaver Creek	Its source	F&W
Rockwest Creek	ALABAMA RIVER	Its source	F&W
Unnamed tributary west of Camden	Rockwest Creek	Its source	F&W
Pine Barren Creek	ALABAMA RIVER	Its source	S/F&W

Stream	From	To	Classification
Chilatchee Creek	ALABAMA RIVER	Its source	S/F&W
Bogue Chitto Creek	ALABAMA RIVER	Its source	F&W
Sand Creek	Bogue Chitto Creek	Its source	F&W
Big Cedar Creek	ALABAMA RIVER	Its source	S/F&W
Valley Creek	ALABAMA RIVER	Selma-Summerfield Rd.	F&W
Valley Creek	Selma-Summerfield Rd.	Its source	S/F&W
Mulberry Creek	ALABAMA RIVER	Plantersville	S/F&W
Mulberry Creek	Plantersville	Its source	F&W
Gale Creek	Mulberry Creek	Its source	F&W
Charlotte Creek	Gale Creek	Its source	F&W
Big Swamp Creek	ALABAMA RIVER	Its source	S/F&W
Swift Creek	ALABAMA RIVER	Its source	S/F&W
Pintlalla Creek	ALABAMA RIVER	Its source	S/F&W
Autauga Creek	ALABAMA RIVER	Western boundary of Prattville	F&W
Autauga Creek	Western boundary of Prattville	Its source	S/F&W
Catoma Creek	ALABAMA RIVER	Its source	F&W
Mortar Creek	ALABAMA RIVER	Its source	F&W
Valley Creek Lake	Within Valley Creek State Park		S/F&W
Little River Lake	Within Valley Creek State Park		S/F&W

(2) **THE CAHABA RIVER BASIN**

INTRASTATE WATERS

Stream	From	To	Classification
CAHABA RIVER	ALABAMA RIVER	Junction of lower Little Cahaba River	OAW/S
CAHABA RIVER	Junction of lower Little Cahaba River	Shelby County Road 52	OAW/F&W
CAHABA RIVER	Shelby County Road 52	Dam near U.S. Highway 280	F&W
CAHABA RIVER	Dam near U.S. Highway 280	Grant's Mill Road	OAW/PWS
CAHABA RIVER	Grant's Mill Road	U.S. Highway 11	F&W
CAHABA RIVER	U.S. Highway 11	Its source	OAW/F&W
Childers Creek	CAHABA RIVER	Its source	F&W
Oakmulgee Creek	CAHABA RIVER	Its source	S
Little Oakmulgee Creek	Oakmulgee Creek	Its source	S
Rice Creek	CAHABA RIVER	Its source	F&W
Waters Creek	CAHABA RIVER	Its source	S
Old Town Creek	CAHABA RIVER	Its source	S
Blue Girth Creek	CAHABA RIVER	Its source	S
Affonee Creek	CAHABA RIVER	Its source	S
Haysop Creek	CAHABA RIVER	Its source	F&W
Schultz Creek	CAHABA RIVER	Its source	S
Little Cahaba River (Bibb County)	CAHABA RIVER	Its source (junction of Mahan and Shoal Creeks)	OAW/F&W

Stream	From	To	Classification
Sixmile Creek	Little Cahaba River	Its source	S
Mahan Creek	Little Cahaba River	Its source	F&W
Shoal Creek	Little Cahaba River	Its source	F&W
Caffee Creek	CAHABA RIVER	Its source	F&W
Shades Creek	CAHABA RIVER	Its source	F&W
Buck Creek	CAHABA RIVER	Cahaba Valley Creek	F&W
Buck Creek	Cahaba Valley Creek	Shelby County Road 44	LWF[4]
Buck Creek	Shelby County Road 44	Its source	F&W
Cahaba Valley Creek	Buck Creek	Its source	F&W
Peavine Creek	Buck Creek	Its source	F&W
Oak Mountain State Park Lakes			PWS
Patton Creek	CAHABA RIVER	Its source	F&W
Little Shades Creek	CAHABA RIVER	Its source	F&W
Little Cahaba River (Jefferson-Shelby Counties)	CAHABA RIVER	Head of Lake Purdy	PWS
Little Cahaba River (Jefferson County)	Head of Lake Purdy	Its source	F&W

[4]Applicable dissolved oxygen level is 4.0 mg/l during May through November. Fish and Wildlife fecal coliform bacteria criteria at paragraph 10-.09(5)(e)7. are applicable year-round. For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 10 years ($7Q_{10}$) shall be the basis for applying the chronic aquatic life criteria.

(3) **THE CHATTAHOOCHEE RIVER BASIN**

INTERSTATE WATERS

Stream	From	To	Classification
CHATTAHOOCHEE RIVER	Alabama-Florida state line	Water supply intake of Great Southern Division, Great Northern Paper Co.	F&W
CHATTAHOOCHEE RIVER	Water supply intake of Great Southern Division, Great Northern Paper Co.	Cowikee Creek	S/F&W
CHATTAHOOCHEE RIVER	Cowikee Creek	14th Street Bridge between Columbus and Phenix City	F&W
CHATTAHOOCHEE RIVER	14th Street Bridge between Columbus and Phenix City	Osanippa Creek	PWS/S/F&W
CHATTAHOOCHEE RIVER	Osanippa Creek	West Point Manufacturing Company water supply intake at Lanett	F&W
CHATTAHOOCHEE RIVER	West Point Manufacturing Company water supply intake at Lanett	West Point Dam	PWS
CHATTAHOOCHEE RIVER (West Point Lake)	West Point Dam	West Point Lake limits in Alabama	S/F&W
Oseligee Creek	Alabama-Georgia state line	Its source	F&W
Wehadkee Creek	Alabama-Georgia state line	Its source	F&W
Finley Creek	Alabama-Georgia State line	Its source	F&W

Stream	From	To	Classification
Hardley Creek	Alabama-Georgia State line	Its source	F&W
Veasey Creek	Alabama-Georgia State line	Its source	F&W

INTRASTATE WATERS

Stream	From	To	Classification
Omusee Creek	CHATTAHOOCHEE RIVER	Its source	F&W
Mill Creek	Omusee Creek	Its source	F&W
Abbie Creek	CHATTAHOOCHEE RIVER	Its source	F&W
Skippers Creek	Abbie Creek	Its source	F&W
Owens Branch	Abbie Creek	Its source	F&W
Cheneyhatchee Creek	CHATTAHOOCHEE RIVER	Its source	S/F&W
Barbour Creek	CHATTAHOOCHEE RIVER	Its source	F&W
Chewalla Creek	CHATTAHOOCHEE RIVER	Its source	S/F&W
Cowikee Creek	CHATTAHOOCHEE RIVER	Its source	S/F&W
North Fork of Cowikee Creek	Cowikee Creek	Its source	F&W
Middle Fork of Cowikee Creek	North Fork of Cowikee Creek	Its source	S/F&W
Hurtsboro Creek	North Fork of Cowikee Creek	Its source	A&I

Stream	From	To	Classification
South Fork of Cowikee Creek	Cowikee Creek	Its source	S/F&W
Hatchechubbee Creek	CHATTAHOOCHEE RIVER	Russell County Highway 4, west of Pittsview	S/F&W
Hatchechubbee Creek	Russell County Highway 4, west of Pittsview	Its source	F&W
Ihagee Creek	CHATTAHOOCHEE RIVER	Its source	S/F&W
Uchee Creek	CHATTAHOOCHEE RIVER	County Road 39	S/F&W
Uchee Creek	County Road 39	Alabama Highway 169	PWS/S/F&W
Uchee Creek	Alabama Highway 169	Its source	S/F&W
Halawakee Creek	CHATTAHOOCHEE RIVER	Three miles upstream of County Road 79	PWS/F&W
Halawakee Creek	Three miles upstream Of County Road 79	Its source	F&W
Osanippa Creek	CHATTAHOOCHEE RIVER	Its source	F&W
Kellum Hill Creek	Osligee Creek	Its source	F&W
Allen Creek	Kellum Hill Creek	Its source	F&W
Moore's Creek	CHATTAHOOCHEE RIVER	Its source	F&W
Guss Creek	Wehadkee Creek	Its source	F&W
Gladney Mill Branch	Guss Creek	Its source	F&W

(4) **THE CHIPOLA RIVER BASIN**

INTERSTATE WATERS

Stream	From	To	Classification
Big Creek	Alabama-Florida state line	Its source	F&W
Buck Creek	Alabama-Florida state line	Its source	F&W
Cowarts Creek	Alabama-Florida state line	Its source	F&W

INTRASTATE WATERS

Stream	From	To	Classification
Limestone Creek	Big Creek	Its source	F&W
Cypress Creek	Limestone Creek	Its source	F&W
Rocky Creek	Cowarts Creek	Its source	F&W

(5) **THE CHOCTAWHATCHEE RIVER BASIN**

INTERSTATE WATERS

Stream	From	To	Classification
Pea River	CHOCTAWHATCHEE RIVER	Its source	F&W
CHOCTAWHATCHEE RIVER	Alabama-Florida state line	Its source	F&W
Wright Creek	Alabama-Florida state line	Its source	F&W
Holmes Creek	Alabama-Florida state line	Its source	F&W
Ten Mile Creek	Alabama-Florida state line	Its source	F&W

INTRASTATE WATERS

Stream	From	To	Classification
Sandy Creek	Pea River	Samson	F&W
Flat Creek	Pea River	Junction with Eightmile Creek	F&W
Flat Creek	Junction with Eightmile Creek	Its source	S/F&W
Eightmile Creek	Flat Creek	Its source	F&W
Corner Creek	Eightmile Creek	Its source	F&W
Cripple Creek	Pea River	Its source	F&W
Samson Branch	Pea River	Its source	F&W
Whitewater Creek	Pea River	Its source	F&W
Big Creek	Whitewater Creek	Its source	F&W
Walnut Creek	Whitewater Creek	Its source	F&W
Mims Creek	Whitewater Creek	Its source	F&W
Pea Creek	Pea River	Its source	F&W
Double Bridges Creek	CHOCTAWHATCHEE RIVER	Its source	F&W
Blanket Creek	Double Bridges Creek	Its source	F&W
Claybank Creek	CHOCTAWHATCHEE RIVER	Lake Tholocco	F&W
Lake Tholocco	Dam	Its source	S/F&W
Claybank Creek	Lake Tholocco	Its source	F&W
Harrand Creek	Claybank Creek	Its source	F&W

Stream	From	To	Classification
Tributary of Harrand Creek	Harrand Creek	Its source	F&W
Hurricane Creek	CHOCTAWHATCHEE RIVER	Its source	F&W
Mill Creek	Hurricane Creek	Hartford	F&W
Little Choctawhatchee River	CHOCTAWHATCHEE RIVER	Its source	F&W
Newton Creek	Little Choctawhatchee River	Its source	F&W
Beaver Creek	Newton Creek	Its source	F&W
Hurricane Creek (Dale County)	CHOCTAWHATCHEE RIVER	Its source	F&W
West Fork of Choctawhatchee River	CHOCTAWHATCHEE RIVER	Its source	F&W
Judy Creek	West Fork of Choctawhatchee River	Its source	F&W
Little Judy Creek	Judy Creek	Its source	F&W
Lindsey Creek	West Fork of Choctawhatchee River	Its source	F&W
East Fork of Choctawhatchee River	CHOCTAWHATCHEE RIVER	Blackwood Creek	F&W
East Fork of Choctawhatchee River	Blackwood Creek	Its source	S/F&W
Blackwood Creek	East Fork of Choctawhatchee River	Its source	F&W

(6) **THE COOSA RIVER BASIN**

INTERSTATE WATERS

Stream	From	To	Classification
COOSA RIVER	Its junction with the TALLAPOOSA RIVER	Jordan Dam	F&W
COOSA RIVER (Lake Jordan)	Jordan Dam	Mitchell Dam	S/F&W
COOSA RIVER (Lake Jordan)	Bouldin Dam	Alabama Highway 111	PWS/S/F&W
COOSA RIVER (Lake Mitchell)	Mitchell Dam	Lay Dam	PWS/S/F&W
COOSA RIVER (Lay Lake)	Lay Dam	Southern RR Bridge (1-1/3 miles above Yellowleaf Creek)	PWS/S/F&W
COOSA RIVER (Lay Lake)	Southern RR Bridge (1-1/3 miles above Yellowleaf Creek)	River Mile 89 (1-1/2 miles above Talladega Creek)	S/F&W[2]
COOSA RIVER (Lay Lake)	River Mile 89 (1-1/2 miles above Talladega Creek)	Logan Martin Dam	PWS/S/F&W
COOSA RIVER (Logan Martin Lake)	Logan Martin Dam	Broken Arrow Creek	S/F&W
COOSA RIVER (Logan Martin Lake)	Broken Arrow Creek	Trout Creek	PWS/S/F&W
COOSA RIVER (Logan Martin Lake) (Lake Henry)	Trout Creek	McCardney's Ferry (3 miles upstream of Big Canoe Creek)	S/F&W

[2]Applicable dissolved oxygen level below existing impoundments is 4.0 mg/l.

Stream	From	To	Classification
COOSA RIVER (Lake Henry)	McCardney's Ferry (3 miles upstream of Big Canoe Creek)	City of Gadsden's water supply intake	F&W
COOSA RIVER (Lake Henry)	City of Gadsden's water supply intake	Weiss Dam powerhouse	PWS/F&W
COOSA RIVER	Weiss Dam powerhouse	Weiss Dam	F&W
COOSA RIVER (Weiss Lake)	Weiss Dam and Weiss Dam powerhouse	Spring Creek	PWS/S/F&W
COOSA RIVER (Weiss Lake)	Spring Creek	Alabama-Georgia state line	S/F&W
Bouldin Tailrace Canal (Callaway Creek)	COOSA RIVER	Bouldin Dam	F&W
Terrapin Creek	COOSA RIVER	U.S. Highway 278	F&W
Terrapin Creek	U.S. Highway 278	Calhoun County Road 70, east of Vigo	PWS/F&W
Terrapin Creek	Calhoun County Road 70, east of Vigo	Alabama-Georgia state line	F&W
Little River and tributaries	COOSA RIVER (Weiss Lake)	Junction of East Fork of Little River and West Fork of Little River	PWS/S/ F&W[3]
East Fork of Little River and tributaries	Little River	Alabama-Georgia state line	PWS/S/ F&W[3]
West Fork of Little River and tributaries	Little River	Alabama-Georgia state line	PWS/S/ F&W[3]
Chattooga River	COOSA RIVER (Weiss Lake)	Gaylesville	S/F&W

[3]The special designation of Outstanding National Resource Water applies to this segment.

Stream	From	To	Classification
Chattooga River	Gaylesville	Alabama-Georgia state line	F&W
Spring Creek	COOSA RIVER (Weiss Lake)	Alabama-Georgia state line	F&W

INTRASTATE WATERS

Stream	From	To	Classification
Weoka Creek	COOSA RIVER (Lake Jordan)	Its source	S/F&W
Chestnut Creek	COOSA RIVER (Lake Jordan)	Its source	F&W
Hatchet Creek	COOSA RIVER (Lake Mitchell)	Norfolk Southern Railway	OAW/S/F&W
Hatchet Creek	Norfolk Southern Railway	Junction of East Fork Hatchet Creek and West Fork Hatchet Creek	OAW/PWS/ S/F&W
East Fork Hatchet Creek	Hatchet Creek	Its source	OAW/F&W
West Fork Hatchet Creek	Hatchet Creek	Its source	OAW/F&W
Socapatoy Creek	Hatchet Creek	Its source	F&W
Weogufka Creek	Hatchet Creek (Lake Mitchell)	Its source	S/F&W
Walnut Creek	COOSA RIVER (Lake Mitchell)	Its source	F&W
Waxahatchee Creek	COOSA RIVER (Lay Lake)	Its source	F&W
Tributary of Waxahatchee Creek	Waxahatchee Creek	Its source	F&W

Appendix A

Stream	From	To	Classification
Buxahatchee Creek	Waxahatchee Creek (Lay Lake)	Its source	F&W
Yellowleaf Creek	COOSA RIVER (Lay Lake)	Its source	S/F&W
Tallasseehatchee Creek	COOSA RIVER (Lay Lake)	City of Sylacauga's water supply reservoir dam	F&W
Tallasseehatchee Creek	City of Sylacauga's water supply reservoir dam	Its source	PWS/F&W
Shirtee Creek	Tallasseehatchee Creek	Its source	F&W
Talladega Creek	COOSA RIVER (Lay Lake)	County Road 303	F&W
Talladega Creek	County Road 303	Alabama Highway 77	PWS/F&W
Talladega Creek	Alabama Highway 77	Its source	F&W
Mump Creek	Talladega Creek	City of Talladega's water supply reservoir dam	F&W
Mump Creek	City of Talladega's water supply reservoir dam	Its source	PWS/F&W
Kelly Creek	COOSA RIVER (Lay Lake)	Its source	S/F&W
Wolf Creek	Kelly Creek	Its source	F&W
Choccolocco Creek	COOSA RIVER (Logan Martin Lake)	Tributary from Boiling Spring (Boiling Spring Road)	F&W
Choccolocco Creek	Tributary from Boiling Spring (Boiling Spring Road)	Egoniaga Creek	PWS/F&W
Choccolocco Creek	Egoniaga Creek	Its source	F&W

Appendix A

Stream	From	To	Classification
Eastaboga Creek	Choccolocco Creek	Its source	F&W
Cheaha Creek	Choccolocco Creek	Lake Chinnabee	S/F&W
Lake Chinnabee	Within Talladega National Forest		S/F&W
Kelly Creek	Cheaha Creek	Its source	F&W
Brecon Branch	Kelly Creek	Its source	F&W
Coldwater Creek	Choccolocco Creek	Its source	F&W
Coldwater Spring			PWS/F&W
Snow Creek	Choccolocco Creek	Its source	F&W
Dye Creek	COOSA RIVER (Logan Martin Lake)	Its source	F&W
Cane Creek	COOSA RIVER (Logan Martin Lake)	Its source	F&W
Cave Creek	Cane Creek	Its source	F&W
Ohatchee Creek	COOSA RIVER (Logan Martin Lake)	Its source	S/F&W
Tallahatchee Creek	Ohatchee Creek	Its source	F&W
Tributary of Tallahatchee Creek	Tallahatchee Creek	Its source	F&W
Big Canoe Creek	COOSA RIVER (Lake Henry)	Its source	F&W
Little Canoe Creek	Big Canoe Creek	Its source	F&W
Spring Creek	Little Canoe Creek	Its source	F&W
Big Wills Creek	COOSA RIVER (Lake Henry- Lake Gadsden)	100 yds. below Allen Branch	F&W
Big Wills Creek	100 yds. below Allen Branch	Its source	PWS/F&W

Stream	From	To	Classification
Lake Gadsden (Lake Henry)	U. S. Highway 411	Impoundment limits	F&W
Black Creek	Lake Henry (Lake Gadsden)	Its source	F&W
Allen Branch	Big Wills Creek	Ft. Payne public water supply dam	F&W
Allen Branch	Ft. Payne public water supply dam	Its source	PWS/F&W
Coleman Lake	Within Talladega National Forest		S/F&W
Sweetwater Lake	Within Talladega National Forest		PWS/S/F&W
High Rock Lake	Within Talladega National Forest		S/F&W
Hillabee Lake	Within Talladega National Forest		PWS/S/F&W
Salt Creek Lake	Within Talladega National Forest		S/F&W
Shoal Creek	Choccolocco Creek	Whitesides Mill Lake	S/F&W
Whitesides Mill Lake	Western border of Talladega National Forest		PWS/S/F&W
Shoal Creek	Whitesides Mill Lake	Sweetwater Lake	S/F&W
Ladiga Creek	Terrapin Creek	Terrapin Creek	PWS

(7) **THE ESCATAWPA RIVER BASIN**

INTERSTATE WATERS

Stream	From	To	Classification
Big Creek	Alabama-Mississippi state line	Big Creek Reservoir	F&W
Big Creek	Big Creek Reservoir	Its source	PWS/F&W
ESCATAWPA RIVER	Alabama-Mississippi state line	Its source	S/F&W

INTRASTATE WATERS

Stream	From	To	Classification
Puppy Creek	ESCATAWPA RIVER	Its source	F&W

(8) **THE LOWER TOMBIGBEE RIVER BASIN**

INTERSTATE WATERS

Stream	From	To	Classification
TOMBIGBEE RIVER	MOBILE RIVER	One-half mile downstream from Southern Railway Crossing	F&W
TOMBIGBEE RIVER	One-half mile downstream from Southern Railway Crossing	Five miles upstream from U. S. Highway 43	PWS/S/F&W
TOMBIGBEE RIVER	Five miles upstream from U. S. Highway 43	Jackson Lock and Dam	F&W
TOMBIGBEE RIVER	Jackson Lock and Dam	Beach Bluff (River Mile 141)	S/F&W
TOMBIGBEE RIVER	Beach Bluff (River Mile 141)	One-half mile downstream from Alabama Highway 114	F&W[1]
TOMBIGBEE RIVER	One-half mile downstream from Alabama Highway 114	Three miles upstream from Alabama Highway 114	PWS/F&W[1]
TOMBIGBEE RIVER	Three miles upstream from Alabama Highway 114	Demopolis Lock and Dam	F&W[1]
TOMBIGBEE RIVER	Demopolis Lock and Dam	WARRIOR RIVER	S/F&W
Okatuppa Creek	TOMBIGBEE RIVER	Alabama-Mississippi state line	F&W
Bogueloosa Creek	Okatuppa Creek	Its source	F&W

[1] Applicable dissolved oxygen level below existing impoundments is 4.0 mg/l.

Stream	From	To	Classification
Tuckabum Creek	TOMBIGBEE RIVER	Alabama-Mississippi state line	F&W
Yantley Creek	Tuckabum Creek	Alabama-Mississippi state line	F&W
Sucarnoochee River	TOMBIGBEE RIVER	U. S. Highway 11	F&W
Sucarnoochee River	U. S. Highway 11	Five miles upstream from Livingston city limits	PWS/S/F&W
Sucarnoochee River	Five miles upstream from U. S. Highway 11	Alabama-Mississippi state line	F&W
Alamuchee Creek	Sucarnoochee River	Alabama-Mississippi state line	F&W
Toomsuba Creek	Alamuchee Creek	AT&N Railroad	F&W
Toomsuba Creek	AT&N Railroad	Alabama-Mississippi state line	PWS/F&W

INTRASTATE WATERS

Stream	From	To	Classification
Bilbo Creek	TOMBIGBEE RIVER	Its source	S/F&W
Bates Creek	Bilbo Creek	Its source	S/F&W
Lewis Creek	TOMBIGBEE RIVER	Its source	S/F&W
Bassetts Creek (Washington County)	TOMBIGBEE RIVER	Its source	S/F&W
Little Bassetts Creek (Washington County)	Bassetts Creek (Washington County)	Its source	F&W
Miles Creek	Little Bassetts Creek (Washington County)	Its source	F&W
Bassett Creek (Clarke County)	TOMBIGBEE RIVER	Its source	F&W

Stream	From	To	Classification
James Creek	Bassett Creek (Clarke Co.)	Its source	F&W
Jackson Creek	TOMBIGBEE RIVER	Its source	F&W
Satilpa Creek	TOMBIGBEE RIVER	Its source	S/F&W
Santa Bogue Creek	TOMBIGBEE RIVER	Its source	S/F&W
Turkey Creek	TOMBIGBEE RIVER	Its source	S/F&W
Bashi Creek	TOMBIGBEE RIVER	Its source	S/F&W
Tishlarka Creek	TOMBIGBEE RIVER	Its source	F&W
Wahalak Creek	Tishlarka Creek	Its source	F&W
Horse Creek	TOMBIGBEE RIVER	Its source	S/F&W
Beaver Creek	TOMBIGBEE RIVER	Its source	S/F&W
Kinterbish Creek	TOMBIGBEE RIVER	Its source	S/F&W
Chickasaw Bogue	TOMBIGBEE RIVER	Its source	F&W
Sycamore Creek	Chickasaw Bogue	Its source	F&W
Unnamed tributary southwest of York (Lake Louise)	Toomsuba Creek	Its source	PWS

(9) **THE MOBILE RIVER-MOBILE BAY BASIN**

INTERSTATE AND COASTAL WATERS

Stream	From	To	Classification
Mobile River and all other rivers, creeks, lakes of the Mobile River Delta and their tributaries except as otherwise designated			F&W
MOBILE RIVER	Barry Steam Plant	Tensaw River	PWS/F&W

Stream	From	To	Classification
MOBILE RIVER	Its mouth	Spanish River	LWF[4]
Tensaw River	Junction of Tensaw and Apalachee Rivers	Junction of Briar Lake	OAW/S/F&W
Tensaw River	Junction of Briar Lake	Junction of Tensaw Lake	OAW/F&W
Briar Lake	Junction of Tensaw River	Junction of Tensaw Lake	OAW/F&W
Tensaw Lake	Junction of Tensaw River	Bryant Landing	OAW/F&W
MOBILE BAY	West of a line drawn due south from the western shore of Chacaloochee Bay (Lat. 304047.3/ Long. 0875944.2)	A point due east of the mouth of Dog River (Lat. 303353.2/ Long. 0880515.3)	F&W
MOBILE BAY	South of a line drawn due east from the mouth of Dog River (Lat. 303353.2/ Long. 0880515.3) and east of a line drawn due south from the western shore of Chacaloochee Bay (Lat. 304047.3/ Long. 0875944.2) and all other portions of MOBILE BAY		S/F&W
MOBILE BAY	All that portion lying south of a line extending in an easterly direction from the south bank of East Fowl River at its mouth (Lat. 302703.1/ Long. 0880622.6) through lighted beacon (FL 2 seconds) (Lat. 302707.5/ Long. 0880539.3) to lighted beacon (FLG 4 seconds "23") (Lat. 302718.3/ Long. 0880058.3) at the Mobile Ship Channel thence in a northeasterly direction to Daphne (Bench Mark 157, Lat. 303607.5/ Long. 0875416.4)		SH/F&W

[4] For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 10 years ($7Q_{10}$) shall be the basis for applying the chronic aquatic life criteria.

Stream	From	To	Classification
Bon Secour Bay	In its entirety (east and south of a line connecting Mullet Point, Lat. 302435.0/ Long. 0875423.2, and Engineers Point, Lat. 301350.1/ Long. 0880126.2, at Fort Morgan)		SH/S/F&W
Mississippi Sound and contiguous waters excepting: that portion of Portersville Bay 1,000 feet on each side of a straight line connecting the shore at Bayou Coden to a lighted beacon (FLR 4 seconds "6") (Lat. 302231.2/ Long. 0881425.8) and lighted beacon (FL 4 seconds "1") (Lat. 302223.7/ Long. 0881434.8); that portion of Portersville Bay 1,000 feet on each side of a straight line connecting the shore at Bayou La Batre and lighted beacons (FR)(Lat. 302311.0/ Long. 0881609.6), and (FLR 4 seconds "6") (Lat.302105.2/1 Long. 0881702.2); and that portion of Bayou Aloe within 1,000 feet of the outfall (Lat. 301552.0/ Long. 0880702.1) of the Dauphin Island sewage treatment plant			SH/S/F&W
Waters excepted in foregoing description of Portersville Bay and contiguous waters			F&W
Oyster Bay and that portion of Bon Secour River west of a line drawn due north from the east bank of the inlet connecting Oyster Bay and Bon Secour River			SH/F&W
Coastal waters of the Gulf of Mexico contiguous to the State of Alabama			SH/S/F&W
Intracoastal Waterway	Bon Secour Bay	Alabama Highway 59	F&W
Bon Secour River	Bon Secour Bay	One mile upstream from first bridge above its mouth	S/F&W
Boggy Branch	Bon Secour River	Its source	S/F&W
Weeks Bay	Bon Secour Bay	Fish River	S/F&W[3]
Magnolia River	Weeks Bay	Its source	S/F&W
Fish River	Weeks Bay	Clay City	S/F&W
Turkey Branch	Fish River	Its source	S/F&W

[3]The special designation of Outstanding National Resource Water applies to this segment.

Appendix A

Stream	From	To	Classification
Waterhole Branch	Fish River	Its source	S/F&W
Cowpen Creek	Fish River	Its source	S/F&W
Point Clear Creek	MOBILE BAY	Its source	F&W
Fly Creek	MOBILE BAY	Its source	S/F&W
Rock Creek	MOBILE BAY	Its source	F&W
D'Olive Creek	D'Olive Bay	Its source	F&W
West Fowl River	Fowl River Bay	Its source	S/F&W
Bayou Coden	Portersville Bay	Its source	F&W
Bayou La Batre	Portersville Bay	Its source	F&W
Little River	Portersville Bay	Its source	F&W
East Fowl River	Fowl River	Its source	S/F&W
Fowl River	MOBILE BAY	Its source	S/F&W
Deer River and its forks	MOBILE BAY	Their sources	F&W
Dog River	MOBILE BAY	Halls Mill Creek	S/F&W
Halls Mill Creek	Dog River	Its source	F&W
Alligator Bayou	Dog River	Its source	F&W
Rabbit Creek	Dog River	Its source	F&W
Rattlesnake Bayou	Dog River	Its source	F&W
Robinson's Bayou	Dog River	Its source	F&W
Threemile Creek	MOBILE RIVER	Mobile Street	A&I
Industrial Canal	Threemile Creek	Its source	A&I

Stream	From	To	Classification
Chickasaw Creek	MOBILE RIVER	Limit of tidal effects (Highway 43)	LWF
Hog Bayou	Chickasaw Creek	Its source	F&W
Little Lagoon (Baldwin County)	In its entirety		SH/S/F&W
Bayou Sara	MOBILE RIVER	U. S. Highway 43	S/F&W
Bayou Sara	U. S. Highway 43	Its source	F&W
Gunnison Creek	Bayou Sara	Its source	S/F&W
Steele Creek	Gunnison Creek	Its source	S/F&W

NOTE: Waters of the Mobile River-Mobile Bay Basin classified for SWIMMING AND OTHER WHOLE BODY WATER-CONTACT SPORTS, SHELLFISH HARVESTING and/or FISH AND WILDLIFE in which natural conditions provide an appropriate habitat for shrimp and crabs are to be suitable for the propagation and harvesting of shrimp and crabs.

INTRASTATE WATERS

Stream	From	To	Classification
Bon Secour River	One mile upstream from first bridge above its mouth	Its source	S/F&W
Fish River	Clay City	Its source	S/F&W
Polecat Creek	Fish River	Its source	S/F&W
Corn Branch	Fish River	Its source	F&W
Threemile Creek	Mobile Street	Its source	A&I
Chickasaw Creek	Limit of tidal effects	Mobile College	F&W
Chickasaw Creek	Mobile College	Its source	S/F&W
Eight Mile Creek	Chickasaw Creek	City of Prichard's water supply intake	F&W

Stream	From	To	Classification
Eight Mile Creek	City of Prichard's water supply intake	U. S. Highway 45	PWS/F&W
Eight Mile Creek	U. S. Highway 45	Its source	F&W
Norton Creek	Bayou Sara	Its source	F&W
Martin Branch	Tensaw River	Its source	F&W
Cold Creek	MOBILE RIVER	Dam 1 1/2 miles west of U.S. Highway 43	F&W[2]
Cold Creek	Dam 1 1/2 miles west of U. S. Highway 43	Its source	PWS/F&W

(10) **THE PERDIDO/ESCAMBIA RIVER BASIN (TO INCLUDE THE BLACKWATER, CONECUH, PERDIDO, AND YELLOW RIVER SUB-BASINS)**

INTERSTATE WATERS OF THE BLACKWATER RIVER BASIN

Stream	From	To	Classification
BLACKWATER RIVER	Alabama-Florida state line	Its source	F&W
Big Juniper Creek	Alabama-Florida state line	Its source	F&W
Sweetwater Creek	Alabama-Florida state line	Its source	F&W
Rock Creek	Alabama-Florida state line	Its source	F&W
Boggy Hollow Creek	Alabama-Florida state line	Its source	F&W

INTERSTATE WATERS OF THE CONECUH RIVER BASIN

Stream	From	To	Classification

[2]Due to naturally occurring conditions, quality in this segment may not always be commensurate with the classification assigned.

Stream	From	To	Classification
CONECUH RIVER	Alabama-Florida state line	Point A Dam	F&W
CONECUH RIVER	Point A Dam	Head of Gantt Lake	S/F&W
CONECUH RIVER	Head of Gantt Lake	Its source	F&W
Little Escambia Creek	Alabama-Florida state line	Its source	F&W
Big Escambia Creek	Alabama-Florida state line	Its source	F&W
Pine Barren Creek	Alabama-Florida state line	Its source	F&W
Dixon Creek	Alabama-Florida state line	Its source	F&W
Canoe Creek	Alabama-Florida state line	Its source	F&W
Reedy Creek	Alabama-Florida state line	Its source	F&W
Beaver Dam Creek	Alabama-Florida state line	Its source	F&W

INTRASTATE WATERS OF THE CONECUH RIVER BASIN

Stream	From	To	Classification
Murder Creek	CONECUH RIVER	Its source	F&W
Sandy Creek	Murder Creek	Its source	F&W
Burnt Corn Creek	Murder Creek	Its source	S/F&W
Sepulga River	CONECUH RIVER	Its source	F&W
Pigeon Creek	Sepulga River	Its source	F&W
Unnamed Tributary	Pigeon Creek	Its source	F&W

Stream	From	To	Classification
Persimmon Creek	Sepulga River	Its source	F&W
Rocky Creek	Persimmon Creek	Its source	F&W
Prestwood Creek	CONECUH RIVER	Its source	F&W
Unnamed Tributary west of Andalusia	CONECUH RIVER	Its source	F&W
Patsaliga Creek	CONECUH RIVER	Its source	F&W
Little Patsaliga Creek	Patsaliga Creek	Its source	S/F&W
Double Branch	CONECUH RIVER	Its source	F&W
Sizemore Creek	Big Escambia Creek	Its source	S/F&W
Wet Weather Creek	Sizemore Creek	Its source	F&W

INTERSTATE AND COASTAL WATERS OF THE PERDIDO RIVER BASIN

Stream	From	To	Classification
PERDIDO BAY and all connecting coves and bayous	Gulf of Mexico	Its source	S/F&W/SH
Intracoastal Waterway	Alabama Highway 59	Wolf Bay	F&W
Wolf Bay and all connecting coves and bayous	Intracoastal Waterway	Moccasin Bayou	OAW/S/F&W/SH
Wolf Bay and all connecting coves and bayous	Moccasin Bayou	Its source	S/F&W/SH
Bay La Launch and all connecting coves and bayous	Wolf Bay	Arnica Bay	S/F&W/SH

Stream	From	To	Classification
Arnica Bay and all connecting coves and bayous	Bay La Launch	PERDIDO BAY	S/F&W/SH
Miflin Creek	Wolf Bay	Limit of tidal effects	S/F&W
Hammock Creek	Wolf Bay	Limit of tidal effects	S/F&W
Palmetto Creek	PERDIDO BAY	Its source	S/F&W
Spring Branch	PERDIDO BAY	Its source	S/F&W
Soldier Creek	PERDIDO BAY	Its source	S/F&W
PERDIDO RIVER	PERDIDO BAY	Its source	F&W
Perdido Creek	PERDIDO RIVER	Its source	F&W
Brushy Creek	Alabama-Florida state line	Its source	F&W
Shelby Lakes	Within Gulf State Park		S/F&W
Coastal waters of the Gulf of Mexico Contiguous to the State of Alabama			S/F&W/SH

NOTE: Waters of the Perdido River Basin classified for SWIMMING AND OTHER WHOLE BODY WATER-CONTACT SPORTS, SHELLFISH HARVESTING and/or FISH AND WILDLIFE in which natural conditions provide an appropriate habitat for shrimp and crabs are to be suitable for the propagation and harvesting of shrimp and crabs.

INTRASTATE WATERS OF THE PERDIDO RIVER BASIN

Stream	From	To	Classification
Wolf Creek	Wolf Bay	Its source	F&W
Sandy Creek	Wolf Bay	Its source	S/F&W
Miflin Creek	Limit of tidal effects	Its source	F&W
BLACKWATER RIVER	PERDIDO RIVER	Its source	F&W

Stream	From	To	Classification
Negro Creek	BLACKWATER RIVER	Its source	F&W
Rock Creek	BLACKWATER RIVER	Its source	F&W
Styx River	PERDIDO RIVER	Hollinger Creek	F&W
Styx River	Hollinger Creek	Its source	S/F&W
Hollinger Creek	Styx River	Its source	F&W
Dyas Creek	PERDIDO RIVER	Its source	S/F&W

INTERSTATE WATERS OF THE YELLOW RIVER BASIN

Stream	From	To	Classification
YELLOW RIVER	Alabama-Florida state line	Its source	F&W
Pond Creek	Alabama-Florida state line	Its source	F&W
Big Creek	Alabama-Florida state line	Its source	F&W
Horsehead Creek	Alabama-Florida state line	Its source	F&W
Fleming Creek	Alabama-Florida state line	Its source	F&W
Lake Jackson	Within Florala and north of Alabama-Florida state line		S/F&W

INTRASTATE WATERS OF THE YELLOW RIVER BASIN

Stream	From	To	Classification
Five Runs Creek	YELLOW RIVER	Its source	F&W
Indian Creek	YELLOW RIVER	Its source	F&W
Lightwood Knot Creek	YELLOW RIVER	Its source	F&W
Cameron Creek	Lightwood Knot Creek	Its source	F&W
Bay Branch	Five Runs Creek	Its source	F&W
Blue Lake	Within Conecuh National Forest		S/F&W
Open Pond	Within Conecuh National Forest		S/F&W
Dowdy Pond	Within Conecuh National Forest		S/F&W

(11) **THE TALLAPOOSA RIVER BASIN**

INTERSTATE WATERS

Stream	From	To	Classification
TALLAPOOSA RIVER	ALABAMA RIVER	U. S. Highway 231	F&W
TALLAPOOSA RIVER	U. S. Highway 231	Thurlow Dam	PWS/F&W
TALLAPOOSA RIVER (Thurlow Lake)	Thurlow Dam	Yates Dam	PWS/S/F&W
TALLAPOOSA RIVER (Yates Lake)	Yates Dam	Martin Dam	PWS/S/F&W
TALLAPOOSA RIVER (Lake Martin)	Martin Dam	Highway 280	S/F&W
TALLAPOOSA RIVER (Lake Martin)	Highway 280	Hillabee Creek	PWS/S/F&W
TALLAPOOSA RIVER	Hillabee Creek	R.L. Harris Dam	F&W
TALLAPOOSA RIVER (R.L. Harris Lake)	R.L. Harris Dam	Four miles upstream of Randolph County Road 88 (Lee Bridge)	S/F&W
TALLAPOOSA RIVER	Four miles upstream of Randolph County Road 88 (Lee Bridge)	One-half mile upstream of Cleburne County Road 36	F&W
TALLAPOOSA RIVER	One-half mile upstream of Cleburne County Road 36	Cleburne County Road 19	PWS/F&W
TALLAPOOSA RIVER	Cleburne County Road 19	Alabama-Georgia state line	F&W
Little Tallapoosa River (R.L. Harris Lake)	TALLAPOOSA RIVER (R.L. Harris Lake)	U.S. Highway 431	S/F&W

Stream	From	To	Classification
Little Tallapoosa River (R.L. Harris Lake)	U.S. Highway 431	Five miles upstream of U.S. Highway 431	PWS/S/F&W
Little Tallapoosa River	Five miles upstream of U.S. Highway 431	Alabama-Georgia state line	F&W

INTRASTATE WATERS

Stream	From	To	Classification
Oakfuskee Creek (Line Creek)	TALLAPOOSA RIVER	Its source	F&W
Old Town Creek	Oakfuskee Creek (Line Creek)	Its source	F&W
Cubahatchee Creek	TALLAPOOSA RIVER	Its source	S/F&W
Calebee Creek	TALLAPOOSA RIVER	Its source	F&W
Uphapee Creek	TALLAPOOSA RIVER	Its source	F&W
Bulger Creek	Uphapee Creek	Its source	PWS/F&W
Parkerson Mill Creek	Chewacla Creek	Its source	F&W
Chewacla Creek	Uphapee Creek	Chewacla State Park Lake (Moore's Mill Creek)	F&W
Chewacla Creek	Chewacla State Park Lake (Moore's Mill Creek)	Its source	PWS/F&W
Moore's Mill Creek	Chewacla Creek (Dam at Chewacla State Park Lake)	Its source	S/F&W
Sougahatchee Creek	TALLAPOOSA RIVER (Yates Lake)	Sougahatchee Lake Dam	F&W

Stream	From	To	Classification
Sougahatchee Creek	Sougahatchee Lake Dam	Its source	PWS/F&W
Pepperell Branch	Sougahatchee Creek	Its source	F&W
Head Creek	Sougahatchee Creek	Its source	F&W
Little Kowaliga Creek (Lake Martin)	Big Kowaliga Creek (Lake Martin)	Reservoir Limits	PWS/S/F&W
Sandy Creek	TALLAPOOSA RIVER (Lake Martin)	Its source	F&W
Chattasofka Creek	Sandy Creek	Its source	F&W
North Fork of Sandy Creek	Sandy Creek	Its source	F&W
Little Sandy Creek	Sandy Creek	Central of Georgia RR	F&W
Little Sandy Creek	Central of Georgia RR	Its source	PWS/F&W
Manoy Creek (Lake Martin)	TALLAPOOSA RIVER (Lake Martin)	Reservoir Limits	PWS/S/F&W
Elkahatchee Creek	TALLAPOOSA RIVER (Lake Martin)	Alabama Highway 63	F&W
Elkahatchee Creek	Alabama Highway 63	Alabama Highway 22	PWS/F&W
Elkahatchee Creek	Alabama Highway 22	Its source	F&W
Harold Creek	Elkahatchee Creek	Its source	F&W
Sugar Creek	Elkahatchee Creek	Its source	F&W
Coley Creek	TALLAPOOSA RIVER (Lake Martin)	Its source	F&W
Hillabee Creek	TALLAPOOSA RIVER	Jct. of Oaktasasi and Town Creeks	F&W
Hillabee Creek	Jct. of Oaktasasi and Town Creeks	County road bridge 3 miles east of Hackneyville	PWS/F&W

Stream	From	To	Classification
Hillabee Creek	County road bridge 3 miles east of Hackneyville	Its source	F&W
Oaktasasi Creek	Hillabee Creek	Its source	F&W
Christian Creek	Oaktasasi Creek	Its source	F&W
Dobbs Creek	Oaktasasi Creek	Its source	F&W
Town Creek	Hillabee Creek	Its source	F&W
Hackney Creek	Town Creek	Its source	PWS/F&W
Chatahospee Creek	TALLAPOOSA RIVER	Its source	F&W
Mill Creek	Chatahospee Creek	Its source	F&W
Finley Creek	Mill Creek	Its source	PWS/F&W
High Pine Creek	TALLAPOOSA RIVER	Highway 431 Crossing	F&W
High Pine Creek	Highway 431 crossing	Its source	PWS
Jones Creek	High Pine Creek	Its source	PWS
Unnamed tributary to Jones Creek northwest of Roanoke	Jones Creek	Its source	PWS
Graves Creek	High Pine Creek	Its source	F&W
Town Creek	High Pine Creek	Its source	F&W
Hutton Creek	TALLAPOOSA RIVER	Its source	F&W
Beaverdam Creek	TALLAPOOSA RIVER	Its source	F&W
Crooked Creek	TALLAPOOSA RIVER	Alabama Highway 9	F&W

Stream	From	To	Classification
Crooked Creek	Alabama Highway 9	Its source	PWS/F&W
Horsetrough Creek	Crooked Creek	Its source	F&W
Wedowee Creek	Little Tallapoosa River	Its source	F&W
Cahulga Creek	TALLAPOOSA RIVER	U. S. Highway 78	F&W
Cahulga Creek	U .S. Highway 78	Its source	PWS/F&W

(12) **THE TENNESSEE RIVER BASIN**

INTERSTATE WATERS

Stream	From	To	Classification
TENNESSEE RIVER Pickwick Lake	Alabama-Tennessee state line	Lower end of Seven Mile Island	PWS/S/F&W
TENNESSEE RIVER Pickwick Lake	Lower end of Seven Mile Island	Sheffield water intake	F&W
TENNESSEE RIVER Pickwick Lake	Sheffield water intake	Wilson Dam	PWS/F&W
TENNESSEE RIVER Wilson Lake	Wilson Dam	Wheeler Dam	PWS/S/F&W
TENNESSEE RIVER Wheeler Lake	Wheeler Dam	Five miles upstream of Elk River (RM 289.3)	PWS/S/F&W
TENNESSEE RIVER Wheeler Lake	Five miles upstream of Elk River (RM 289.3)	U. S. Highway 31 (see Note 1 this basin)	S/F&W
TENNESSEE RIVER Wheeler Lake	U. S. Highway 31	Flint Creek	PWS/S/F&W
TENNESSEE RIVER Wheeler Lake	Flint Creek	Cotaco Creek	S/F&W
TENNESSEE RIVER Wheeler Lake	Cotaco Creek	Indian Creek	PWS/S/F&W

Stream	From	To	Classification
TENNESSEE RIVER Wheeler Lake	Indian Creek	Flint River	PWS/F&W
TENNESSEE RIVER Wheeler Lake	Flint River	Guntersville Dam	S/F&W
TENNESSEE RIVER Guntersville Lake	Guntersville Dam	Upper end of Buck's Island (see Note 2 this basin)	PWS/S/F&W
TENNESSEE RIVER Guntersville Lake	Upper end of Buck's Island	Roseberry Creek	S/F&W
TENNESSEE RIVER Guntersville Lake	Roseberry Creek	Alabama-Tennessee state line (see Note 3 this basin)	PWS/S/F&W
Bear Creek	Alabama-Mississippi state line	Bear Creek Lake Dam	F&W
Bear Creek (Bear Creek Lake)	Bear Creek Lake Dam	Alabama Highway 187	PWS/S/F&W
Bear Creek	Alabama Highway 187	Upper Bear Creek Lake Dam	S/F&W
Bear Creek (Upper Bear Creek Lake)	Upper Bear Creek Lake Dam	Alabama Highway 243	PWS/S/F&W
Bear Creek	Alabama Highway 243	Its source	F&W
Cedar Creek	Bear Creek	Alabama-Mississippi state line	F&W
Cedar Creek	Alabama-Mississippi state line	Cedar Creek Lake Dam	F&W
Cedar Creek (Cedar Creek Lake)	Cedar Creek Lake Dam	Alabama Highway 24	PWS/S/F&W
Cedar Creek	Alabama Highway 24	Its source	F&W
Bear Creek	U. S. Highway 72	Alabama-Mississippi state line	F&W

Stream	From	To	Classification
Bear Creek	TENNESSEE RIVER (Pickwick Lake)	U. S. Highway 72	S/F&W
Second Creek	TENNESSEE RIVER (Pickwick Lake)	Alabama-Tennessee state line	F&W
Cypress Creek	TENNESSEE RIVER (Pickwick Lake)	City of Florence Water Treatment Plant	F&W
Cypress Creek	City of Florence Water Treatment Plant	Little Cypress Creek	PWS/F&W
Cypress Creek	Little Cypress Creek	Alabama-Tennessee state line	F&W
Little Cypress Creek	Cypress Creek	Alabama-Tennessee state line	F&W
Shoal Creek	TENNESSEE RIVER (Wilson Lake)	Indian Camp Creek	S/F&W
Shoal Creek	Indian Camp Creek	Alabama-Tennessee state line	F&W
Bluewater Creek	TENNESSEE RIVER (Wilson Lake)	U. S. Highway 72	S/F&W
Bluewater Creek	U. S. Highway 72	Alabama-Tennessee state line	F&W
Second Creek	TENNESSEE RIVER (Wheeler Lake)	First bridge upstream from U. S. Highway 72	S/F&W
Second Creek	First bridge upstream from U. S. Highway 72	Alabama-Tennessee state line	F&W
Elk River	TENNESSEE RIVER (Wheeler Lake)	Alabama Highway 99	S/F&W
Elk River	Alabama Highway 99	Alabama-Tennessee state line	PWS/F&W
Piney Creek	TENNESSEE RIVER (Wheeler Lake)	Alabama-Tennessee state line	F&W

Stream	From	To	Classification
Limestone Creek	TENNESSEE RIVER (Wheeler Lake)	Alabama-Tennessee state line	F&W
Flint River	TENNESSEE RIVER (Wheeler Lake)	Big Cove Creek	F&W
Flint River	Big Cove Creek	Hurricane Creek	PWS/F&W
Flint River	Hurricane Creek	Alabama-Tennessee state line	F&W
Paint Rock River (including Estill and Larkin Forks)	TENNESSEE RIVER (Wheeler Lake)	Alabama-Tennessee state line	F&W
Crow Creek	TENNESSEE RIVER (Guntersville Lake)	Alabama-Tennessee state line	F&W
Lookout Creek	Alabama-Georgia state line	Junction of East Fork Lookout Creek and West Fork Lookout Creek	S/F&W

NOTE 1. That portion of Wheeler Lake in the immediate vicinity of the discharge from the City of Decatur's sewage treatment plant is not considered suitable for SWIMMING AND OTHER WHOLE BODY WATER-CONTACT SPORTS.

NOTE 2. Those portions of Guntersville Lake in the immediate vicinity of discharges from the City of Guntersville's sewage treatment plants are not considered suitable for SWIMMING and OTHER WHOLE BODY WATER-CONTACT SPORTS nor for sources of PUBLIC WATER SUPPLY.

NOTE 3. That portion of Guntersville Lake in the immediate vicinity of the discharge of sewage from the City of Bridgeport is not considered suitable for use as a source of PUBLIC WATER SUPPLY nor for SWIMMING AND OTHER WHOLE BODY WATER-CONTACT SPORTS.

INTRASTATE WATERS

Stream	From	To	Classification
Little Bear Creek (Franklin County)	Cedar Creek	Little Bear Creek Lake Dam	S/F&W

Stream	From	To	Classification
Little Bear Creek (Little Bear Creek Lake, Franklin County)	Little Bear Creek Lake Dam	Alabama Highway 187	PWS/S/F&W
Little Bear Creek (Franklin County)	Alabama Highway 187	Its source	S/F&W
Dunkin Creek	Cedar Creek	Its source	PWS
Little Bear Creek	Bear Creek	Its source	PWS/S/F&W
Mud Creek	Cedar Creek	Its source	F&W
Flat Creek	Bear Creek	Its source	F&W
Cane Creek	TENNESSEE RIVER	Its source	S/F&W
Little Bear Creek (Colbert County)	TENNESSEE RIVER	Its source	S/F&W
Stinking Bear Creek	Little Bear Creek (Colbert County)	Its source	F&W
Spring Creek (Colbert County)	TENNESSEE RIVER	Its source	F&W
Cox Creek	Cypress Creek	Its source	F&W
Pond Creek	TENNESSEE RIVER	Its source	A&I
Town Creek	TENNESSEE RIVER	Its source	F&W
Big Nance Creek	TENNESSEE RIVER	Its source	F&W
Muddy Fork	Big Nance Creek	Crow Branch	A&I
Crow Branch	Muddy Fork	Its source	A&I
Clear Fork	Big Nance Creek	Its source	F&W
Sinking Creek	Clear Fork	Its source	PWS/F&W
First Creek	TENNESSEE RIVER	Its source	S/F&W

Stream	From	To	Classification
Spring Creek (Lawrence County)	TENNESSEE RIVER	Its source	F&W
Swan Creek	TENNESSEE RIVER	Highway 24 crossing	F&W
Swan Creek	Highway 24 crossing	Town Creek	A&I
Swan Creek	Town Creek	Its source	F&W
Town Creek (Athens)	Swan Creek	Its source	F&W
Flint Creek	TENNESSEE RIVER	L & N Railroad	F&W
Flint Creek	L & N Railroad	Alabama Highway 36	PWS/F&W
Flint Creek	Alabama Highway 36	Shoal Creek	LWF[4]
Flint Creek	Shoal Creek	Its source	F&W
Shoal Creek	Flint Creek	Its source	F&W
Cotaco Creek	TENNESSEE RIVER	Its source	S/F&W
Mill Pond Creek	Cotaco Creek	Junction with Gilliam Creek	F&W
Gilliam Creek	Mill Pond Creek	Its source	F&W
Bradford Creek	Barren Fork Creek	Its source	F&W
Indian Creek	TENNESSEE RIVER	Its source	F&W
Huntsville Spring Branch	Indian Creek	Its source	F&W
Aldridge Creek	TENNESSEE RIVER	Its source	F&W
Hurricane Creek	Flint River	Its source	F&W
Sand Branch	Hurricane Creek	Its source	F&W

[4] For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 10 years ($7Q_{10}$) shall be the basis for applying the chronic aquatic life criteria.

Stream	From	To	Classification
Short Creek	TENNESSEE RIVER	Scarham Creek	PWS/F&W
Short Creek	Scarham Creek	Its source	F&W
Drum Creek	Short Creek	Its source	F&W
East Fork of Drum Creek	Drum Creek	Its source	F&W
Turkey Creek	Short Creek	Its source	F&W
Town Creek (DeKalb County)	TENNESSEE RIVER	Its source	F&W
South Sauty Creek	TENNESSEE RIVER	Its source	S/F&W
North Sauty Creek	TENNESSEE RIVER	Its source	PWS
Roseberry Creek	TENNESSEE RIVER	Its source	F&W
Coon-Flat Rock Creek	TENNESSEE RIVER	Its source	S/F&W
Widow's Creek	TENNESSEE RIVER	Its source	S/F&W
Long Island Creek	TENNESSEE RIVER	Long Creek	PWS/S/F&W
Long Island Creek	Long Creek	Its source	S/F&W
Turkey Creek	Clear Fork	Its source	PWS/F&W
Bengis Creek	Town Creek	Its source	F&W

(13) **THE UPPER TOMBIGBEE RIVER BASIN**

INTERSTATE WATERS

Stream	From	To	Classification
TOMBIGBEE RIVER	Junction with WARRIOR RIVER	Cobb Creek	S/F&W
TOMBIGBEE RIVER	Cobb Creek	Gainesville Lock and Dam	F&W

Stream	From	To	Classification
TOMBIGBEE RIVER (Gainesville and Aliceville Lakes)	Gainesville Lock and Dam	Alabama-Mississippi state line	S/F&W
Noxubee River	TOMBIGBEE RIVER	Alabama-Mississippi state line	F&W
Bodka Creek	Noxubee River	Alabama-Mississippi state line	F&W
Yellow Creek	At Alabama-Mississippi state line		PWS
Yellow Creek	Alabama-Mississippi state line	Its source	F&W
Buttahatchee River	Alabama-Mississippi state line	U.S. Hwy. 278 one mile east of junction of U.S. Highways 43 and 78 in Hamilton	F&W
Buttahatchee River	U.S. Hwy. 278 one mile east of junction of U.S Highways 43 and 78 in Hamilton	U.S. Hwy. 278 seven miles east of junction of U.S. Highways 43 and 78 in Hamilton	PWS/F&W
Buttahatchee River	U.S. Hwy. 278 seven miles east of junction of U.S. Highways 43 and 78 in Hamilton	Lake Buttahatchee Dam	F&W
Buttahatchee River	Lake Buttahatchee Dam	Head of backwaters of Lake Buttahatchee	S
Buttahatchee River	Head of backwaters of Lake Buttahatchee	Its source	F&W
Bull Mountain Creek	Alabama-Mississippi state line	Its source	F&W
Sipsey Creek	Alabama-Mississippi state line	Its source	F&W
Luxapallila Creek	At Alabama-Mississippi state line		PWS

Stream	From	To	Classification
Luxapallila Creek	Alabama-Mississippi state line	County Road 37	F&W
Luxapallila Creek	County Road 37	County road crossing approximately 6 miles upstream from Alabama Highway 18	PWS/F&W
Luxapallila Creek	County road crossing approximately 6 miles upstream from Alabama Highway 18	U.S. Highway 78	F&W
Luxapallila Creek	U. S. Highway 78	Its source	PWS/F&W

INTRASTATE WATERS

Stream	From	To	Classification
Sipsey River	TOMBIGBEE RIVER	U. S. Highway 43	F&W
Sipsey River	U. S. Highway 43	Alabama Highway 102	PWS/F&W
Sipsey River	Alabama Highway 102	Its source	F&W
New River	Sipsey River	Its source	F&W
Little New River	Sipsey River	Its source	F&W
Lubbub Creek	TOMBIGBEE RIVER	Its source	F&W
Bear Creek	Lubbub Creek	Its source	F&W
Little Bear Creek	Bear Creek	Its source	F&W
Coal Fire Creek	TOMBIGBEE RIVER	Its source	S/F&W
Bogue Creek	Buttahatchee River	Its source	F&W
Beaver Creek	Buttahatchee River	U. S. Highway 78	F&W
Beaver Creek	U. S. Highway 78	Its source	PWS/F&W
Purgatory Creek	Beaver Creek	U. S. Highway 278	F&W

Stream	From	To	Classification
Purgatory Creek	U. S. Highway 278	Its source	PWS/F&W
Camp Creek	Buttahatchee River	Its source	F&W
East Branch Luxapallila Creek	Luxapallila Creek At Winfield	Its source	PWS/F&W
Moore Creek	Buttahatchee River	Its source	F&W

(14) THE WARRIOR RIVER BASIN

INTRASTATE WATERS

Stream	From	To	Classification
WARRIOR RIVER	TOMBIGBEE RIVER	Five miles upstream from Big Prairie Creek	S/F&W
WARRIOR RIVER	Five miles upstream from Big Prairie Creek	Eight miles upstream from Big Prairie Creek	PWS/S/F&W
WARRIOR RIVER	Eight miles upstream from Big Prairie Creek	Warrior Lock and Dam	S/F&W
WARRIOR RIVER	Warrior Lock and Dam	Oliver Lock and Dam	F&W
WARRIOR RIVER	Oliver Lock and Dam	Hurricane Creek	F&W[1]
WARRIOR RIVER	Hurricane Creek	Bankhead Lock and Dam	S/F&W[1]
WARRIOR RIVER	Bankhead Lock and Dam	Junction of Locust and Mulberry Forks	PWS/S/F&W
Locust Fork	Junction of Locust and Mulberry Forks	Jefferson County Highway 61 (Maxine)	PWS/S/F&W
Locust Fork	Jefferson County Highway 61 (Maxine)	U. S. Highway 31	F&W
Locust Fork	U. S. Highway 31	County road between Hayden and County Line	PWS/F&W
Locust Fork	County road between Hayden and County Line	Its source	F&W
Mulberry Fork	Junction of Locust and Mulberry Forks	Burnt Cane Creek (9 miles below Cordova)	PWS/S/F&W
Mulberry Fork	Burnt Cane Creek (9 miles below Cordova)	Frog Ague Creek (Cordova)	PWS/F&W

[1]Applicable dissolved oxygen level below existing impoundments is 4.0 mg/l.

Stream	From	To	Classification
Mulberry Fork	Frog Ague Creek (Cordova)	Junction of Mulberry and Sipsey Forks	PWS/F&W
Mulberry Fork	Junction of Mulberry and Sipsey Forks	Its source	F&W
Sipsey Fork	Junction of Mulberry and Sipsey Forks	Lewis Smith Dam	PWS/F&W
Lake Lewis Smith on Sipsey Fork	Lewis Smith Dam	Three miles upstream from Lewis Smith Dam	PWS/S/F&W
Lake Lewis Smith on Sipsey Fork	Three miles upstream from Lewis Smith Dam	Reservoir limits	S/F&W
Sipsey Fork	Lake Lewis Smith	Sandy Creek	F&W
Sipsey Fork and tributaries	Sandy Creek	Its source	F&W[3]
Big Prairie Creek	Head of backwater above Demopolis Lock and Dam on WARRIOR RIVER	Its source	F&W
Cottonwood Creek	Big Prairie Creek	Its source	F&W
White Creek	WARRIOR RIVER	Its source	F&W
Big Brush Creek	WARRIOR RIVER	Its source	F&W
Colwell Creek	Big Brush Creek	Its source	F&W
Minter Creek	WARRIOR RIVER	Its source	F&W
Five Mile Creek	WARRIOR RIVER	Payne Lake in Talladega National Forest	F&W
Payne Lake in Talladega National Forest			S
Elliotts Creek	WARRIOR RIVER	Its source	F&W

[3] The special designation of Outstanding National Resource Water applies to this segment.

Stream	From	To	Classification
Cypress Creek	WARRIOR RIVER	Its source	F&W
North River	WARRIOR RIVER	City of Tuscaloosa's water supply reservoir dam	F&W
North River	City of Tuscaloosa's water supply reservoir dam	Binnion Creek	PWS/S
North River	Binnion Creek	Its source	F&W
Binnion Creek	North River	Its source	F&W
Cedar Creek	North River	Its source	F&W
Clear Creek	North River	Bugs Lake Dam	F&W
Clear Creek	Bugs Lake Dam	Its source	PWS
Hurricane Creek	WARRIOR RIVER	Its source	F&W
Yellow Creek	WARRIOR RIVER	City of Tuscaloosa's water supply reservoir dam	F&W
Yellow Creek	City of Tuscaloosa's water supply reservoir dam	Its source	PWS
Davis Creek	WARRIOR RIVER	Its source	F&W
Blue Creek	WARRIOR RIVER	Its source	F&W
Big Yellow Creek	WARRIOR RIVER	Its source	S/F&W
Valley Creek	WARRIOR RIVER	Blue Creek	F&W
Valley Creek	Blue Creek	Its source	LWF
Opossum Creek	Valley Creek	Its source	A&I
Village Creek	Locust Fork	Bayview Lake Dam	F&W

Stream	From	To	Classification
Village Creek	Bayview Lake Dam	Its source	LWF
Fivemile Creek	Locust Fork	Its source	F&W
Turkey Creek	Locust Fork	Its source	F&W
Cunningham Branch	Turkey Creek	Its source	F&W
Self Creek	Locust Fork	Town of Bradford's water supply intake	F&W
Self Creek	Town of Bradford's water supply intake	Its source	PWS
Gurley Creek	Self Creek	Its source	F&W
Little Warrior River	Locust Fork	Junction of Blackburn Fork and Calvert Prong	F&W
Calvert Prong	Little Warrior River	City of Oneonta's water supply intake	F&W
Calvert Prong	City of Oneonta's water supply intake	Its source	PWS
Blackburn Fork	Little Warrior River	Inland Lake Dam	F&W
Blackburn Fork	Inland Lake Dam	Its source	PWS/S
Chitwood Creek	Calvert Prong	Its source (junction with Mill and Cheney Branch)	F&W
Mill Creek	Chitwood Creek	Its source	F&W
Graves Creek	Locust Fork	Its source	F&W
Whippoorwill Creek	Locust Fork	Its source	F&W
Clear Creek	Locust Fork	Its source	F&W
Slab Creek	Locust Fork	Its source	F&W
Lost Creek	Mulberry Fork	Two miles upstream from Wolf Creek	F&W

Stream	From	To	Classification
Lost Creek	Two miles upstream from Wolf Creek	Cane Creek	PWS/F&W
Lost Creek	Cane Creek	Its source	F&W
Cane Creek (Oakman)	Lost Creek	Dixie Springs Road	F&W
Cane Creek (Oakman)	Dixie Springs Road	Alabama Highway 69	LWF
Cane Creek (Oakman)	Alabama Highway 69	Its source	F&W
Indian Creek	Lost Creek	Its source	F&W
Wolf Creek	Lost Creek	Its source	F&W
Burnt Cane Creek	Mulberry Fork	Its source	F&W
Cane Creek (Jasper)	Mulberry Fork	Town Creek	LWF
Cane Creek (Jasper)	Town Creek	Its source	F&W
Town Creek	Cane Creek	100 yards upstream of Southern Railway crossing (1.1 miles upstream of Cane Creek)	LWF
Town Creek	100 yards upstream of Southern Railway crossing (1.1 miles upstream of Cane Creek)	Its source	F&W
Blackwater Creek	Mulberry Fork	Its source	F&W
Mud Creek	Mulberry Fork	Its source	F&W
Broglen River	Mulberry Fork	Junction of Eightmile and Brindley Creeks	F&W
Brindley Creek	Broglen River	Its source	PWS
Eightmile Creek	Broglen River	Cullman water supply reservoir dam	F&W

Stream	From	To	Classification
Eightmile Creek	Cullman water supply reservoir dam	Its source	PWS
Pope Creek	Cullman water supply dam	Its source	PWS
Blue Springs Creek	Mulberry Fork	Its source	F&W
Warrior Creek	Mulberry Fork	Its source	F&W
Tibb Creek	Warrior Creek	Its source	F&W
Riley Maze Creek	Tibb Creek	Its source	F&W
Ryan Creek	Lake Lewis Smith	Its source	F&W
Crooked Creek	Lake Lewis Smith	Its source	F&W
Brushy Creek	Lake Lewis Smith (Sipsey Fork)	U.S. Highway 278	PWS/F&W
Brushy Creek	U.S. Highway 278	Its source	F&W
Clear Creek	Lake Lewis Smith	City of Haleyville water supply reservoir dam	F&W
Clear Creek	City of Haleyville water supply reservoir dam	Its source	PWS
Rock Creek	Lake Lewis Smith	Its source	F&W
Sandy Creek	Sipsey Fork	Its source	F&W
Curtis Mill Creek	Sandy Creek	Town of Double Springs water supply reservoir dam	F&W
Curtis Mill Creek	Town of Double Springs water supply reservoir dam	Its source	PWS

Author: James E. McIndoe.

Statutory Authority: Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.
History: Adopted: May 5, 1967. **Amended:** June 19, 1967; April 1, 1970; October 16, l972; September 17, 1973; May 30, 1977; August 29, 1977; December 19, 1977; February 4, 1981; April 5, 1982; December 11, 1985; March 26, 1986; August 26, 1988; March 2, 1990; April 3, 1991; August 1, 1991; April 2, 1992; May 28, 1992; February 1, 1993; September 23, 1993; August 29, 1994; May 30, 1997; July 14, 1999; September 7, 2000; January 12, 2001; June 28, 2002; April 3, 2003; January 28, 2004; May 27, 2004; September 21, 2005; May 29, 2007.

Appendix B

Categorization of Alabama Waters

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
				Category 1 Lake and Reservoirs					
AL03150201-0706-100	Alabama River	Alabama	S/F&W	Robert F. Henry Lock and Dam	Pintlalla Creek	1	6156.78	acres	Woodruff Lake
AL03150201-0501-100	Alabama River	Alabama	F&W	Pintlalla Creek	Autauga Creek	1	1702.4	acres	Woodruff Lake
AL03150201-0107-100	Alabama River	Alabama	F&W	Autauga Creek	Its source	1	6258.78	acres	Woodruff Lake
AL03150201-1101-102	Valley Creek Lake	Alabama	S/F&W	Within Paul M. Grist State Park		1	64	acres	Valley Creek Lake
AL03150203-0701-100	Alabama River	Alabama	S/F&W	Millers Ferry Lock and Dam	Chilatchee Creek	1	11564.75	acres	Dannelly Reservoir
AL03160110-0506-101	Sipsey Fork	Black Warrior	PWS/S/F&W	Lewis Smith Dam	Three miles upstream from Lewis Smith Dam	1	1269.96	acres	Smith Lake
AL03160110-0506-102	Sipsey Fork	Black Warrior	S/F&W	Three miles upstream from Lewis Smith Dam	Grindstone Creek	1	18392.26	acres	Smith Lake
AL03160110-0301-102	Clear Creek	Black Warrior	PWS	City of Haleyville water supply reservoir dam	Its source	1	21.3	acres	
AL03160111-0207-101	Blackburn Fork	Black Warrior	PWS	Inland Lake Dam	end of embayment	1	1389.78	acres	Inland Lake
AL03160111-0207-103	Blackburn Fork	Black Warrior	PWS	Highland Lake Dam	end of embayment	1	315.81	acres	Highland Lake
AL03160112-0504-101	Black Warrior River	Black Warrior	F&W	Oliver Lock and Dam	Hurricane Creek	1	556.93	acres	Oliver Lake
AL03160112-0504-102	Black Warrior River	Black Warrior	S/F&W	Hurricane Creek	Holt Lock and Dam	1	57.98	acres	Oliver Lake
AL03160112-0305-100	Black Warrior River	Black Warrior	S/F&W	Holt Lock and Dam	Bankhead Lock and Dam	1	3149.63	acres	Holt Lake
AL03160112-0203-100	Black Warrior River	Black Warrior	PWS/S/F&W	Bankhead Lock and Dam	Its source	1	4112.01	acres	Bankhead Lake
AL03160113-0806-100	Black Warrior River	Black Warrior	S/F&W	Tombigbee River	Five miles upstream of Big Prarie Creek	1	2074.06	acres	Demopolis Lake
AL03160113-0607-100	Black Warrior River	Black Warrior	F&W	Warrior Lock and Dam	Oliver Lock and Dam	1	5583.16	acres	Warrior Lake
AL03160113-0401-102	Fivemile Creek	Black Warrior	S	Payne Lake		1	111.54	acres	Payne Lake
AL03150202-0103-102	Little Cahaba River	Cahaba	PWS	Lake Purdy dam	Head of Lake Purdy	1	961.95	acres	Purdy Lake
AL03150202-0202-110	Oak Mountain State Park Lakes	Cahaba	PWS	Within Oak Mountain State Park		1	166.73	acres	
AL03130002-1306-101	Chattahoochee River	Chattahoochee	PWS/S/F&W	Oliver Dam	Goat Rock Dam	1	334.3	acres	Oliver Lake
AL03130002-1306-102	Chattahoochee River	Chattahoochee	PWS/S/F&W	Goat Rock Dam	Bartletts Ferry Dam	1	131.2	acres	Oliver Lake
AL03130002-1109-101	Chattahoochee River	Chattahoochee	PWS/S/F&W	Bartletts Ferry Dam	Osanippa Creek	1	2327.29	acres	Harding Lake
AL03130002-1109-102	Chattahoochee River	Chattahoochee	F&W	Osanippa Creek	Johnson Island	1	200.89	acres	Harding Lake
AL03130002-0808-101	Chattahoochee River	Chattahoochee	PWS	West Point Dam	West Point Lake Limits in Alabama	1	2201.43	acres	West Point Lake
AL03130003-1600-100	Chattahoochee River	Chattahoochee	S/F&W	Walter F. George Lock and Dam	Cowikee Creek	1	10069.4	acres	Walter F. George Reservoir
AL03130003-0905-100	Chattahoochee River	Chattahoochee	F&W	Cowikee Creek	Cliatt Branch	1	3761.02	acres	Walter F. George Reservoir
AL03150106-0604-402	Hillabee Creek	Coosa	PWS/S/F&W	Hillabee Lake		1	180.88	acres	Hillabee Lake
AL03150106-0602-102	Shoal Creek	Coosa	PWS/S/F&W	Whitesides Mill Lake		1	251.75	acres	Whitesides Mill Lake
AL03150106-0602-104	Shoal Creek	Coosa	S/F&W	Highrock Lake		1	13.95	acres	Highrock Lake
AL03150106-0602-106	Shoal Creek	Coosa	PWS/S/F&W	Sweetwater Lake		1	54.97	acres	Sweetwater Lake
AL03150106-0602-400	Coleman Lake	Coosa	S/F&W	Coleman Lake		1	19.46	acres	Coleman Lake
AL03150106-0606-200	Salt Creek Lake	Coosa	S/F&W	Salt Creek Lake		1	1.73	acres	Salt Creek Lake
AL03150106-0608-102	Cheaha Creek	Coosa	S/F&W	Lake Chinnabee		1	13.94	acres	Chinnabee Lake
AL03150107-0901-100	Coosa River	Coosa	S/F&W	Jordan Dam	Mitchell Dam	1	6043.89	acres	Jordan Lake
AL03150107-0201-102	Tallaseehatchee Creek	Coosa	PWS/F&W	City of Sylacauga's water supply dam	End of embayment	1	135.97	acres	Lake Howard
AL03150107-0201-104	Tallaseehatchee Creek	Coosa	PWS/F&W	Lake Virginia dam	End of embayment	1	126.74	acres	Lake Virginia
AL03140107-0204-200	Shelby Lakes	Perdido-Escambia	S/F&W	Within Gulf State Park		1	802	acres	
AL03150108-0506-100	Tallapoosa River	Tallapoosa	S/F&W	Little Tallapoosa River	4 miles upstream of Randolph County Road 88	1	2151.73	acres	Harris Reservoir
AL03150108-1006-100	Little Tallapoosa River	Tallapoosa	S/F&W	Tallapoosa River	US Highway 431	1	3042.57	acres	Harris Reservoir
AL03150109-0505-100	Tallapoosa River	Tallapoosa	S/F&W	Martin Dam	US Highway 280	1	34400.04	acres	Martin Lake
AL03150109-0502-102	Tallapoosa River	Tallapoosa	PWS/S/F&W	US Highway 280	Hillabee Creek	1	2025.57	acres	Martin Lake
AL03150109-0105-102	Tallapoosa River	Tallapoosa	S/F&W	R. L. Harris Dam	Little Tallapoosa River	1	5356.95	acres	Harris Reservoir
AL03150109-0702-201	Little Kowaliga Creek	Tallapoosa	PWS/S/F&W	Big Kowaliga Creek	End of embayment	1	2634.38	acres	Martin Lake

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03150109-0504-201	Manoy Creek	Tallapoosa	PWS/S/F&W	Tallapoosa River	End of embayment	1	618.88	acres	Martin Lake
AL06030001-0905-100	Tennessee River	Tennessee	PWS/S/F&W	Guntersville Dam	upper end of Buck Island	1	18517.7	acres	Guntersville Lake
AL06030001-0901-102	Tennessee River	Tennessee	S/F&W	upper end of Buck Island	Roseberry Creek	1	29974.56	acres	Guntersville Lake
AL06030001-0505-102	Tennessee River	Tennessee	PWS/S/F&W	Roseberry Creek	Alabama-Tennessee state line	1	15870.95	acres	Guntersville Lake
AL06030002-1205-100	Tennessee River	Tennessee	PWS/S/F&W	Wheeler Dam	five miles upstream of Elk River (RM 289.3)	1	15168.18	acres	Wheeler Lake
AL06030002-1108-102	Tennessee River	Tennessee	S/F&W	five miles upstream of Elk River (RM 289.3)	US Highway 31	1	20633.11	acres	Wheeler Lake
AL06030002-1102-102	Tennessee River	Tennessee	PWS/S/F&W	US Highway 31	Flint Creek	1	2587.33	acres	Wheeler Lake
AL06030002-1102-103	Tennessee River	Tennessee	S/F&W	Flint Creek	Cotaco Creek	1	8928.57	acres	Wheeler Lake
AL06030002-0904-102	Tennessee River	Tennessee	PWS/S/F&W	Cotaco Creek	Indian Creek	1	334.49	acres	Wheeler Lake
AL06030002-0904-103	Tennessee River	Tennessee	PWS/F&W	Indian Creek	Flint River	1	3531.35	acres	Wheeler Lake
AL06030002-0902-100	Tennessee River	Tennessee	S/F&W	Flint River	Guntersville Dam	1	1345.77	acres	Wheeler Lake
AL06030004-0105-102	Elk River	Tennessee	S/F&W	Anderson Creek	Alabama Highway 99	1	3114.4	acres	Wheeler Lake
AL06030005-1203-100	Tennessee River	Tennessee	PWS/S/F&W	Alabama-Tennessee state line	lower end of Seven Mile Island	1	25902.67	acres	Pickwick Lake
AL06030005-0808-103	Tennessee River	Tennessee	F&W	lower end of Seven Mile Island	Sheffield water intake	1	2424.33	acres	Pickwick Lake
AL06030005-0808-104	Tennessee River	Tennessee	PWS/F&W	Sheffield water intake	Wilson Dam	1	1170.03	acres	Pickwick Lake
AL06030005-0801-100	Tennessee River	Tennessee	PWS/S/F&W	Wilson Dam	Wheeler Dam	1	15534.74	acres	Wilson Lake
AL06030006-0203-102	Cedar Creek	Tennessee	PWS/S/F&W	Cedar Creek Lake Dam	end of embayment	1	4063.07	acres	Cedar Creek Lake
AL03160106-0611-101	Tombigbee River	Tombigbee (Upper)	S/F&W	Black Warrior River	Cobb Creek	1	1859.82	acres	Demopolis Lake
AL03160106-0611-102	Tombigbee River	Tombigbee (Upper)	F&W	Cobb Creek	Heflin Lock and Dam	1	2078.31	acres	Demopolis Lake
AL03160106-0601-102	Tombigbee River	Tombigbee (Upper)	S/F&W	Heflin Lock and Dam	Bevill Lock and Dam	1	5152.69	acres	Gainesville Lake
AL03160201-0908-100	Tombigbee River	Tombigbee (Lower)	S/F&W	Coffeeville Lock and Dam	Beach Bluff (RM 141)	1	2461.03	acres	Coffeeville Lake
AL03160201-0906-102	Tombigbee River	Tombigbee (Lower)	F&W	Beach Bluff (RM 141)	1/2 mile downstream from Alabama Highway 114	1	2077.05	acres	Coffeeville Lake
AL03160201-0408-102	Tombigbee River	Tombigbee (Lower)	PWS/F&W	1/2 mile downstream from Alabama Highway 114	3 miles upstream from Alabama Highway 114	1	196.1	acres	Coffeeville Lake
AL03160201-0408-103	Tombigbee River	Tombigbee (Lower)	F&W	3 miles upstream from Alabama Highway 114	Demopolis Lock and Dam	1	2006.46	acres	Coffeeville Lake
AL03160201-0401-102	Tombigbee River	Tombigbee (Lower)	S/F&W	Demopolis Lock and Dam	Black Warrior River	1	545.48	acres	Demopolis Lake
Category 1 Rivers and Streams									
AL03150201-1207-101	Alabama River	Alabama	S/F&W	Cahaba River	Six Mile Creek	1	5.36	miles	
AL03150201-1207-102	Alabama River	Alabama	F&W	Six Mile Creek	Robert F. Henry Lock and Dam	1	42.43	miles	
AL03150201-0104-301	Three Mile Branch	Alabama	F&W	Galbraith Mill Creek	Lower Wetumpka Rd	1	0.24	miles	
AL03150201-0105-300	Mill Creek	Alabama	F&W	Still Creek	Its source	1	8.86	miles	
AL03150201-0202-100	Bridge Creek	Alabama	F&W	Autauga Creek	Its source	1	12.03	miles	
AL03150201-0603-100	Swift Creek	Alabama	S/F&W	Alabama River	Its source	1	41.03	miles	
AL03150201-1005-102	Mulberry Creek	Alabama	F&W	Harris Branch	Its source	1	23.95	miles	
AL03150201-1004-100	Buck Creek	Alabama	F&W	Mulberry Creek	Its source	1	21.39	miles	
AL03150201-1102-101	Valley Creek	Alabama	F&W	Alabama River	Selma-Summerfield Road	1	7.27	miles	
AL03150201-1102-102	Valley Creek	Alabama	S/F&W	Selma-Summerfield Road	Valley Creek Lake	1	15.22	miles	
AL03150201-1101-103	Valley Creek	Alabama	S/F&W	Valley Creek Lake	Its source	1	6.07	miles	
AL03150201-1203-100	Soapstone Creek	Alabama	F&W	Alabama River	Its source	1	17.52	miles	
AL03150203-0402-102	Alabama River	Alabama	S/F&W	Chilatchee Creek	Cahaba River	1	29.96	miles	
AL03150203-0304-100	Chaney Creek	Alabama	F&W	Bogue Chitto Creek	Its source	1	17.17	miles	
AL03150203-0506-100	Pine Barren Creek	Alabama	S/F&W	Alabama River	Its source	1	68.71	miles	
AL03150203-0603-200	Cub Creek	Alabama	F&W	Beaver Creek	Its source	1	12.94	miles	
AL03150204-0701-100	Alabama River	Alabama	F&W	Mobile River	Claiborne Lock and Dam	1	80.85	miles	
AL03150204-0104-100	Silver Creek	Alabama	F&W	Alabama River	Its source	1	13.42	miles	
AL03160109-0203-100	Marriott Creek	Black Warrior	F&W	Mulberry Fork	Its source	1	14.1	miles	
AL03160109-0206-500	Rice Creek	Black Warrior	F&W	Mulberry Fork	Its source	1	8.6	miles	
AL03160109-0401-100	Mill Creek	Black Warrior	F&W	Lost Creek	Its source	1	11.44	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03160109-0602-801	Town Creek	Black Warrior	LWF	Lost Creek	100 yards upstream of Southern Railway crossing	1	1.1	miles	
AL03160109-0602-101	Cane Creek	Black Warrior	LWF	Mulberry Fork	Town Creek	1	10.58	miles	
AL03160110-0507-100	Sipsey Fork	Black Warrior	PWS/F&W	Mulberry Fork	Lewis Smith Dam	1	13.92	miles	
AL03160110-0104-102	Sipsey Fork	Black Warrior	F&W	Grindstone Creek	Sandy Creek	1	0.89	miles	
AL03160110-0104-103	Sipsey Fork	Black Warrior	F&W	Sandy Creek	Its source	1	21.23	miles	ONRW
AL03160110-0104-500	Sandy Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	10.83	miles	
AL03160110-0103-105	unnamed tributaries to Sipsey Fork	Black Warrior	F&W	Sipsey Fork	Their source	1	28.32	miles	ONRW
AL03160110-0101-105	unnamed tributaries to Sipsey Fork	Black Warrior	F&W	Sipsey Fork	Their source	1	9.69	miles	ONRW
AL03160110-0103-200	Payne Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	3.89	miles	ONRW
AL03160110-0103-205	unnamed tributaries to Payne Creek	Black Warrior	F&W	Payne Creek	Their source	1	6.11	miles	ONRW
AL03160110-0103-300	Caney Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	4.66	miles	ONRW
AL03160110-0103-305	unnamed tributaries to Caney Creek	Black Warrior	F&W	Caney Creek	Their source	1	10.21	miles	ONRW
AL03160110-0103-400	Hurricane Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	2.29	miles	ONRW
AL03160110-0103-405	unnamed tributaries to Hurricane Creek	Black Warrior	F&W	Hurricane Creek	Their source	1	2.56	miles	ONRW
AL03160110-0103-500	Davis Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	2.83	miles	ONRW
AL03160110-0103-505	unnamed tributaries to Davis Creek	Black Warrior	F&W	Davis Creek	Their source	1	8.94	miles	ONRW
AL03160110-0103-600	North Fork Caney Creek	Black Warrior	F&W	Caney Creek	Its source	1	6.38	miles	ONRW
AL03160110-0103-605	unnamed tributaries to North Fork Caney Creek	Black Warrior	F&W	North Fork Caney Creek	Their source	1	19.65	miles	ONRW
AL03160110-0103-700	South Fork Caney Creek	Black Warrior	F&W	Caney Creek	Its source	1	5.04	miles	ONRW
AL03160110-0103-705	unnamed tributaries to South Fork Caney Creek	Black Warrior	F&W	South Fork Caney Creek	Their source	1	8.69	miles	ONRW
AL03160110-0103-800	Lloyds Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	1.11	miles	ONRW
AL03160110-0103-805	unnamed tributaries to Lloyds Creek	Black Warrior	F&W	Lloyds Creek	Their source	1	0.62	miles	ONRW
AL03160110-0103-900	Sweetwater Creek	Black Warrior	F&W	Caney Creek	Its source	1	1.23	miles	ONRW
AL03160110-0103-905	unnamed tributaries to Sweetwater Creek	Black Warrior	F&W	Sweetwater Creek	Their source	1	0.7	miles	ONRW
AL03160110-0102-100	Borden Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	16.61	miles	ONRW
AL03160110-0102-105	unnamed tributaries to Borden Creek	Black Warrior	F&W	Borden Creek	Their source	1	23.35	miles	ONRW
AL03160110-0102-200	Braziel Creek	Black Warrior	F&W	Borden Creek	Its source	1	5.69	miles	ONRW
AL03160110-0102-205	unnamed tributaries to Braziel Creek	Black Warrior	F&W	Braziel Creek	Their source	1	13.77	miles	ONRW
AL03160110-0102-300	Flannagin Creek	Black Warrior	F&W	Borden Creek	Its source	1	9.99	miles	ONRW
AL03160110-0102-305	unnamed tributaries to Flannagin Creek	Black Warrior	F&W	Flannagin Creek	Their source	1	15.49	miles	ONRW
AL03160110-0102-400	Horse Creek	Black Warrior	F&W	Borden Creek	Its source	1	1.76	miles	ONRW
AL03160110-0102-405	unnamed tributaries to Horse Creek	Black Warrior	F&W	Horse Creek	Their source	1	2.3	miles	ONRW
AL03160110-0102-500	Montgomery Creek	Black Warrior	F&W	Borden Creek	Its source	1	3.99	miles	ONRW
AL03160110-0102-505	unnamed tributaries to Montgomery Creek	Black Warrior	F&W	Montgomery Creek	Their source	1	8.99	miles	ONRW
AL03160110-0102-600	Hagood Creek	Black Warrior	F&W	Braziel Creek	Its source	1	4.23	miles	ONRW
AL03160110-0102-605	unnamed tributaries to Hagood Creek	Black Warrior	F&W	Hagood Creek	Their source	1	7.57	miles	ONRW
AL03160110-0102-700	Dry Creek	Black Warrior	F&W	Flannagin Creek	Its source	1	2.17	miles	ONRW
AL03160110-0102-705	unnamed tributaries to Dry Creek	Black Warrior	F&W	Dry Creek	Their source	1	2.8	miles	ONRW
AL03160110-0101-200	Fall Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	2.06	miles	ONRW
AL03160110-0101-205	unnamed tributaries to Fall Creek	Black Warrior	F&W	Fall Creek	Their source	1	0.7	miles	ONRW
AL03160110-0101-300	Bee Branch	Black Warrior	F&W	Sipsey Fork	Its source	1	2.09	miles	ONRW
AL03160110-0101-305	unnamed tributaries to Bee Branch	Black Warrior	F&W	Bee Branch	Their source	1	2.95	miles	ONRW
AL03160110-0101-400	Thompson Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	8.59	miles	ONRW
AL03160110-0101-405	unnamed tributaries to Thompson Creek	Black Warrior	F&W	Thompson Creek	Their source	1	15.29	miles	ONRW
AL03160110-0101-500	Hubbard Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	6.59	miles	ONRW
AL03160110-0101-505	unnamed tributaries to Hubbard Creek	Black Warrior	F&W	Hubbard Creek	Their source	1	5.3	miles	ONRW
AL03160110-0101-600	Tedford Creek	Black Warrior	F&W	Thompson Creek	Its source	1	3.68	miles	ONRW
AL03160110-0101-605	unnamed tributaries to Tedford Creek	Black Warrior	F&W	Tedford Creek	Their source	1	10.4	miles	ONRW
AL03160110-0101-700	Mattox Creek	Black Warrior	F&W	Thompson Creek	Its source	1	3.26	miles	ONRW
AL03160110-0101-705	unnamed tributaries to Mattox Creek	Black Warrior	F&W	Mattox Creek	Their source	1	7.73	miles	ONRW
AL03160110-0101-800	Ross Branch	Black Warrior	F&W	Tedford Creek	Its source	1	2.06	miles	ONRW
AL03160110-0101-805	unnamed tributaries to Ross Branch	Black Warrior	F&W	Ross Branch	Their source	1	2.07	miles	ONRW
AL03160110-0101-900	Quillan Creek	Black Warrior	F&W	Hubbard Creek	Its source	1	3.77	miles	ONRW

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03160110-0101-905	unnamed tributaries to Quillan Creek	Black Warrior	F&W	Quillan Creek	Their source	1	6.68	miles	ONRW
AL03160110-0101-110	Parker Branch	Black Warrior	F&W	Hubbard Creek	Its source	1	3.82	miles	ONRW
AL03160110-0101-115	unnamed tributaries to Parker Branch	Black Warrior	F&W	Parker Branch	Their source	1	3.35	miles	ONRW
AL03160110-0101-120	Whitman Creek	Black Warrior	F&W	Hubbard Creek	Its source	1	3.73	miles	ONRW
AL03160110-0101-125	unnamed tributaries to Whitman Creek	Black Warrior	F&W	Whitman Creek	Their source	1	4.53	miles	ONRW
AL03160110-0101-130	Maxwell Creek	Black Warrior	F&W	Hubbard Creek	Its source	1	2.02	miles	ONRW
AL03160110-0101-135	unnamed tributaries to Maxwell Creek	Black Warrior	F&W	Maxwell Creek	Their source	1	1.55	miles	ONRW
AL03160110-0101-140	Basin Creek	Black Warrior	F&W	Hubbard Creek	Its source	1	2.81	miles	ONRW
AL03160110-0101-145	unnamed tributaries to Basin Creek	Black Warrior	F&W	Basin Creek	Their source	1	4.39	miles	ONRW
AL03160110-0101-150	Dunn Branch	Black Warrior	F&W	Maxwell Creek	Its source	1	1.33	miles	ONRW
AL03160110-0101-160	Natural Well Branch	Black Warrior	F&W	Maxwell Creek	Its source	1	1.45	miles	ONRW
AL03160110-0101-165	unnamed tributary to Natural Well Branch	Black Warrior	F&W	Natural Well Branch	Its source	1	0.6	miles	ONRW
AL03160110-0101-170	White Oak Branch	Black Warrior	F&W	Thompson Creek	Its source	1	1.69	miles	ONRW
AL03160110-0101-175	unnamed tributaries to White Oak Branch	Black Warrior	F&W	White Oak Branch	Their source	1	0.61	miles	ONRW
AL03160110-0101-180	Wolf Pen Branch	Black Warrior	F&W	Sipsey Fork	Its source	1	1	miles	ONRW
AL03160110-0101-190	Ugly Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	3.05	miles	ONRW
AL03160110-0101-195	unnamed tributaries to Ugly Creek	Black Warrior	F&W	Ugly Creek	Their source	1	4.46	miles	ONRW
AL03160110-0203-102	Brushy Creek	Black Warrior	PWS/F&W	Lake Lewis Smith	Highway 278	1	1.13	miles	
AL03160110-0201-200	Rush Creek	Black Warrior	F&W	Brushy Creek	Its source	1	9.06	miles	
AL03160110-0202-200	Capsey Creek	Black Warrior	F&W	Brushy Creek	Its source	1	13.47	miles	
AL03160110-0203-110	Inman Creek	Black Warrior	F&W	Brushy Creek	Its source	1	5.79	miles	
AL03160110-0408-100	Rock Creek	Black Warrior	F&W	Sipsey Fork	end of embayment	1	17.36	miles	
AL03160110-0402-100	Rock Creek	Black Warrior	F&W	Blevens Creek	Its source	1	14.43	miles	
AL03160110-0407-100	Crooked Creek	Black Warrior	F&W	Rock Creek	end of embayment	1	7.35	miles	
AL03160110-0407-201	White Oak Creek	Black Warrior	F&W	Rock Creek	end of embayment	1	3.21	miles	
AL03160110-0407-202	White Oak Creek	Black Warrior	F&W	Lake Lewis Smith	Its source	1	7.72	miles	
AL03160111-0202-102	Locust Fork	Black Warrior	F&W	Blount County Road 30	Its source	1	42.64	miles	
AL03160111-0208-100	Little Warrior River	Black Warrior	F&W	Locust Fork	Its source	1	6.98	miles	
AL03160111-0206-101	Calvert Prong	Black Warrior	F&W	Little Warrior River	Whited Creek	1	13.05	miles	
AL03160111-0206-102	Calvert Prong	Black Warrior	PWS	Whited Creek	Its source	1	14.3	miles	
AL03160111-0208-200	Blackburn Fork	Black Warrior	F&W	Little Warrior River	Inland Lake Dam	1	11.63	miles	
AL03160111-0207-102	Blackburn Fork	Black Warrior	PWS	Inland Lake	Highland Lake Dam	1	3.33	miles	
AL03160111-0207-104	Blackburn Fork	Black Warrior	PWS	Highland Lake	Its source	1	6.42	miles	
AL03160111-0208-150	Hendrick Mill Branch	Black Warrior	F&W	Blackburn Fork	Its source	1	3.91	miles	
AL03160111-0305-100	Gurley Creek	Black Warrior	F&W	Locust Fork	Its source	1	23.07	miles	
AL03160111-0412-100	Short Creek	Black Warrior	F&W	Locust Fork	Its source	1	9.34	miles	
AL03160112-0403-100	Binion Creek	Black Warrior	F&W	North River	Its source	1	18.07	miles	
AL03160112-0403-500	Barbee Creek	Black Warrior	F&W	Binion Creek	Its source	1	10.29	miles	
AL03160112-0404-600	Bear Creek	Black Warrior	F&W	North River	Its source	1	11.12	miles	
AL03160112-0404-800	Tyro Creek	Black Warrior	F&W	North River	Its source	1	12.67	miles	
AL03160113-0202-100	South Sandy Creek	Black Warrior	F&W	Big Sandy Creek	Its source	1	14.86	miles	
AL03160113-0401-103	Fivemile Creek	Black Warrior	F&W	Payne Lake	Its source	1	5.04	miles	
AL03150202-0902-100	Cahaba River	Cahaba	OAW/S	Alabama River	Alabama Highway 82	1	89.5	miles	
AL03150202-0102-100	Big Black Creek	Cahaba	F&W	Cahaba River	Its source	1	16.45	miles	
AL03150202-0103-101	Little Cahaba River	Cahaba	PWS	Cahaba River	Lake Purdy dam	1	4.82	miles	
AL03150202-0103-103	Little Cahaba River	Cahaba	F&W	Head of Lake Purdy	Its source	1	13.75	miles	
AL03150202-0201-500	Little Shades Creek	Cahaba	F&W	Cahaba River	Its source	1	7.4	miles	
AL03150202-0202-102	Buck Creek	Cahaba	LWF	Cahaba Valley Creek	Shelby County Road 44	1	6.02	miles	
AL03150202-0302-201	Mud Creek	Cahaba	F&W	Shades Creek	Tannehill Iron Works	1	3.68	miles	
AL03150202-0404-100	Little Cahaba River	Cahaba	OAW/F&W	Cahaba River	Its source	1	16.54	miles	
AL03150202-0404-300	Fourmile Creek	Cahaba	F&W	Little Cahaba River	Its source	1	5.64	miles	
AL03150202-0401-200	Mayberry Creek	Cahaba	F&W	Shoal Creek	Its source	1	8.51	miles	
AL03150202-0603-200	Goose Creek	Cahaba	F&W	Cahaba River	Its source	1	7.67	miles	
AL03150202-0702-400	Silver Creek	Cahaba	F&W	Cahaba River	Its source	1	3.76	miles	
AL03150202-0802-700	Holsombech Creek	Cahaba	F&W	Oakmulgee Creek	Its source	1	5.55	miles	
AL03150202-0804-100	Little Oakmulgee Creek	Cahaba	S	Oakmulgee Creek	Its source	1	18.69	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03130002-0908-101	Chattahoochee River	Chattahoochee	F&W	Johnson Island	West Point Manufacturing Company water supply intake at Lanett	1	12.56	miles	
AL03130002-0908-102	Chattahoochee River	Chattahoochee	PWS	West Point Manufacturing Company water supply intake at Lanett	West Point Dam	1	4.2	miles	
AL03130002-0806-102	Wehadkee Creek	Chattahoochee	F&W	Alabama-Georgia state line	Its source	1	24.66	miles	
AL03130002-0903-400	Barrow Creek	Chattahoochee	F&W	Oseligee Creek	Its source	1	7.54	miles	
AL03130002-0902-100	Wells Creek	Chattahoochee	F&W	Oseligee Creek	Its source	1	12.6	miles	
AL03130002-0901-200	Finley Creek	Chattahoochee	F&W	Oseligee Creek	Its source	1	4.72	miles	
AL03130002-1107-100	Osanippa Creek	Chattahoochee	F&W	Chattahoochee River	Its source	1	29.2	miles	
AL03130002-1104-100	Wildcat Creek	Chattahoochee	F&W	Osanippa Creek	Its source	1	7.15	miles	
AL03130002-1104-200	Snapper Creek	Chattahoochee	F&W	Wildcat Creek	Its source	1	13.1	miles	
AL03130002-1108-100	Halawakee Creek	Chattahoochee	PWS/F&W	Chattahoochee River	Three miles upstream of County Road 79	1	8.53	miles	
AL03130002-1106-100	Halawakee Creek	Chattahoochee	F&W	Three miles upstream of County Road 79	Its source	1	16.57	miles	
AL03130003-0502-600	Adams Branch	Chattahoochee	F&W	Uchee Creek	Its source	1	6.62	miles	
AL03130003-0605-100	Ihagee Creek	Chattahoochee	S/F&W	Chattahoochee River	Its source	1	15.73	miles	
AL03130003-0804-100	Hatchechubbee Creek	Chattahoochee	S/F&W	Chattahoochee River	Russell County Highway 4	1	14.79	miles	
AL03130003-0802-102	Hatchechubbee Creek	Chattahoochee	F&W	Russell County Highway 4	Its source	1	17.12	miles	
AL03130003-1204-100	South Fork of Cowikee Creek	Chattahoochee	S/F&W	Cowikee Creek	Its source	1	32.51	miles	
AL03130003-1205-200	North Fork of Cowikee Creek	Chattahoochee	F&W	Cowikee Creek	Its source	1	43.85	miles	
AL03130003-1103-100	Middle Fork of Cowikee Creek	Chattahoochee	S/F&W	North Fork of Cowikee Creek	Its source	1	48.33	miles	
AL03130004-0104-100	McRae Mill Creek	Chattahoochee	F&W	Chattahoochee River	Its source	1	7.62	miles	
AL03130004-0206-100	Bennett Mill Creek	Chattahoochee	F&W	Chattahoochee River	Its source	1	5.88	miles	
AL03130004-0601-201	Poplar Spring Branch	Chattahoochee	F&W	Omusee Creek	Ross Clark Circle	1	2.13	miles	
AL03130004-0701-100	Cedar Creek	Chattahoochee	F&W	Chattahoochee River	Its source	1	11.51	miles	
AL03140201-0208-100	East Fork Choctawhatchee River	Choctawhatchee	F&W	Choctawhatchee River	Blackwood Creek	1	7.34	miles	
AL03140201-0205-100	East Fork Choctawhatchee River	Choctawhatchee	S/F&W	Blackwood Creek	Its source	1	47.03	miles	
AL03140201-0208-300	Seabes Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	1	7.16	miles	
AL03140201-0603-100	Bear Creek	Choctawhatchee	F&W	Little Choctawhatchee River	Its source	1	11.41	miles	
AL03140202-0905-100	Pea River	Choctawhatchee	F&W	Choctawhatchee River	Its source	1	157.23	miles	
AL03140202-0106-100	Dry Creek	Choctawhatchee	F&W	Pea River	Its source	1	6.29	miles	
AL03140202-0404-100	Clearwater Creek	Choctawhatchee	F&W	Pea River	Its source	1	10.07	miles	
AL03140202-0509-100	Whitewater Creek	Choctawhatchee	F&W	Pea River	Its source	1	41.95	miles	
AL03140202-0502-101	Walnut Creek	Choctawhatchee	F&W	Whitewater Creek	Pike County Road 59	1	3.58	miles	
AL03140202-0502-103	Walnut Creek	Choctawhatchee	F&W	Walters Branch	Its source	1	6.5	miles	
AL03150105-0206-600	UT to Ballplay Creek	Coosa	F&W	Ballplay Creek	Its source	1	5.29	miles	
AL03150105-0502-100	Mills Creek	Coosa	F&W	Chattooga River	Alabama-Georgia state line	1	21.59	miles	
AL03150105-0806-100	Little River	Coosa	PWS/S/F&W	Coosa River	Its source	1	22.19	miles	ONRW
AL03150105-0801-105	unnamed tributaries to Little River	Coosa	PWS/S/F&W	Little River	Their source	1	29.23	miles	ONRW
AL03150105-0806-105	unnamed tributaries to Little River	Coosa	PWS/S/F&W	Little River	Their source	1	42.86	miles	ONRW
AL03150105-0703-100	East Fork Little River	Coosa	PWS/S/F&W	Little River	Its source	1	9.55	miles	ONRW
AL03150105-0703-105	unnamed tributaries to East Fork Little River	Coosa	PWS/S/F&W	East Fork Little River	Their source	1	19.75	miles	ONRW
AL03150105-0702-101	Middle Fork Little River	Coosa	PWS/S/F&W	East Fork Little River	Alabama-Georgia state line	1	2.44	miles	ONRW
AL03150105-0702-105	unnamed tributaries to Middle Fork Little River	Coosa	PWS/S/F&W	Middle Fork Little River	Their source	1	2.91	miles	ONRW
AL03150105-0702-200	Brush Creek	Coosa	PWS/S/F&W	Middle Fork Little River	Its source	1	3.04	miles	ONRW
AL03150105-0702-205	unnamed tributaries to Brush Creek	Coosa	PWS/S/F&W	Brush Creek	Their source	1	5.79	miles	ONRW
AL03150105-0702-300	Anna Branch	Coosa	PWS/S/F&W	Middle Fork Little River	Its source	1	2.18	miles	ONRW
AL03150105-0702-305	unnamed tributaries to Anna Branch	Coosa	PWS/S/F&W	Anna Branch	Their source	1	1.62	miles	ONRW
AL03150105-0702-400	Blalock Branch	Coosa	PWS/S/F&W	Anna Branch	Its source	1	3.46	miles	ONRW

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03150105-0702-405	unnamed tributaries to Blalock Branch	Coosa	PWS/S/F&W	Blalock Branch	Their source	1	2.15	miles	ONRW
AL03150105-0702-500	Stillhouse Branch	Coosa	PWS/S/F&W	Blalock Branch	Its source	1	1.09	miles	ONRW
AL03150105-0702-505	unnamed tributaries to Stillhouse Branch	Coosa	PWS/S/F&W	Stillhouse Branch	Their source	1	0.79	miles	ONRW
AL03150105-0703-200	Laurel Creek	Coosa	PWS/S/F&W	East Fork Little River	Its source	1	3.97	miles	ONRW
AL03150105-0703-205	unnamed tributaries to Laurel Creek	Coosa	PWS/S/F&W	Laurel Creek	Their source	1	4.43	miles	ONRW
AL03150105-0703-300	Gilbert Branch	Coosa	PWS/S/F&W	East Fork Little River	Its source	1	1.83	miles	ONRW
AL03150105-0703-305	unnamed tributaries to Gilbert Branch	Coosa	PWS/S/F&W	Gilbert Branch	Their source	1	1.66	miles	ONRW
AL03150105-0703-400	Shrader Branch	Coosa	PWS/S/F&W	Laurel Creek	Its source	1	1.95	miles	ONRW
AL03150105-0703-405	unnamed tributaries to Shrader Branch	Coosa	PWS/S/F&W	Shrader Branch	Their source	1	1.33	miles	ONRW
AL03150105-0703-500	Armstrong Branch	Coosa	PWS/S/F&W	Laurel Creek	Its source	1	1.75	miles	ONRW
AL03150105-0703-505	unnamed tributaries to Armstrong Branch	Coosa	PWS/S/F&W	Armstrong Branch	Their source	1	4.13	miles	ONRW
AL03150105-0705-100	West Fork Little River	Coosa	PWS/S/F&W	Little River	Alabama-Georgia state line	1	18.87	miles	ONRW
AL03150105-0705-105	unnamed tributaries to West Fork Little River	Coosa	PWS/S/F&W	West Fork Little River	Their source	1	41.51	miles	ONRW
AL03150105-0704-201	East Fork West Fork Little River	Coosa	PWS/S/F&W	West Fork Little River	Alabama-Georgia state line	1	0.47	miles	ONRW
AL03150105-0705-200	Straight Creek	Coosa	PWS/S/F&W	West Fork Little River	Its source	1	4.45	miles	ONRW
AL03150105-0705-205	unnamed tributaries to Straight Creek	Coosa	PWS/S/F&W	Straight Creek	Their source	1	3.77	miles	ONRW
AL03150105-0705-300	Sharp Branch	Coosa	PWS/S/F&W	West Fork Little River	Its source	1	1.39	miles	ONRW
AL03150105-0705-305	unnamed tributaries to Sharp Branch	Coosa	PWS/S/F&W	Sharp Branch	Its source	1	0.67	miles	ONRW
AL03150105-0705-400	Seymour Branch	Coosa	PWS/S/F&W	West Fork Little River	Its source	1	2.48	miles	ONRW
AL03150105-0801-200	Hurricane Creek	Coosa	PWS/S/F&W	Little River	Its source	1	6.67	miles	ONRW
AL03150105-0801-205	unnamed tributaries to Hurricane Creek	Coosa	PWS/S/F&W	Hurricane Creek	Their source	1	11.69	miles	ONRW
AL03150105-0802-100	Yellow Creek	Coosa	PWS/S/F&W	Little River	Its source	1	7.06	miles	ONRW
AL03150105-0802-105	unnamed tributaries to Yellow Creek	Coosa	PWS/S/F&W	Yellow Creek	Their source	1	14.96	miles	ONRW
AL03150105-0802-200	Straight Creek	Coosa	PWS/S/F&W	Yellow Creek	Its source	1	3.03	miles	ONRW
AL03150105-0802-205	unnamed tributaries to Straight Creek	Coosa	PWS/S/F&W	Straight Creek	Their source	1	4.54	miles	ONRW
AL03150105-0803-100	Bear Creek	Coosa	PWS/S/F&W	Little River	Its source	1	8.67	miles	ONRW
AL03150105-0803-105	unnamed tributaries to Bear Creek	Coosa	PWS/S/F&W	Bear Creek	Their source	1	11.94	miles	ONRW
AL03150105-0803-200	Falls Branch	Coosa	PWS/S/F&W	Bear Creek	Its source	1	2.47	miles	ONRW
AL03150105-0803-205	unnamed tributaries to Falls Branch	Coosa	PWS/S/F&W	Falls Branch	Their source	1	1.67	miles	ONRW
AL03150105-0803-300	Hicks Creek	Coosa	PWS/S/F&W	Bear Creek	Its source	1	3.42	miles	ONRW
AL03150105-0803-305	unnamed tributaries to Hicks Creek	Coosa	PWS/S/F&W	Hicks Creek	Their source	1	2	miles	ONRW
AL03150105-0804-100	Johnnies Creek	Coosa	PWS/S/F&W	Little River	Its source	1	11.63	miles	ONRW
AL03150105-0804-105	unnamed tributaries to Johnnies Creek	Coosa	PWS/S/F&W	Johnnies Creek	Their source	1	24.92	miles	ONRW
AL03150105-0804-200	Camprock Creek	Coosa	PWS/S/F&W	Johnnies Creek	Its source	1	3.4	miles	ONRW
AL03150105-0804-205	unnamed tributaries to Camprock Creek	Coosa	PWS/S/F&W	Camprock Creek	Their source	1	2.65	miles	ONRW
AL03150105-0804-300	Dry Creek	Coosa	PWS/S/F&W	Johnnies Creek	Its source	1	2.37	miles	ONRW
AL03150105-0804-305	unnamed tributaries to Dry Creek	Coosa	PWS/S/F&W	Dry Creek	Their source	1	3.29	miles	ONRW
AL03150105-0805-100	Wolf Creek	Coosa	PWS/S/F&W	Little River	Its source	1	9.51	miles	ONRW
AL03150105-0805-105	unnamed tributaries to Wolf Creek	Coosa	PWS/S/F&W	Wolf Creek	Their source	1	36.2	miles	ONRW
AL03150105-0806-200	Brooks Branch	Coosa	PWS/S/F&W	Little River	Its source	1	1.68	miles	ONRW
AL03150105-0806-205	unnamed tributary to Brooks Branch	Coosa	PWS/S/F&W	Brooks Branch	Its source	1	0.74	miles	ONRW
AL03150105-0908-300	Wolf Branch	Coosa	F&W	Hurricane Creek	Its source	1	2.61	miles	
AL03150105-0901-100	South Fork Terrapin Creek	Coosa	F&W	Terrapin Creek	Its source	1	11.36	miles	
AL03150106-0103-101	Black Creek	Coosa	F&W	Coosa River	US Highway 431	1	29.1	miles	
AL03150106-0207-100	Big Wills Creek	Coosa	F&W	Coosa River	100 yards below Allen Branch	1	80.09	miles	
AL03150106-0201-102	Big Wills Creek	Coosa	PWS/F&W	100 yards below Allen Branch	Its source	1	7.51	miles	
AL03150106-0305-100	Little Canoe Creek	Coosa	F&W	Big Canoe Creek	Its source	1	19.88	miles	
AL03150106-0501-200	Trout Creek	Coosa	F&W	Coosa River	Its source	1	13.69	miles	
AL03150106-0603-101	Choccolocco Creek	Coosa	PWS/F&W	Hillabee Creek	Egoniaga Creek	1	8.18	miles	
AL03150106-0603-102	Choccolocco Creek	Coosa	F&W	Egoniaga Creek	Its source	1	29.96	miles	
AL03150106-0604-400	Hillabee Creek	Coosa	F&W	Choccolocco Creek	Hillabee Lake dam	1	1.14	miles	
AL03150106-0604-403	Hillabee Creek	Coosa	F&W	Hillabee Lake	Its source	1	10.85	miles	
AL03150106-0606-100	Salt Creek	Coosa	F&W	Choccolocco Creek	Its source	1	15.43	miles	

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Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03150106-0601-600	Dry Creek	Coosa	F&W	Choccolocco Creek	Its source	1	4.03	miles	
AL03150106-0602-101	Shoal Creek	Coosa	S/F&W	Choccolocco Creek	Whitesides Mill Lake	1	1.55	miles	
AL03150106-0602-103	Shoal Creek	Coosa	S/F&W	Whitesides Mill Lake	Highrock Lake	1	3.45	miles	
AL03150106-0602-105	Shoal Creek	Coosa	S/F&W	Highrock Lake	Sweetwater Lake	1	6.31	miles	
AL03150106-0602-107	Shoal Creek	Coosa	F&W	Sweetwater Lake	Its source	1	5.71	miles	
AL03150106-0610-100	Cheaha Creek	Coosa	S/F&W	Choccolocco Creek	Lake Chinnabee	1	17.67	miles	
AL03150106-0608-103	Cheaha Creek	Coosa	F&W	Lake Chinnabee	Its source	1	4.86	miles	
AL03150106-0703-100	Talladega Creek	Coosa	F&W	Coosa River	Drivers Branch	1	30.62	miles	
AL03150106-0702-102	Talladega Creek	Coosa	PWS/F&W	Drivers Branch	Mump Creek	1	6.67	miles	
AL03150106-0701-102	Talladega Creek	Coosa	PWS/F&W	Mump Creek	Its source	1	23.21	miles	
AL03150106-0805-100	Wolf Creek	Coosa	F&W	Kelly Creek	Its source	1	16.7	miles	
AL03150107-0204-100	Tallaseehatchee Creek	Coosa	F&W	Coosa River	City of Sylacauga's water supply dam	1	17.51	miles	
AL03150107-0201-103	Tallaseehatchee Creek	Coosa	PWS/F&W	Lake Howard	Lake Virginia dam	1	0.6	miles	
AL03150107-0201-105	Tallaseehatchee Creek	Coosa	PWS/F&W	Lake Virginia	Its source	1	5.83	miles	
AL03150107-0203-100	Weewoka Creek	Coosa	F&W	Tallaseehatchee Creek	Its source	1	18.32	miles	
AL03150107-0305-200	Fourmile Creek	Coosa	F&W	Yellowleaf Creek	Its source	1	10.9	miles	
AL03150107-0403-100	Paint Creek	Coosa	F&W	Coosa River	Its source	1	19.31	miles	
AL03150107-0601-100	Cargle Creek	Coosa	F&W	Coosa River	Its source	1	10.29	miles	
AL03150107-0602-100	Yellow Leaf Creek	Coosa	F&W	Coosa River	Its source	1	31.27	miles	
AL03150107-0602-800	Turkey Creek	Coosa	F&W	Yellow Leaf Creek	Its source	1	5.17	miles	
AL03150107-0603-100	Walnut Creek	Coosa	F&W	Coosa River	Its source	1	18.12	miles	
AL03150107-0807-100	Hatchet Creek	Coosa	OAW/S/F&W	Coosa River	Wildcat Creek	1	43.2	miles	
AL03150107-0802-100	Hatchet Creek	Coosa	OAW/PWS/S/F&W	Wildcat Creek	Its source	1	18.87	miles	
AL03150107-0703-100	Weogufka Creek	Coosa	S/F&W	Hatchet Creek	Its source	1	49.05	miles	
AL03150107-0801-300	East Fork Hatchet Creek	Coosa	OAW/F&W	Hatchet Creek	Its source	1	5.3	miles	
AL03150107-0801-400	West Fork Hatchet Creek	Coosa	OAW/F&W	Hatchet Creek	Its source	1	7.71	miles	
AL03150107-0804-200	Jacks Creek	Coosa	F&W	Socapatoy Creek	Its source	1	10.51	miles	
AL03150107-0806-300	Jones Creek	Coosa	F&W	Hatchet Creek	Its source	1	5.22	miles	
AL03150107-0902-100	Chestnut Creek	Coosa	F&W	Coosa River	Its source	1	22.1	miles	
AL03170008-0503-100	Big Creek	Escatawpa	F&W	Alabama-Mississippi state line	Big Creek Reservoir	1	14.55	miles	
AL03170008-0401-100	Big Creek	Escatawpa	PWS/F&W	Collins Creek	Its source	1	13.33	miles	
AL03170008-0402-200	Hamilton Creek	Escatawpa	F&W	Big Creek	Its source	1	7.78	miles	
AL03170008-0501-200	Pasture Creek	Escatawpa	F&W	Big Creek	Its source	1	8.47	miles	
AL03170008-0502-100	Miller Creek	Escatawpa	F&W	Big Creek	Its source	1	14.15	miles	
AL03170008-0502-400	Deakle Creek	Escatawpa	F&W	Miller Creek	Its source	1	6.37	miles	
AL03170008-0601-100	Jackson Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	1	14.03	miles	
AL03160204-0101-100	Mobile River	Mobile	F&W	Tensaw River	Its source	1	5.72	miles	
AL03160204-0102-100	Halls Creek	Mobile	F&W	Tensaw Lake	Its source	1	11.93	miles	
AL03160204-0504-200	Industrial Canal	Mobile	A&I	Threemile Creek	Its source	1	2.32	miles	
AL03160205-0304-200	Caney Branch	Mobile	F&W	Fish River	Its source	1	5.25	miles	
AL03160205-0311-200	Intracoastal Waterway	Mobile	F&W	Bon Secour Bay	Alabama Highway 59	1	3.35	miles	
AL03160205-0503-100	Magnolia River	Mobile	S/F&W	Weeks Bay	Its source	1	12.41	miles	
AL03160205-0503-110	UT to Magnolia River	Mobile	F&W	Magnolia River	Its source	1	3.65	miles	
AL03140103-0204-100	Clear Creek	Perdido-Escambia	F&W	Yellow River	Its source	1	13.99	miles	
AL03140104-0102-100	Bear Creek	Perdido-Escambia	F&W	Panther Creek	Its source	1	10.7	miles	
AL03140107-0204-100	Intracoastal Waterway	Perdido-Escambia	F&W	Alabama Highway 59	Wolf Bay	1	5.08	miles	
AL03140302-0502-100	Piney Woods Creek	Perdido-Escambia	F&W	Patsaliga Creek	Its source	1	14.15	miles	
AL03150108-0503-100	Ketchepedrakee Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	26.66	miles	
AL03150108-1004-102	Little Tallapoosa River	Tallapoosa	PWS/S/F&W	US Highway 431	Wolf Creek	1	4.91	miles	
AL03150108-1002-100	Bear Creek	Tallapoosa	F&W	Little Tallapoosa River	Its source	1	12.78	miles	
AL03150109-0103-100	Crooked Creek	Tallapoosa	F&W	Tallapoosa River	Alabama Highway 9	1	21.08	miles	
AL03150109-0102-102	Crooked Creek	Tallapoosa	PWS/F&W	Alabama Highway 9	Its source	1	2.17	miles	
AL03150109-0102-400	Horsetrough Creek	Tallapoosa	F&W	Crooked Creek	Its source	1	8.4	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03150109-0104-100	Cornhouse Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	19.53	miles	
AL03150109-0106-400	Hurricane Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	11.67	miles	
AL03150109-0208-100	Emuckfaw Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	23.51	miles	
AL03150109-0301-200	Little Chatahospee Creek	Tallapoosa	F&W	Chatahospee Creek	Its source	1	14.2	miles	
AL03150109-0503-400	Sugar Creek	Tallapoosa	F&W	Elkahatchee Creek	Its source	1	5.88	miles	
AL03150110-0103-200	Mill Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	9.16	miles	
AL03150110-0102-100	Channahatchee Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	19.38	miles	
AL03150110-0302-100	Chewacla Creek	Tallapoosa	F&W	Uphapee Creek	Moores Mill Creek	1	23.2	miles	
AL03150110-0301-102	Chewacla Creek	Tallapoosa	PWS/F&W	Moores Mill Creek	Its source	1	14.92	miles	
AL03150110-0302-200	Long Branch	Tallapoosa	F&W	Chewacla Creek	Its source	1	12.26	miles	
AL03150110-0504-102	Calebee Creek	Tallapoosa	F&W	Macon County Road 9	Its source	1	36.95	miles	
AL03150110-0901-100	Line Creek	Tallapoosa	F&W	Panther Creek	Its source	1	34.78	miles	
AL06030001-0402-100	Coon Creek	Tennessee	F&W	Tennessee River	Its source	1	7.38	miles	
AL06030001-0402-500	Dry Creek	Tennessee	F&W	Coon Creek	Its source	1	4.13	miles	
AL06030001-0402-900	Flat Rock Creek	Tennessee	F&W	Coon Creek	Its source	1	9.22	miles	
AL06030001-0402-120	Hogue Creek	Tennessee	F&W	Flat Rock Creek	Its source	1	3.48	miles	
AL06030001-0402-210	Rocky Branch	Tennessee	F&W	Dry Creek	Its source	1	3.52	miles	
AL06030001-0404-100	Mud Creek	Tennessee	F&W	Tennessee River	Its source	1	24.97	miles	
AL06030001-0405-100	Bryant Creek	Tennessee	F&W	Jones Creek	Its source	1	12.96	miles	
AL06030001-0604-100	South Sauty Creek	Tennessee	S/F&W	Tennessee River	Its source	1	39.65	miles	
AL06030002-0405-100	Flint River	Tennessee	F&W	Tennessee River	Big Cove Creek	1	21.53	miles	
AL06030002-0404-102	Flint River	Tennessee	PWS/F&W	Big Cove Creek	Hurricane Creek	1	8.04	miles	
AL06030002-0401-101	Flint River	Tennessee	F&W	Hurricane Creek	Alabama Highway 72	1	7.14	miles	
AL06030002-0303-102	Flint River	Tennessee	F&W	Mountain Fork	Alabama-Tennessee state line	1	16.99	miles	
AL06030002-0403-102	Hurricane Creek	Tennessee	F&W	Gurley Pike Road	Its source	1	18.11	miles	
AL06030002-0404-300	Big Cove Creek	Tennessee	F&W	Flint River	Its source	1	8.19	miles	
AL06030002-0906-300	Limestone Creek	Tennessee	F&W	Tennessee River	US Highway 72	1	19.15	miles	
AL06030002-0702-102	Limestone Creek	Tennessee	F&W	Leslie Branch	Alabama-Tennessee state line	1	19.21	miles	
AL06030002-0803-100	Piney Creek	Tennessee	F&W	Limestone Creek	Its source	1	43.75	miles	
AL06030002-1009-101	Flint Creek	Tennessee	F&W	Tennessee River	Alabama Highway 67	1	3.32	miles	
AL06030002-1001-900	Rock Creek	Tennessee	F&W	Flint Creek	Its source	1	5.23	miles	
AL06030002-1006-202	McDaniel Creek	Tennessee	F&W	Alabama Highway 36	Its source	1	3.83	miles	
AL06030002-1101-103	Swan Creek	Tennessee	F&W	Town Creek	Its source	1	10.83	miles	
AL06030002-1101-200	Town Creek	Tennessee	F&W	Swan Creek	Its source	1	7.28	miles	
AL06030002-1202-100	First Creek	Tennessee	F&W	Tennessee River	Its source	1	14.48	miles	
AL06030002-1204-101	Second Creek	Tennessee	S/F&W	Tennessee River	First bridge upstream from US Highway 72	1	5.71	miles	
AL06030002-1204-102	Second Creek	Tennessee	F&W	First bridge upstream from US Highway 72	Lauderdale County Road 76	1	2.34	miles	
AL06030004-0105-103	Elk River	Tennessee	PWS/F&W	Alabama Highway 99	Alabama-Tennessee state line	1	12.89	miles	
AL06030004-0105-600	Big Creek	Tennessee	F&W	Elk River	Its source	1	9.15	miles	
AL06030005-0101-100	Muddy Fork	Tennessee	A&I	Big Nance Creek	Crow Branch	1	11.14	miles	
AL06030005-0101-700	Crow Branch	Tennessee	A&I	Muddy Fork	Its source	1	4.73	miles	
AL06030005-0304-100	Town Creek	Tennessee	F&W	Tennessee River	Its source	1	49.97	miles	
AL06030005-0410-800	Indiancamp Creek	Tennessee	F&W	Shoal Creek	Its source	1	5.98	miles	
AL06030006-0201-102	Cedar Creek	Tennessee	PWS/S/F&W	End of embayment	Alabama Highway 24	1	3.01	miles	
AL03160101-0503-100	Hurricane Creek	Tombigbee (Upper)	F&W	Alabama-Mississippi state line	Its source	1	10.14	miles	
AL03160101-0504-100	Bull Mountain Creek	Tombigbee (Upper)	F&W	Alabama-Mississippi state line	Its source	1	24.98	miles	
AL03160103-0202-200	Cantrell Mill Creek	Tombigbee (Upper)	F&W	Buttahatchee River	Its source	1	7.4	miles	
AL03160103-0201-100	Woods Creek	Tombigbee (Upper)	F&W	Buttahatchee River	Its source	1	13.95	miles	
AL03160103-0204-201	Purgatory Creek	Tombigbee (Upper)	F&W	Beaver Creek	Wickett Creek	1	0.5	miles	

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03160103-0301-100	Boardtree Creek	Tombigbee (Upper)	F&W	Sipsey Creek	Its source	1	10.87	miles	
AL03160105-0302-100	Hells Creek	Tombigbee (Upper)	F&W	Yellow Creek	Its source	1	25.2	miles	
AL03160106-0608-600	Jones Creek	Tombigbee (Upper)	F&W	Tombigbee River	Its source	1	15.28	miles	
AL03160106-0506-100	Bear Creek	Tombigbee (Upper)	F&W	Lubbub Creek	Its source	1	33.4	miles	
AL03160106-0504-200	Little Bear Creek	Tombigbee (Upper)	F&W	Bear Creek	Its source	1	7.82	miles	
AL03160106-0507-100	Blubber Creek	Tombigbee (Upper)	F&W	Lubbub Creek	Its source	1	20.12	miles	
AL03160107-0101-100	New River	Tombigbee (Upper)	F&W	Sipsey River	Its source	1	24.41	miles	
AL03160107-0204-100	Bear Creek	Tombigbee (Upper)	F&W	Sipsey River	Its source	1	10.64	miles	
AL03160201-0108-100	Chickasaw Bogue	Tombigbee (Lower)	F&W	Tombigbee River	Its source	1	42.64	miles	
AL03160201-0101-100	Dry Creek	Tombigbee (Lower)	F&W	Chickasaw Bogue	Its source	1	13.84	miles	
AL03160201-0102-400	Poplar Creek	Tombigbee (Lower)	F&W	Chickasaw Bogue	Its source	1	8.87	miles	
AL03160201-0702-100	Tallahatta Creek	Tombigbee (Lower)	F&W	Bashi Creek	Its source	1	20.97	miles	
AL03160203-0201-100	Ulcanush Creek	Tombigbee (Lower)	F&W	Tombigbee River	Its source	1	9.33	miles	
AL03160203-0302-100	Wells Creek	Tombigbee (Lower)	F&W	Salitpa Creek	Its source	1	14.71	miles	
AL03150106-0605-200	Coldwater Spring	Coosa	PWS/F&W			1			
Category 1 Estuaries									
AL03160205-0102-100	Mobile Bay	Mobile	F&W	southwest bay		1	54.93	square miles	
AL03160205-0307-101	Weeks Bay	Mobile	S/F&W	Bon Secour Bay	Fish River	1	3.04	square miles	ONRW
Category 2A Lake and Reservoirs									
AL06030006-0101-101	Bear Creek	Tennessee	PWS/S/F&W	Pretty Branch	Alabama Highway 243	2A	249.44	acres	Upper Bear Creek Lake
Category 2A Rivers and Streams									
AL03150201-0407-100	Pintlalla Creek	Alabama	S/F&W	Alabama River	Pinchony Creek	2A	24.91	miles	
AL03150201-0802-200	Lake Creek	Alabama	F&W	Fort Deposit Creek	Its source	2A	8.79	miles	
AL03150203-0302-100	Washington Creek	Alabama	F&W	Bogue Chitto Creek	Its source	2A	17.28	miles	
AL03160109-0101-700	Warrior Creek	Black Warrior	F&W	Mulberry Fork	Its source	2A	4.28	miles	
AL03160109-0102-900	Pan Creek	Black Warrior	F&W	Mulberry Fork	Its source	2A	10.67	miles	
AL03160109-0104-100	Duck River	Black Warrior	F&W	Mulberry Fork	Its source	2A	19.28	miles	
AL03160109-0108-100	Blue Springs Creek	Black Warrior	F&W	Mulberry Fork	Its source	2A	13.97	miles	
AL03160109-0205-100	Dorsey Creek	Black Warrior	F&W	Mulberry Fork	Its source	2A	18.04	miles	
AL03160109-0207-500	Sloan Creek	Black Warrior	F&W	Mulberry Fork	Its source	2A	5.62	miles	
AL03160109-0309-100	Blackwater Creek	Black Warrior	F&W	Mulberry Fork	Its source	2A	70.05	miles	
AL03160110-0203-103	Brushy Creek	Black Warrior	F&W	Highway 278	Its source	2A	29.85	miles	
AL03160110-0301-200	Little Clear Creek	Black Warrior	F&W	Clear Creek	Its source	2A	11.53	miles	
AL03160110-0302-100	Right Fork Clear Creek	Black Warrior	F&W	Clear Creek	Its source	2A	15.61	miles	
AL03160110-0303-100	Widows Creek	Black Warrior	F&W	Clear Creek	Its source	2A	7.35	miles	
AL03160110-0305-200	Clear Creek	Black Warrior	F&W	Lake Lewis Smith	City of Haleyville water supply reservoir dam	2A	44.98	miles	
AL03160110-0401-100	Blevens Creek	Black Warrior	F&W	Rock Creek	Its source	2A	19.14	miles	
AL03160111-0302-100	Longs Branch	Black Warrior	F&W	Locust Fork	Its source	2A	7.87	miles	
AL03160111-0308-100	Turkey Creek	Black Warrior	F&W	Locust Fork	Its source	2A	25.34	miles	
AL03160112-0102-100	Valley Creek	Black Warrior	LWF	Blue Creek	19th Street North (Bessemer)	2A	10.8	miles	
AL03160112-0105-102	Mud Creek	Black Warrior	F&W	Big Branch	Its source	2A	7.7	miles	
AL03160112-0201-500	Little Yellow Creek	Black Warrior	F&W	Big Yellow Creek	Its source	2A	10.65	miles	
AL03160112-0301-400	Jock Creek	Black Warrior	F&W	Blue Creek	Its source	2A	2.21	miles	
AL03160113-0502-100	Polecat Creek	Black Warrior	F&W	Big Brush Creek	Its source	2A	14.02	miles	
AL03160113-0707-100	Big Prarie Creek	Black Warrior	F&W	Black Warrior River	Its source	2A	44.16	miles	
AL03160113-0802-200	Needham Creek	Black Warrior	F&W	Dollarhide Creek	Its source	2A	8.96	miles	
AL03150202-0202-800	Dry Brook	Cahaba	F&W	Cahaba Valley Creek	Its source	2A	3.49	miles	
AL03150202-0203-500	Piney Woods Creek	Cahaba	F&W	Cahaba River	Its source	2A	7.64	miles	
AL03150202-0405-300	Caffee Creek	Cahaba	F&W	Cahaba River	Its source	2A	17.88	miles	
AL03150202-0405-800	Cane Creek	Cahaba	F&W	Cahaba River	Its source	2A	10.38	miles	
AL03130003-1002-100	Hurtsboro Creek	Chattahoochee	A&I	North Fork of Cowikee Creek	Its source	2A	19.41	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03140201-0204-200	Deal Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	2A	6.57	miles	
AL03140202-0601-200	Patrick Creek	Choctawhatchee	F&W	Beaverdam Creek	Its source	2A	5.18	miles	
AL03150106-0306-100	Big Canoe Creek	Coosa	F&W	Coosa River	Its source	2A	57.29	miles	
AL03150106-0307-100	Beaver Creek	Coosa	F&W	Coosa River	Its source	2A	29.37	miles	
AL03150106-0405-100	Ohatchee Creek	Coosa	S/F&W	Coosa River	Its source	2A	27.22	miles	
AL03150106-0407-100	Cane Creek	Coosa	F&W	Coosa River	Its source	2A	31.82	miles	
AL03150107-0907-500	Fourmile Creek	Coosa	F&W	Taylor Creek	Its source	2A	5.67	miles	
AL03160205-0304-500	Turkey Branch	Mobile	S/F&W	Fish River	Its source	2A	13.38	miles	
AL03160205-0307-500	Waterhole Branch	Mobile	F&W	Fish River	Its source	2A	7.22	miles	
AL03160205-0308-400	Weeks Creek	Mobile	F&W	Magnolia River	Its source	2A	3.58	miles	
AL03160205-0308-500	Schoolhouse Branch	Mobile	F&W	Magnolia River	Its source	2A	3.83	miles	
AL03140304-0101-200	Folley Creek	Perdido-Escambia	F&W	Conecuh River	Its source	2A	3.68	miles	
AL06030002-0302-100	West Fork Flint River	Tennessee	F&W	Flint River	Its source	2A	1.76	miles	
AL06030002-1202-200	Neeley Branch	Tennessee	F&W	First Creek	Its source	2A	3.61	miles	
AL03160103-0202-400	Clark Creek	Tombigbee (Upper)	F&W	Buttahatchee River	Its source	2A	3.96	miles	
AL03160201-0903-102	Wahalak Creek	Tombigbee (Lower)	F&W	Spear Creek	Its source	2A	11.42	miles	
Category 2B Lake and Reservoirs									
AL03150203-0703-102	Alabama River	Alabama	PWS	Rockwest Creek	Millers Ferry Lock and Dam	2B	454.4	acres	Claiborne Lake
AL03150204-0601-502	Little River Lake	Alabama	S/F&W	within Little River State Forest		2B	33.01	acres	Little River Lake
AL03160112-0406-102	North River	Black Warrior	PWS/S	City of Tuscaloosa's water supply reservoir dam	Binnion Creek	2B	3840.14	acres	Lake Tuscaloosa
AL03160112-0404-101	North River	Black Warrior	F&W	Binion Creek	Lake Tuscaloosa	2B	1235.32	acres	Lake Tuscaloosa
AL03160112-0401-202	Clear Creek	Black Warrior	PWS	Bugs Lake dam	end of embayment	2B	63.96	acres	
AL03160112-0501-102	Yellow Creek	Black Warrior	PWS	City of Tuscaloosa's water supply reservoir dam	Little Yellow Creek	2B	537.6	acres	
AL03150110-0103-102	Tallapoosa River	Tallapoosa	PWS/S/F&W	Thurlow dam	Yates dam	2B	538.6	acres	Thurlow Lake
AL03150110-0103-103	Tallapoosa River	Tallapoosa	PWS/S/F&W	Yates dam	Martin Dam	2B	1595.89	acres	Yates Lake
Category 2B Rivers and Streams									
AL03150201-0103-100	Mortar Creek	Alabama	F&W	Alabama River	Its source	2B	23.99	miles	
AL03150201-0105-500	Pierce Creek	Alabama	F&W	Mill Creek	Its source	2B	3.42	miles	
AL03150201-0203-101	Autauga Creek	Alabama	F&W	Alabama River	Matthews Branch	2B	7.28	miles	
AL03150201-0304-100	Catoma Creek	Alabama	F&W	Ramer Creek	Its source	2B	21.5	miles	
AL03150201-0303-100	Little Catoma Creek	Alabama	F&W	Catoma Creek	Its source	2B	28.99	miles	
AL03150201-0305-100	Waller Creek	Alabama	F&W	Ramer Creek	Its source	2B	12.16	miles	
AL03150201-0306-100	Ramer Creek	Alabama	F&W	Catoma Creek	Its source	2B	22.37	miles	
AL03150201-0501-200	Noland Creek	Alabama	F&W	Alabama River	Its source	2B	9.99	miles	
AL03150201-0502-100	Tallawassee Creek	Alabama	F&W	Alabama River	Its source	2B	16.93	miles	
AL03150201-0601-400	Indian Creek	Alabama	F&W	Swift Creek	Its source	2B	4.77	miles	
AL03150201-0704-100	Beaver Creek	Alabama	F&W	Alabama River	Its source	2B	10.19	miles	
AL03150201-0705-100	Ivy Creek	Alabama	F&W	Alabama River	Its source	2B	15.51	miles	
AL03150201-0807-100	Big Swamp Creek	Alabama	S/F&W	Alabama River	Its source	2B	56.45	miles	
AL03150201-0801-500	Cherry Creek	Alabama	F&W	Big Swamp Creek	Its source	2B	7.71	miles	
AL03150201-0802-100	Fort Deposit Creek	Alabama	F&W	Big Swamp Creek	Its source	2B	13.52	miles	
AL03150201-1005-101	Mulberry Creek	Alabama	S/F&W	Alabama River	Harris Branch	2B	22.07	miles	
AL03150201-1002-100	Little Mulberry Creek	Alabama	F&W	Mulberry Creek	Its source	2B	4.92	miles	
AL03150201-1002-300	Morgan Creek	Alabama	F&W	Little Mulberry Creek	Its source	2B	6.66	miles	
AL03150203-0106-100	Dry Cedar Creek	Alabama	F&W	Cedar Creek	Its source	2B	28.26	miles	
AL03150203-0106-300	Sullivan Branch	Alabama	F&W	Dry Cedar Creek	Its source	2B	8.63	miles	
AL03150203-0107-100	Mush Creek	Alabama	F&W	Cedar Creek	Its source	2B	24.58	miles	
AL03150203-0308-100	Bogue Chitto Creek	Alabama	F&W	Alabama River	Its source	2B	60.49	miles	
AL03150203-0305-100	Mud Creek	Alabama	F&W	Bogue Chitto Creek	Its source	2B	20.87	miles	
AL03150203-0306-200	Tatum Creek	Alabama	F&W	Bogue Chitto Creek	Its source	2B	11.92	miles	
AL03150203-0307-100	Bear Creek	Alabama	F&W	Bogue Chitto Creek	Its source	2B	16.6	miles	
AL03150203-0402-200	Chilatchee Creek	Alabama	S/F&W	Alabama River	Its source	2B	41.61	miles	

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03150203-0401-200	Rogers Creek	Alabama	F&W	Chilatchee Creek	Its source	2B	14.05	miles	
AL03150203-0401-300	Sand Creek	Alabama	F&W	Chilatchee Creek	Its source	2B	13.39	miles	
AL03150203-0401-500	Glover Creek	Alabama	F&W	Sand Creek	Its source	2B	4.7	miles	
AL03150203-0402-500	Little Chilatchee Creek	Alabama	F&W	Chilatchee Creek	Its source	2B	12.3	miles	
AL03150203-0503-100	Bear Creek	Alabama	F&W	Pine Barren Creek	Its source	2B	27.35	miles	
AL03150203-0604-100	Beaver Creek	Alabama	F&W	Alabama River	Its source	2B	32.96	miles	
AL03150204-0101-100	Tallatchee Creek	Alabama	F&W	Alabama River	Its source	2B	23.94	miles	
AL03150204-0404-100	Randons Creek	Alabama	F&W	Alabama River	Its source	2B	17.11	miles	
AL03150204-0403-100	Lovetts Creek	Alabama	F&W	Randons Creek	Its source	2B	15.38	miles	
AL03150204-0404-300	Bear Creek	Alabama	F&W	Randons Creek	Its source	2B	9.78	miles	
AL03150204-0501-400	Baileys Creek	Alabama	F&W	Alabama River	Its source	2B	9.25	miles	
AL03150204-0502-100	Wallers Creek	Alabama	F&W	Alabama River	Its source	2B	15.4	miles	
AL03150204-0504-500	Shomo Creek	Alabama	F&W	Alabama River	Its source	2B	11.04	miles	
AL03150204-0603-100	Little River	Alabama	S/F&W	Alabama River	Its source	2B	33.49	miles	
AL03150204-0601-300	Butterfork Creek	Alabama	F&W	Little River	Its source	2B	7.7	miles	
AL03150204-0601-501	Chitterling Creek	Alabama	F&W	Little River	Little River Lake	2B	0.34	miles	
AL03150204-0601-503	Chitterling Creek	Alabama	F&W	Little River Lake	Its source	2B	4.69	miles	
AL03160109-0102-102	Mulberry Fork	Black Warrior	F&W	Blount County Road 6	Its source	2B	14.74	miles	
AL03160109-0201-101	Mud Creek	Black Warrior	F&W	Mulberry Fork	Alabama Highway 31	2B	4.34	miles	
AL03160109-0206-200	Sullivan Creek	Black Warrior	F&W	Mulberry Fork	Its source	2B	8.2	miles	
AL03160109-0301-100	Spring Creek	Black Warrior	F&W	Blackwater Creek	Its source	2B	7.9	miles	
AL03160109-0302-100	Splunge Creek	Black Warrior	F&W	Blackwater Creek	Its source	2B	20.11	miles	
AL03160109-0405-103	Lost Creek	Black Warrior	F&W	Cane Creek	Mill dam at Cedrum	2B	14.52	miles	
AL03160109-0403-102	Lost Creek	Black Warrior	F&W	Alabama Highway 69 at Oakman	US Highway 78 at Carbon Hill	2B	1.23	miles	
AL03160109-0402-102	Lost Creek	Black Warrior	F&W	US Highway 78 north of Cedrum	Its source	2B	8.99	miles	
AL03160109-0501-102	Wolf Creek	Black Warrior	F&W	Alabama Highway 102	Its source	2B	5.28	miles	
AL03160110-0507-700	Mill Creek	Black Warrior	F&W	Sipsey Fork	Its source	2B	12.99	miles	
AL03160110-0507-110	Little Mill Creek	Black Warrior	F&W	Mill Creek	Its source	2B	6.01	miles	
AL03160111-0413-101	Locust Fork	Black Warrior	PWS/S/F&W	Junction of Locust and Mulberry Forks	Jefferson County Highway 61	2B	6.88	miles	
AL03160111-0413-102	Locust Fork	Black Warrior	F&W	Jefferson County Highway 61	Jefferson County Road 77	2B	36.32	miles	
AL03160111-0102-100	Bristow Creek	Black Warrior	F&W	Locust Fork	Its source	2B	9.51	miles	
AL03160111-0103-100	Clear Creek	Black Warrior	F&W	Locust Fork	Its source	2B	16.4	miles	
AL03160111-0107-100	Slab Creek	Black Warrior	F&W	Locust Fork	Its source	2B	24.98	miles	
AL03160111-0107-800	Little Reedbrake Creek	Black Warrior	F&W	Slab Creek	Its source	2B	2.92	miles	
AL03160111-0201-100	Wynnville Creek	Black Warrior	F&W	Locust Fork	Its source	2B	5.98	miles	
AL03160111-0304-200	Sand Valley Creek	Black Warrior	F&W	Gurley Creek	Its source	2B	5.55	miles	
AL03160111-0305-201	Self Creek	Black Warrior	F&W	Gurley Creek	Alabama Highway 79	2B	8.55	miles	
AL03160111-0305-202	Self Creek	Black Warrior	PWS	Alabama Highway 79	Its source	2B	4.14	miles	
AL03160111-0402-100	Crooked Creek	Black Warrior	F&W	Locust Fork	Its source	2B	10.03	miles	
AL03160111-0404-500	Ward Creek	Black Warrior	F&W	Locust Fork	Its source	2B	6.65	miles	
AL03160111-0409-100	Village Creek	Black Warrior	F&W	Locust Fork	Bayview Lake Dam	2B	17.9	miles	
AL03160112-0101-102	Valley Creek	Black Warrior	LWF	Opossum Creek	Its source	2B	13.53	miles	
AL03160112-0103-300	Lick Creek	Black Warrior	F&W	Valley Creek	Its source	2B	8.13	miles	
AL03160112-0202-200	Clifty Creek	Black Warrior	F&W	Big Yellow Creek	Its source	2B	4.91	miles	
AL03160112-0301-300	Little Bear Creek	Black Warrior	F&W	Blue Creek	Its source	2B	3.48	miles	
AL03160112-0302-100	Davis Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	39	miles	
AL03160112-0302-300	Prudes Creek	Black Warrior	F&W	Davis Creek	Its source	2B	3.78	miles	
AL03160112-0302-800	Hanna Mill Creek	Black Warrior	F&W	Davis Creek	Its source	2B	4.62	miles	
AL03160112-0406-101	North River	Black Warrior	F&W	Black Warrior River	City of Tuscaloosa's water supply reservoir dam	2B	1.6	miles	
AL03160112-0401-102	North River	Black Warrior	F&W	Ellis Creek	Its source	2B	16.39	miles	
AL03160112-0401-201	Clear Creek	Black Warrior	F&W	North River	Bugs Lake dam	2B	3.82	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03160112-0401-203	Clear Creek	Black Warrior	PWS	end of embayment	Its source	2B	7.66	miles	
AL03160112-0402-200	Cedar Creek	Black Warrior	F&W	North River	Its source	2B	13.97	miles	
AL03160112-0404-500	Cripple Creek	Black Warrior	F&W	North River	Its source	2B	10.45	miles	
AL03160112-0405-100	Carroll Creek	Black Warrior	F&W	North River	Its source	2B	15.12	miles	
AL03160112-0501-101	Yellow Creek	Black Warrior	F&W	Black Warrior River	City of Tuscaloosa's water supply reservoir dam	2B	2.88	miles	
AL03160112-0501-103	Yellow Creek	Black Warrior	PWS	Little Yellow Creek	Its source	2B	10.47	miles	
AL03160113-0102-200	Big Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	12.12	miles	
AL03160113-0203-100	Big Sandy Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	37.36	miles	
AL03160113-0301-100	Elliotts Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	23.83	miles	
AL03160113-0402-100	Fivemile Creek	Black Warrior	F&W	Black Warrior River	Payne Lake	2B	34	miles	
AL03160113-0505-100	Big Brush Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	29.65	miles	
AL03160113-0501-200	Sparks Creek	Black Warrior	F&W	Big Brush Creek	Its source	2B	10.06	miles	
AL03160113-0501-300	Brush Creek	Black Warrior	F&W	Big Brush Creek	Its source	2B	17.35	miles	
AL03160113-0601-100	Grant Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	11.18	miles	
AL03160113-0602-200	Gabriel Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	17	miles	
AL03160113-0302-100	Millians Creek	Black Warrior	F&W	Gabriel Creek	Its source	2B	16.91	miles	
AL03160113-0602-400	Buck Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	12.97	miles	
AL03160113-0606-100	Minter Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	16.82	miles	
AL03160113-0702-100	Dry Creek	Black Warrior	F&W	Big Prarie Creek	Its source	2B	15.28	miles	
AL03160113-0706-100	Big German Creek	Black Warrior	F&W	Big Prarie Creek	Its source	2B	15.21	miles	
AL03160113-0803-100	Hines Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	9.87	miles	
AL03150202-0202-103	Buck Creek	Cahaba	F&W	Shelby County Road 44	Its source	2B	8.35	miles	
AL03150202-0202-402	Cahaba Valley Creek	Cahaba	F&W	US Highway 31	Its source	2B	10.31	miles	
AL03150202-0401-500	Spring Creek	Cahaba	F&W	Shoal Creek	Its source	2B	9.38	miles	
AL03150202-0503-200	Sandy Creek	Cahaba	F&W	Cahaba River	Its source	2B	16.29	miles	
AL03150202-0504-100	Haysop Creek	Cahaba	F&W	Cahaba River	Its source	2B	26.81	miles	
AL03150202-0505-100	Affonee Creek	Cahaba	S	Cahaba River	Its source	2B	18.51	miles	
AL03150202-0506-100	Blue Girth Creek	Cahaba	S	Cahaba River	Its source	2B	15.08	miles	
AL03150202-0507-200	Walton Creek	Cahaba	F&W	Cahaba River	Its source	2B	5.45	miles	
AL03150202-0507-300	Gully Creek	Cahaba	F&W	Cahaba River	Its source	2B	7.72	miles	
AL03150202-0601-200	Wallace Creek	Cahaba	F&W	Cahaba River	Its source	2B	8.94	miles	
AL03150202-0601-300	Potato Patch Creek	Cahaba	F&W	Cahaba River	Its source	2B	7.54	miles	
AL03150202-0601-400	Taylor Creek	Cahaba	F&W	Cahaba River	Its source	2B	8.77	miles	
AL03150202-0602-200	Old Town Creek	Cahaba	S	Cahaba River	Its source	2B	12.66	miles	
AL03150202-0603-300	Mill Creek	Cahaba	F&W	Cahaba River	Its source	2B	11.35	miles	
AL03150202-0701-200	Rice Creek	Cahaba	F&W	Cahaba River	Its source	2B	14.87	miles	
AL03150202-0701-300	Waters Creek	Cahaba	S	Cahaba River	Its source	2B	9.93	miles	
AL03150202-0701-400	Wells Creek	Cahaba	F&W	Cahaba River	Its source	2B	5.36	miles	
AL03150202-0702-200	Possum Creek	Cahaba	F&W	Cahaba River	Its source	2B	8.97	miles	
AL03150202-0805-100	Oakmulgee Creek	Cahaba	S	Cahaba River	Its source	2B	56.67	miles	
AL03150202-0801-100	Beaverdam Creek	Cahaba	F&W	Oakmulgee Creek	Its source	2B	13.49	miles	
AL03150202-0902-501	Dry Creek	Cahaba	F&W	Cahaba River	Dallas County Road 201	2B	4.5	miles	
AL03130003-0903-102	Chattahoochee River	Chattahoochee	F&W	Cliatt Branch	14th Street Bridge between Columbus and Phenix City	2B	41.77	miles	
AL03130003-0104-102	Chattahoochee River	Chattahoochee	PWS/S/F&W	14th Street Bridge between Columbus and Phenix City	Oliver Dam	2B	3.15	miles	
AL03130003-0504-101	Uchee Creek	Chattahoochee	S/F&W	Chattahoochee River	County Road 39	2B	10.36	miles	
AL03130003-0504-102	Uchee Creek	Chattahoochee	PWS/S/F&W	County Road 39	Island Creek	2B	11.59	miles	
AL03130003-0502-100	Uchee Creek	Chattahoochee	S/F&W	Island Creek	Its source	2B	22.59	miles	
AL03130003-0403-100	Little Uchee Creek	Chattahoochee	F&W	Uchee Creek	Its source	2B	36.54	miles	
AL03130003-0501-200	Snake Creek	Chattahoochee	F&W	Uchee Creek	Its source	2B	11.4	miles	
AL03130003-1304-100	Leak Creek	Chattahoochee	F&W	Barbour Creek	Its source	2B	11.02	miles	
AL03130004-0404-100	Peterman Creek	Chattahoochee	F&W	Abbie Creek	Its source	2B	12.43	miles	
AL03130004-0607-100	Omusee Creek	Chattahoochee	F&W	Chattahoochee River	Its source	2B	28.05	miles	
AL03130004-0604-100	Spivey Mill Creek	Chattahoochee	F&W	Omusee Creek	Its source	2B	8.07	miles	

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03130004-0601-202	Poplar Spring Branch	Chattahoochee	F&W	Ross Clark Circle	Its source	2B	3.46	miles	
AL03130012-0205-100	Buck Creek	Chipola	F&W	Alabama-Florida state line	Its source	2B	11.11	miles	
AL03130012-0205-202	Boggy Creek	Chipola	F&W	Cottondale WWTP	Its source	2B	6.72	miles	
AL03140201-0201-200	Jack Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	2B	5.83	miles	
AL03140201-0202-200	Panther Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	2B	7.63	miles	
AL03140201-0308-100	West Fork Choctawhatchee River	Choctawhatchee	F&W	Choctawhatchee River	Its source	2B	39.45	miles	
AL03140201-0402-300	Blacks Creek	Choctawhatchee	F&W	Judy Creek	Its source	2B	5.62	miles	
AL03140201-0704-500	Cox Mill Creek	Choctawhatchee	F&W	Hurricane Creek	Its source	2B	2.53	miles	
AL03140201-0704-700	Sandy Branch	Choctawhatchee	F&W	Hurricane Creek	Its source	2B	2.34	miles	
AL03140201-0602-202	Beaver Creek	Choctawhatchee	F&W	Dothan WWTP	Its source	2B	4.54	miles	
AL03140201-1104-200	Providence Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	2B	1.7	miles	
AL03140201-1105-110	Adams Creek	Choctawhatchee	F&W	Rocky Creek	Its source	2B	1.97	miles	
AL03140201-1204-100	Tight Eye Creek	Choctawhatchee	F&W	Double Bridges Creek	Its source	2B	14.69	miles	
AL03140202-0101-200	Johnson Creek	Choctawhatchee	F&W	Pea River	Its source	2B	9.51	miles	
AL03140202-0104-200	Big Sandy Creek	Choctawhatchee	F&W	Pea River	Its source	2B	11.32	miles	
AL03140202-0108-200	Double Creek	Choctawhatchee	F&W	Mill Creek	Its source	2B	9.3	miles	
AL03140202-0508-100	Big Creek	Choctawhatchee	F&W	Whitewater Creek	Its source	2B	26.05	miles	
AL03140202-0507-200	Cowpen Creek	Choctawhatchee	F&W	Big Creek	Its source	2B	4.19	miles	
AL03140202-0507-300	Sweetwater Creek	Choctawhatchee	F&W	Big Creek	Its source	2B	6.82	miles	
AL03140202-0802-100	Flat Creek	Choctawhatchee	F&W	Pea River	Eightmile Creek	2B	4.72	miles	
AL03140202-0703-100	Flat Creek	Choctawhatchee	S/F&W	Eightmile Creek	Its source	2B	24.26	miles	
AL03140202-0702-100	Panther Creek	Choctawhatchee	F&W	Flat Creek	Its source	2B	10.81	miles	
AL03140202-0904-100	Sandy Creek	Choctawhatchee	F&W	Pea River	Its source	2B	10.91	miles	
AL03140203-0701-100	Holmes Creek	Choctawhatchee	F&W	Alabama-Florida state line	Its source	2B	6.72	miles	
AL03170002-0304-100	Red Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	2B	15.95	miles	
AL03170008-0201-600	Long Branch	Escatawpa	F&W	Pond Creek	Its source	2B	3.45	miles	
AL03170008-0203-300	Bennett Creek	Escatawpa	F&W	Escatawpa River	Its source	2B	11.79	miles	
AL03170008-0501-400	Pierce Creek	Escatawpa	F&W	Big Creek	Its source	2B	10.23	miles	
AL03160204-0403-104	Eightmile Creek	Mobile	F&W	Highpoint Boulevard	Its source	2B	2.56	miles	
AL03160205-0202-102	Dog River	Mobile	F&W	Moore Creek	Its source	2B	5.5	miles	
AL03160205-0204-302	Rabbit Creek	Mobile	F&W	Alabama Highway 163	Its source	2B	8.2	miles	
AL03160205-0310-701	UT to Bon Secour River	Mobile	F&W	Bon Secour River	Baldwin County Road 65	2B	0.61	miles	
AL03140103-0205-102	Yellow River	Perdido-Escambia	F&W	North Creek	Its source	2B	35.05	miles	
AL03140106-0302-102	Brushy Creek	Perdido-Escambia	F&W	Boggy Branch	Its source	2B	9.12	miles	
AL03140106-0302-203	Boggy Branch	Perdido-Escambia	F&W	Masland Carpets WWTP	Its source	2B	0.95	miles	
AL03140106-0603-102	Blackwater River	Perdido-Escambia	F&W	Narrow Gap Creek	Its source	2B	27.3	miles	
AL03140303-0302-102	Rocky Creek	Perdido-Escambia	F&W	County road north of Chapman	Its source	2B	12.64	miles	
AL03140304-0103-100	Silas Creek	Perdido-Escambia	F&W	Conecuh River	Its source	2B	1.57	miles	
AL03140304-0601-100	Little Escambia Creek	Perdido-Escambia	F&W	Wild Fork Creek	Its source	2B	15.31	miles	
AL03140305-0106-102	Big Escambia Creek	Perdido-Escambia	F&W	Big Spring Creek	Its source	2B	27.55	miles	
AL03150110-0605-101	Tallapoosa River	Tallapoosa	F&W	Alabama River	US Highway 231	2B	6.47	miles	
AL03150110-0605-102	Tallapoosa River	Tallapoosa	PWS/F&W	US Highway 231	Thurlow dam	2B	40.07	miles	
AL06030002-0605-100	Cotaco Creek	Tennessee	S/F&W	Tennessee River	Guyer Branch	2B	14.12	miles	
AL06030002-0602-103	West Fork Cotaco Creek	Tennessee	F&W	Frost Creek	Its source	2B	2.93	miles	
AL06030005-0807-100	Sinking Creek	Tennessee	F&W	Tennessee River	Its source	2B	16.38	miles	
AL06030006-0101-102	Bear Creek	Tennessee	F&W	Alabama Highway 243	Its source	2B	10.97	miles	
AL03160103-0101-600	Moore Creek	Tombigbee (Upper)	F&W	West Branch Buttahatchee River	Its source	2B	3.47	miles	
AL03160106-0607-102	Factory Creek	Tombigbee (Upper)	F&W	End of embayment	Its source	2B	18.81	miles	
AL03160107-0303-102	Sipsey River	Tombigbee (Upper)	F&W	Tuscaloosa county line	US Highway 43	2B	74.42	miles	
AL03160107-0201-102	Sipsey River	Tombigbee (Upper)	PWS/F&W	US Highway 43	Alabama Highway 102	2B	12.61	miles	
AL03160107-0201-103	Sipsey River	Tombigbee (Upper)	F&W	Alabama Highway 102	Its source	2B	20.17	miles	

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
Category 2B Estuaries									
AL03140107-0204-300	Perdido Bay	Perdido-Escambia	SH/S/F&W	Gulf of Mexico	Lillian Bridge	2B	13.14	square miles	
AL03140107-0204-400	Arnica Bay	Perdido-Escambia	SH/S/F&W	Perdido Bay	Bay la Launch	2B	1.21	square miles	
AL03140107-0204-500	Bay la Launch	Perdido-Escambia	SH/S/F&W	Arnica Bay	Wolf Bay	2B	1.48	square miles	
AL03140107-0204-600	Wolf Bay	Perdido-Escambia	OAW/SH/S/F&W	Bay la Launch	Moccasin Bayou	2B	4.65	square miles	
AL03140107-0203-102	Wolf Bay	Perdido-Escambia	SH/S/F&W	Moccasin Bayou	Its source	2B	0.22	square miles	
Category 3 Lake and Reservoirs									
AL03160109-0604-101	Mulberry Fork	Black Warrior	PWS/S/F&W	Black Warrior River	Baker Creek	3	1357.57	acres	Bankhead Lake
AL03160109-0106-202	Bridge Creek	Black Warrior	PWS	Cullman water supply reservoir dam	Its source	3	159.21	acres	
AL03160110-0104-702	Curtis Mill Creek	Black Warrior	PWS	Town of Double Springs water supply reservoir dam	Its source	3	2.2	acres	
AL03160113-0804-102	Black Warrior River	Black Warrior	PWS/S/F&W	Five miles upstream of Big Prarie Creek	Eight miles upstream of Big Prarie Creek	3	131.02	acres	Demopolis Lake
AL03160113-0804-103	Black Warrior River	Black Warrior	S/F&W	Eight miles upstream of Big Prarie Creek	Warrior Lock and Dam	3	1451.33	acres	Demopolis Lake
AL03140201-0803-100	Claybank Creek	Choctawhatchee	S/F&W	Lake Tholocco dam	end of impoundment	3	679.39	acres	Tholocco Lake
AL03150106-0201-402	Allen Branch	Coosa	PWS/F&W	Ft. Payne public water supply dam	Its source	3	53.63	acres	
AL03150106-0701-202	Mump Creek	Coosa	PWS/F&W	City of Talladega's water supply dam	End of embayment	3	36.4	acres	Mump Creek Reservoir
AL03160204-0105-400	Briar Lake	Mobile	OAW/F&W	Junction of Tensaw River	Junction of Tensaw Lake	3	169.36	acres	
AL03160204-0105-500	Tensaw Lake	Mobile	OAW/F&W	Junction of Tensaw River	Bryant Landing	3	436.74	acres	
AL03140103-0303-902	Blue Lake	Perdido-Escambia	S/F&W	Within Conecuh National Forest		3	41.37	acres	
AL03140103-0401-180	Open Pond	Perdido-Escambia	S/F&W	Within Conecuh National Forest		3	34.76	acres	
AL03140103-0401-190	Dowdy Pond	Perdido-Escambia	S/F&W	Within Conecuh National Forest		3	12.73	acres	
AL03140103-0601-300	Lake Jackson	Perdido-Escambia	S/F&W	Within Florala and north of AL-FL state line		3	415.46	acres	
AL03150110-0201-102	Sougahatchee Creek	Tallapoosa	PWS/F&W	Sougahatchee Lake dam	End of embayment	3	346.36	acres	Sougahatchee Lake
AL03160202-0502-202	UT to Toomsuba Creek	Tombigbee (Lower)	PWS	Lake Louise		3	47.39	acres	Lake Louise
Category 3 Rivers and Streams									
AL03150201-1001-600	Gale Creek	Alabama	F&W	Mulberry Creek	Its source	3	7.39	miles	
AL03150201-1001-150	Charlotte Creek	Alabama	F&W	Gale Creek	Its source	3	4.14	miles	
AL03150203-0108-100	Cedar Creek	Alabama	S/F&W	Alabama River	Its source	3	65.39	miles	
AL03150203-0201-100	Big Swamp Creek	Alabama	F&W	Alabama River	Its source	3	18.67	miles	
AL03150203-0301-200	Sand Creek	Alabama	F&W	Bogue Chitto Creek	Its source	3	7.91	miles	
AL03150203-0601-100	Turkey Creek	Alabama	F&W	Beaver Creek	Its source	3	29.98	miles	
AL03150203-0703-200	Rockwest Creek	Alabama	F&W	Alabama River	Its source	3	12.69	miles	
AL03150203-0703-900	UT to Rockwest Creek	Alabama	F&W	Rockwest Creek	Its source	3	3.8	miles	
AL03150204-0205-200	Big Flat Creek	Alabama	S/F&W	Alabama River	Its source	3	63.53	miles	
AL03150204-0303-100	Limestone Creek	Alabama	F&W	Alabama River	Its source	3	28.16	miles	
AL03150204-0303-200	Double Branch Creek	Alabama	F&W	Limestone Creek	Its source	3	7.37	miles	Local Name
AL03150204-0303-500	Hudson Branch	Alabama	F&W	Limestone Creek	Its source	3	3.54	miles	Local Name
AL03160109-0604-102	Mulberry Fork	Black Warrior	PWS/S/F&W	Baker Creek	Burnt Cane Creek	3	8.6	miles	
AL03160109-0603-101	Mulberry Fork	Black Warrior	PWS/F&W	Burnt Cane Creek	Frog Ague Creek	3	8.6	miles	
AL03160109-0603-102	Mulberry Fork	Black Warrior	PWS/F&W	Frog Ague Creek	Sipsey Fork	3	13.54	miles	
AL03160109-0207-100	Mulberry Fork	Black Warrior	F&W	Sipsey Fork	Marriott Creek	3	23.34	miles	
AL03160109-0103-800	Wolf Creek	Black Warrior	F&W	Duck River	Its source	3	4.31	miles	

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03160109-0106-201	Bridge Creek	Black Warrior	F&W	Eightmile Creek	Cullman water supply reservoir dam	3	4.41	miles	
AL03160109-0106-800	Adams Branch	Black Warrior	PWS	Bridge Creek	Its source	3	1.96	miles	
AL03160109-0106-900	Pope Creek	Black Warrior	PWS	Bridge Creek	Its source	3	2.84	miles	
AL03160109-0603-200	Burnt Cane Creek	Black Warrior	F&W	Mulberry Fork	Its source	3	10.31	miles	
AL03160109-0604-700	Lost Creek	Black Warrior	F&W	Mulberry Fork	Two miles upstream from Wolf Creek	3	5.92	miles	
AL03160109-0405-102	Lost Creek	Black Warrior	PWS/F&W	Two miles upstream from Wolf Creek	Cane Creek	3	4.92	miles	
AL03160109-0405-400	Indian Creek	Black Warrior	F&W	Lost Creek	Its source	3	7.1	miles	
AL03160109-0503-200	Indian Creek	Black Warrior	F&W	Wolf Creek	Its source	3	11.5	miles	
AL03160109-0602-802	Town Creek	Black Warrior	F&W	100 yards upstream of Southern Railway crossing	Its source	3	6.27	miles	
AL03160109-0602-102	Cane Creek	Black Warrior	F&W	Town Creek	Its source	3	10.34	miles	
AL03160109-0603-600	Frog Ague Creek	Black Warrior	F&W	Mulberry Fork	Its source	3	4.46	miles	
AL03160110-0104-701	Curtis Mill Creek	Black Warrior	F&W	Sandy Creek	Town of Double Springs water supply reservoir dam	3	3.67	miles	
AL03160110-0503-100	Rock Creek	Black Warrior	F&W	Ryan Creek	Its source	3	12.39	miles	
AL03160111-0201-600	Whippoorwill Creek	Black Warrior	F&W	Wynnville Creek	Its source	3	6.98	miles	
AL03160111-0206-500	Chitwood Creek	Black Warrior	F&W	Calvert Prong	Its source	3	2.78	miles	
AL03160111-0206-800	Mill Creek	Black Warrior	F&W	Chitwood Creek	Its source	3	6.39	miles	
AL03160111-0206-700	Whited Creek	Black Warrior	F&W	Calvert Prong	Its source	3	4.19	miles	
AL03160111-0308-200	Cunningham Creek	Black Warrior	F&W	Turkey Creek	Its source	3	11.6	miles	
AL03160112-0106-100	Valley Creek	Black Warrior	F&W	Black Warrior River	Blue Creek	3	30.75	miles	
AL03160112-0202-100	Big Yellow Creek	Black Warrior	S/F&W	Black Warrior River	end of embayment	3	7.48	miles	
AL03160112-0301-100	Blue Creek	Black Warrior	F&W	Black Warrior River	Its source	3	18.49	miles	
AL03160112-0301-200	Lick Creek	Black Warrior	F&W	Blue Creek	Its source	3	2.99	miles	
AL03160113-0104-100	Cypress Creek	Black Warrior	F&W	Black Warrior River	Its source	3	14.63	miles	
AL03160113-0505-200	Pole Bridge Branch	Black Warrior	F&W	Big Brush Creek	Its source	3	8.39	miles	
AL03160113-0503-100	Colwell Creek	Black Warrior	F&W	Big Brush Creek	Its source	3	11.79	miles	
AL03160113-0501-400	Little Brush Creek	Black Warrior	F&W	Big Brush Creek	Its source	3	10.76	miles	
AL03160113-0605-900	Martin Creek	Black Warrior	F&W	Gabriel Creek	Its source	3	1.2	miles	
AL03160113-0801-700	White Creek	Black Warrior	F&W	Black Warrior River	Its source	3	8.38	miles	
AL03160113-0802-100	Dollarhide Creek	Black Warrior	F&W	Black Warrior River	Its source	3	8.59	miles	
AL03150202-0101-103	Cahaba River	Cahaba	OAW/F&W	I-59	Its source	3	2.22	miles	
AL03150202-0202-500	Peavine Creek	Cahaba	F&W	Buck Creek	Its source	3	10.01	miles	
AL03150202-0202-900	UT to Cahaba Valley Creek	Cahaba	F&W	Cahaba Valley Creek	Its source	3	2.31	miles	
AL03150202-0302-110	Little Shades Creek	Cahaba	F&W	Shades Creek	Its source	3	8.99	miles	
AL03150202-0401-100	Shoal Creek	Cahaba	F&W	Little Cahaba River	Its source	3	19.09	miles	
AL03150202-0402-100	Mahan Creek	Cahaba	F&W	Little Cahaba River	Its source	3	15.47	miles	
AL03150202-0403-100	Sixmile Creek	Cahaba	S	Little Cahaba River	Its source	3	27.27	miles	
AL03150202-0502-100	Schultz Creek	Cahaba	S	Cahaba River	Its source	3	16.39	miles	
AL03130002-0805-102	Veasey Creek	Chattahoochee	F&W	Alabama-Georgia state line	Its source	3	10.51	miles	
AL03130002-0805-400	Finley Creek	Chattahoochee	F&W	Stroud Creek	Its source	3	4.98	miles	
AL03130002-0804-100	Guss Creek	Chattahoochee	F&W	Wehadkee Creek	Its source	3	6.63	miles	
AL03130002-0804-400	Gladney Mill Branch	Chattahoochee	F&W	Guss Creek	Its source	3	3.17	miles	
AL03130002-0903-200	Oseligee Creek	Chattahoochee	F&W	Alabama-Georgia state line	Its source	3	18.71	miles	
AL03130002-0901-300	Allen Creek	Chattahoochee	F&W	Oseligee Creek	Its source	3	4.89	miles	
AL03130002-0901-400	Kellem Hill Creek	Chattahoochee	F&W	Oseligee Creek	Its source	3	4.69	miles	
AL03130002-0903-300	Hardley Creek	Chattahoochee	F&W	Alabama-Georgia state line	Its source	3	10.22	miles	
AL03130002-0907-100	Moores Creek	Chattahoochee	F&W	Chattahoochee River	Its source	3	11.4	miles	
AL03130003-1205-100	Cowikee Creek	Chattahoochee	S/F&W	Chattahoochee River	Its source	3	4.52	miles	
AL03130003-1301-100	Chewalla Creek	Chattahoochee	S/F&W	Chattahoochee River	Its source	3	15.48	miles	
AL03130003-1310-100	Cheneyhatchee Creek	Chattahoochee	S/F&W	Chattahoochee River	Its source	3	13.78	miles	
AL03130004-0801-100	Chattahoochee River	Chattahoochee	F&W	Alabama-Florida state line	Woods Branch	3	14.14	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03130004-0703-102	Chattahoochee River	Chattahoochee	S/F&W	Woods Branch	Walter F. George Lock and Dam	3	36.04	miles	
AL03130004-0405-100	Abbie Creek	Chattahoochee	F&W	Chattahoochee River	Its source	3	42.53	miles	
AL03130004-0304-200	Vann Mill Creek	Chattahoochee	F&W	Abbie Creek	Its source	3	3.04	miles	
AL03130004-0403-100	Skippers Creek	Chattahoochee	F&W	Abbie Creek	Its source	3	6.71	miles	
AL03130012-0103-100	Cowarts Creek	Chipola	F&W	Alabama-Florida state line	Its source	3	21.72	miles	
AL03130012-0103-200	Gum Slough	Chipola	F&W	Alabama-Florida state line	Its source	3	6.74	miles	
AL03130012-0101-200	Mill Creek	Chipola	F&W	Cowarts Creek	Its source	3	9.43	miles	
AL03130012-0101-300	Webb Creek	Chipola	F&W	Cowarts Creek	Its source	3	10.22	miles	
AL03130012-0101-400	Cooper Creek	Chipola	F&W	Cowarts Creek	Its source	3	3.13	miles	
AL03130012-0103-300	Guy Branch	Chipola	F&W	Cowarts Creek	Its source	3	4.48	miles	
AL03130012-0103-400	Bazemores Mill Branch	Chipola	F&W	Cowarts Creek	Its source	3	1.38	miles	
AL03130012-0102-100	Rocky Creek	Chipola	F&W	Cowarts Creek	Its source	3	11.7	miles	
AL03130012-0102-200	Bruners Gin Creek	Chipola	F&W	Rocky Creek	Its source	3	5.43	miles	
AL03130012-0102-300	Little Rocky Creek	Chipola	F&W	Rocky Creek	Its source	3	5.14	miles	
AL03130012-0204-100	Big Creek	Chipola	F&W	Alabama-Florida state line	Its source	3	18.56	miles	
AL03130012-0201-100	Limestone Creek	Chipola	F&W	Big Creek	Its source	3	10.8	miles	
AL03130012-0201-200	Harkin Branch	Chipola	F&W	Limestone Creek	Its source	3	3.31	miles	
AL03130012-0201-300	Chipola Creek	Chipola	F&W	Limestone Creek	Its source	3	6.41	miles	
AL03130012-0202-200	Coopers Bay Creek	Chipola	F&W	Big Creek	Its source	3	3.17	miles	
AL03130012-0202-400	Big Branch	Chipola	F&W	Coopers Bay Creek	Its source	3	3.22	miles	
AL03130012-0202-300	Chestnut Branch	Chipola	F&W	Big Creek	Its source	3	2.36	miles	
AL03130012-0203-100	Double Bridges Creek	Chipola	F&W	Big Creek	Its source	3	9.22	miles	
AL03130012-0206-100	Spring Creek	Chipola	F&W	Big Creek	Its source	3	13.68	miles	
AL03130012-0207-200	Freeman Branch	Chipola	F&W	Alabama-Florida state line	Its source	3	3.83	miles	
AL03140201-1105-100	Choctawhatchee River	Choctawhatchee	F&W	Pea River	Its source	3	46.35	miles	
AL03140201-0103-100	Piney Woods Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	3	9.23	miles	
AL03140201-0103-200	Little Piney Woods Creek	Choctawhatchee	F&W	Piney Woods Creek	Its source	3	3.64	miles	
AL03140201-0203-100	Poor Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	3	10.71	miles	
AL03140201-0207-100	Blackwood Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	3	11.33	miles	
AL03140201-0302-100	Lindsey Creek	Choctawhatchee	F&W	West Fork Choctawhatchee River	Its source	3	12.48	miles	
AL03140201-0304-100	Sikes Creek	Choctawhatchee	F&W	West Fork Choctawhatchee River	Its source	3	13.07	miles	
AL03140201-0403-100	Little Judy Creek	Choctawhatchee	F&W	Judy Creek	Its source	3	14.99	miles	
AL03140201-0701-100	Pates Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	8.51	miles	
AL03140201-0704-200	Spann Branch	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	2.09	miles	
AL03140201-0704-300	Hurricane Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	15.66	miles	
AL03140201-0704-800	Caney Creek	Choctawhatchee	F&W	Hurricane Creek	Its source	3	2.36	miles	
AL03140201-0604-100	Little Choctawhatchee River	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	24.02	miles	
AL03140201-0602-100	Newton Creek	Choctawhatchee	F&W	Little Choctawhatchee River	Its source	3	11.05	miles	
AL03140201-1006-100	Claybank Creek	Choctawhatchee	F&W	Choctawhatchee River	Lake Tholocco dam	3	20.52	miles	
AL03140201-0801-100	Claybank Creek	Choctawhatchee	F&W	Lake Tholocco	Its source	3	11.64	miles	
AL03140201-1206-100	Double Bridges Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	38.28	miles	
AL03140201-1205-100	Beaverdam Creek	Choctawhatchee	F&W	Double Bridges Creek	Its source	3	12.37	miles	
AL03140201-1205-200	Brushy Branch	Choctawhatchee	F&W	Beaverdam Creek	Its source	3	3.07	miles	
AL03140201-1201-400	Blanket Creek	Choctawhatchee	F&W	Double Bridges Creek	Its source	3	5.71	miles	
AL03140202-0102-200	Spring Creek	Choctawhatchee	F&W	Pea River	Its source	3	11.13	miles	
AL03140202-0103-200	Little Indian Creek	Choctawhatchee	F&W	Pea River	Its source	3	12.56	miles	
AL03140202-0105-200	Bogue Chitta Creek	Choctawhatchee	F&W	Pea River	Its source	3	7.19	miles	
AL03140202-0108-100	Mill Creek	Choctawhatchee	F&W	Pea River	Its source	3	5.01	miles	
AL03140202-0109-200	Connors Creek	Choctawhatchee	F&W	Pea River	Its source	3	4.35	miles	
AL03140202-0204-100	Pea Creek	Choctawhatchee	F&W	Pea River	Its source	3	22.85	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03140202-0202-100	Stinking Creek	Choctawhatchee	F&W	Pea Creek	Its source	3	9.89	miles	
AL03140202-0203-100	Hurricane Creek	Choctawhatchee	F&W	Pea Creek	Its source	3	10.34	miles	
AL03140202-0301-200	Buckhorn Creek	Choctawhatchee	F&W	Pea River	Its source	3	15.97	miles	
AL03140202-0302-200	Richland Creek	Choctawhatchee	F&W	Pea River	Its source	3	15.9	miles	
AL03140202-0303-100	Big Creek	Choctawhatchee	F&W	Pea River	Its source	3	8.29	miles	
AL03140202-0402-200	Bowden Mill Creek	Choctawhatchee	F&W	Pea River	Its source	3	8.78	miles	
AL03140202-0406-100	Halls Creek	Choctawhatchee	F&W	Pea River	Its source	3	5.54	miles	
AL03140202-0509-200	Pea Creek	Choctawhatchee	F&W	Whitewater Creek	Its source	3	10.84	miles	
AL03140202-0503-200	Mims Creek	Choctawhatchee	F&W	Whitewater Creek	Its source	3	7.82	miles	
AL03140202-0508-200	Bluff Creek	Choctawhatchee	F&W	Big Creek	Its source	3	10.13	miles	
AL03140202-0601-100	Beaverdam Creek	Choctawhatchee	F&W	Pea River	Its source	3	11.33	miles	
AL03140202-0602-200	Helms Mill Creek	Choctawhatchee	F&W	Pea River	Its source	3	4.46	miles	
AL03140202-0603-100	Bucks Mill Creek	Choctawhatchee	F&W	Pea River	Its source	3	10.35	miles	
AL03140202-0605-100	Hays Creek	Choctawhatchee	F&W	Pea River	Its source	3	8.1	miles	
AL03140202-0607-100	Cripple Creek	Choctawhatchee	F&W	Pea River	Its source	3	8.75	miles	
AL03140202-0609-100	Holley Mill Creek	Choctawhatchee	F&W	Pea River	Its source	3	4.66	miles	
AL03140202-0610-200	Samson Branch	Choctawhatchee	F&W	Pea River	Its source	3	6.06	miles	
AL03140202-0802-400	Eightmile Creek	Choctawhatchee	F&W	Flat Creek	Alabama-Florida state line	3	8.61	miles	
AL03140202-0801-100	Corner Creek	Choctawhatchee	F&W	Eightmile Creek	Its source	3	16.35	miles	
AL03140203-0104-100	Choctawhatchee River	Choctawhatchee	F&W	Alabama-Florida state line	Pea River	3	4.45	miles	
AL03140203-0103-200	Spring Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	13.72	miles	
AL03140203-0103-300	Ice Factory Branch	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	1.45	miles	
AL03140203-0103-400	Wheeler Mill Branch	Choctawhatchee	F&W	Spring Creek	Its source	3	2.73	miles	
AL03140203-0103-500	Blue Branch	Choctawhatchee	F&W	Spring Creek	Its source	3	2.31	miles	
AL03140203-0103-600	Negro Church Branch	Choctawhatchee	F&W	Spring Creek	Its source	3	3.15	miles	
AL03140203-0103-700	Hathaway Branch	Choctawhatchee	F&W	Spring Creek	Its source	3	2.79	miles	
AL03140203-0104-200	Wide Branch	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	3.65	miles	
AL03140203-0104-300	Flowers Branch	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	2.4	miles	
AL03140203-0104-400	Smith Branch	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	1.77	miles	
AL03140203-0104-500	Whitewater Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	0.7	miles	
AL03140203-0104-600	John Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	1.21	miles	
AL03140203-0104-700	Boggy Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	1.57	miles	
AL03140203-0102-100	Justice Mill Creek	Choctawhatchee	F&W	Spring Creek	Its source	3	7.51	miles	
AL03140203-0105-200	Hand Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	0.55	miles	
AL03140203-0301-100	Wrights Creek	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	8.96	miles	
AL03140203-0301-200	Gully Branch	Choctawhatchee	F&W	Wrights Creek	Its source	3	3.58	miles	
AL03140203-0301-300	Grant Branch	Choctawhatchee	F&W	Wrights Creek	Its source	3	3.57	miles	
AL03140203-0301-400	Davis Mill Creek	Choctawhatchee	F&W	Wrights Creek	Its source	3	3.43	miles	
AL03140203-0301-500	Lighter Snag Creek	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	4.5	miles	
AL03140203-0301-600	Mill Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	2.27	miles	
AL03140203-0301-700	Tindil Branch	Choctawhatchee	F&W	Davis Mill Creek	Its source	3	3.55	miles	
AL03140203-0701-200	Kirkland Branch	Choctawhatchee	F&W	Holmes Creek	Its source	3	3.19	miles	
AL03140203-0701-300	Boggy Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	2.31	miles	
AL03140203-0701-400	Big Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	1.78	miles	
AL03140203-0303-100	Tenmile Creek	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	3.18	miles	
AL03140203-0303-200	Poplar Creek	Choctawhatchee	F&W	Tenmile Creek	Its source	3	2.03	miles	
AL03140203-0303-300	Cannon Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	2.46	miles	
AL03150105-0206-200	Ballplay Creek	Coosa	F&W	Coosa River	Its source	3	9.2	miles	
AL03150105-0304-100	Spring Creek	Coosa	F&W	Coosa River	Alabama-Georgia state line	3	15.29	miles	
AL03150105-0605-101	Chattooga River	Coosa	S/F&W	Coosa River	Gaylesville	3	9.98	miles	
AL03150105-0605-102	Chattooga River	Coosa	F&W	Gaylesville	Alabama-Georgia state line	3	8.57	miles	
AL03150105-0909-100	Terrapin Creek	Coosa	F&W	Coosa River	US Highway 278	3	24.28	miles	
AL03150105-0906-102	Terrapin Creek	Coosa	PWS/F&W	US Highway 278	Calhoun County Road 70	3	3.58	miles	
AL03150105-0906-103	Terrapin Creek	Coosa	F&W	Calhoun County Road 70	Alabama-Georgia state line	3	21.07	miles	
AL03150105-0906-200	Ladiga Creek	Coosa	PWS	Terrapin Creek	Terrapin Creek	3	2.91	miles	

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03150106-0201-401	Allen Branch	Coosa	F&W	Big Wills Creek	Ft. Payne public water supply dam	3	0.31	miles	
AL03150106-0405-200	Tallasseehatchee Creek	Coosa	F&W	Ohatchee Creek	Its source	3	35.97	miles	
AL03150106-0403-200	UT to Tallasseehatchee Creek	Coosa	F&W	Tallasseehatchee Creek	Its source	3	5.97	miles	
AL03150106-0406-200	Cave Creek	Coosa	F&W	Cane Creek	Its source	3	6.23	miles	
AL03150106-0504-200	Dye Creek	Coosa	F&W	Coosa River	Its source	3	6.46	miles	
AL03150106-0604-200	Snows Branch	Coosa	F&W	Choccolocco Creek	Its source	3	2.76	miles	
AL03150106-0605-100	Coldwater Spring Branch	Coosa	F&W	Choccolocco Creek	Its source	3	10.39	miles	
AL03150106-0611-100	Eastaboga Creek	Coosa	F&W	Choccolocco Creek	Its source	3	6.85	miles	
AL03150106-0609-100	Kelly Creek	Coosa	F&W	Cheaha Creek	Its source	3	12.25	miles	
AL03150106-0609-200	Brecon Branch	Coosa	F&W	Kelly Creek	Its source	3	3.68	miles	
AL03150106-0701-201	Mump Creek	Coosa	F&W	Talladega Creek	City of Talladega's water supply dam	3	0.85	miles	
AL03150106-0701-203	Mump Creek	Coosa	PWS/F&W	Mump Creek Reservoir	Its source	3	4.31	miles	
AL03150106-0807-100	Kelly Creek	Coosa	S/F&W	Coosa River	Its source	3	34.11	miles	
AL03150107-0907-100	Coosa River	Coosa	F&W	Tallapoosa River	Jordan Dam	3	12.96	miles	
AL03150201-0101-100	Bouldin tailrace canal	Coosa	F&W	Coosa River	Bouldin Dam	3	4.74	miles	
AL03150107-0204-600	Shirtee Creek	Coosa	F&W	Tallaseehatchee Creek	Its source	3	4.94	miles	
AL03150107-0305-100	Yellowleaf Creek	Coosa	S/F&W	Coosa River	Its source	3	20.67	miles	
AL03150107-0503-100	Waxahatchee Creek	Coosa	F&W	Coosa River	Its source	3	21.58	miles	
AL03150107-0501-500	UT to Waxahatchee Creek	Coosa	F&W	Waxahatchee Creek	Its source	3	4.02	miles	
AL03150107-0804-100	Socapatoy Creek	Coosa	F&W	Hatchet Creek	Its source	3	16.17	miles	
AL03150107-0905-100	Weoka Creek	Coosa	S/F&W	Coosa River	Its source	3	27.54	miles	
AL03170002-0302-100	Turkey Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	6.66	miles	
AL03170002-0302-200	Sandy Creek	Escatawpa	F&W	Turkey Creek	Its source	3	4.72	miles	
AL03170002-0304-200	Whiskey Creek	Escatawpa	F&W	Red Creek	Its source	3	2.17	miles	
AL03170002-0304-300	Buck Creek	Escatawpa	F&W	Red Creek	Its source	3	2.05	miles	
AL03170002-0304-400	Little Red Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	3.53	miles	
AL03170002-0304-500	Savannah Branch	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	3.15	miles	
AL03170003-0304-100	Bryd Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	0.21	miles	
AL03170008-0102-100	Brushy Creek	Escatawpa	F&W	Escatawpa River	Alabama-Mississippi state line	3	8.98	miles	
AL03170008-0104-100	Pine Barren Creek	Escatawpa	F&W	Escatawpa River	Its source	3	5.82	miles	
AL03170008-0104-300	West Pine Barren Creek	Escatawpa	F&W	Pine Barren Creek	Its source	3	8.27	miles	
AL03170008-0104-400	East Pine Barren Creek	Escatawpa	F&W	Pine Barren Creek	Its source	3	3.28	miles	
AL03170008-0202-200	Little Creek	Escatawpa	F&W	Escatawpa River	Its source	3	12.05	miles	
AL03170008-0201-200	Pond Creek	Escatawpa	F&W	Little Creek	Its source	3	10.84	miles	
AL03170008-0205-101	Puppy Creek	Escatawpa	F&W	Escatawpa River	Alabama Highway 217	3	5.68	miles	
AL03170008-0602-100	Franklin Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	9.46	miles	
AL03170008-0704-100	Flat Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	5.86	miles	
AL03170009-0103-200	West Fowl River	Escatawpa	S/F&W	Fowl River bay	Its source	3	5.84	miles	
AL03170009-0103-600	Bayou Coden	Escatawpa	F&W	Portersville Bay	Its source	3	2.3	miles	
AL03170009-0101-100	Little River	Escatawpa	F&W	Portersville Bay	Its source	3	2.54	miles	
AL03160204-0105-101	Mobile River	Mobile	F&W	Cold Creek	Barry Steam Plant	3	2.37	miles	
AL03160204-0105-102	Mobile River	Mobile	PWS/F&W	Barry Steam Plant	Tensaw River	3	10.29	miles	
AL03160204-0203-900	Martin Branch	Mobile	F&W	Red Hill Creek	Its source	3	5.52	miles	
AL03160204-0106-102	Cold Creek	Mobile	PWS/F&W	Dam 1 1/2 miles west of US Highway 43	Its source	3	5.05	miles	
AL03160204-0302-101	Bayou Sara	Mobile	S/F&W	Mobile River	Gunnison Creek	3	4.51	miles	
AL03160204-0302-103	Bayou Sara	Mobile	S/F&W	Norton Creek	US Highway 43	3	1.26	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03160204-0302-104	Bayou Sara	Mobile	F&W	US Highway 43	Its source	3	14.95	miles	
AL03160204-0301-100	Gunnison Creek	Mobile	S/F&W	Bayou Sara	Its source	3	7.62	miles	
AL03160204-0301-200	Steele Creek	Mobile	S/F&W	Gunnison Creek	Its source	3	3.45	miles	
AL03160204-0302-502	Norton Creek	Mobile	F&W	Saraland WWTP	Its source	3	3.74	miles	
AL03160204-0403-101	Eightmile Creek	Mobile	F&W	Chickasaw Creek	City of Prichard's water supply intake	3	2.19	miles	
AL03160204-0403-102	Eightmile Creek	Mobile	PWS/F&W	City of Prichard's water supply intake	US Highway 45	3	1.73	miles	
AL03160204-0404-200	Hog Bayou	Mobile	F&W	Chickasaw Creek	Its source	3	0.85	miles	
AL03160205-0204-200	Alligator Bayou	Mobile	F&W	Dog River	Its source	3	4.47	miles	
AL03160205-0202-200	Moore Creek	Mobile	F&W	Dog River	Its source	3	3.95	miles	
AL03160205-0202-500	Robinson Bayou	Mobile	F&W	Dog River	Its source	3	1.97	miles	
AL03160205-0202-110	Eslava Creek	Mobile	F&W	Bolton Branch	Its source	3	3.02	miles	
AL03160205-0203-100	Halls Mill Creek	Mobile	F&W	Dog River	Its source	3	11.3	miles	
AL03160205-0204-500	Rattlesnake Bayou	Mobile	F&W	Rabbit Creek	Its source	3	1.49	miles	
AL03160205-0206-200	East Fowl River	Mobile	S/F&W	Fowl River	Its source	3	5.38	miles	
AL03160205-0302-300	Point Clear Creek	Mobile	F&W	Mobile Bay	Its source	3	4.45	miles	
AL03160205-0302-700	Fly Creek	Mobile	S/F&W	Mobile Bay	Its source	3	4.57	miles	
AL03160205-0302-800	Rock Creek	Mobile	F&W	Mobile Bay	Its source	3	4.01	miles	
AL03160204-0304-300	Corn Branch	Mobile	F&W	Fish River	Its source	3	5.14	miles	
AL03160205-0310-300	Boggy Branch	Mobile	S/F&W	Bon Secour River	Its source	3	3.47	miles	
AL03140103-0102-100	Lightwood Knot Creek	Perdido-Escambia	F&W	Yellow River	Its source	3	24.35	miles	
AL03140103-0102-500	Cameron Creek	Perdido-Escambia	F&W	Lightwood Knot Creek	Its source	3	3.57	miles	
AL03140103-0202-100	Indian Creek	Perdido-Escambia	F&W	Yellow River	Its source	3	10.86	miles	
AL03140103-0303-100	Five Runs Creek	Perdido-Escambia	F&W	Yellow River	Its source	3	30.72	miles	
AL03140103-0303-400	Bay Branch	Perdido-Escambia	F&W	Five Runs Creek	Its source	3	7.58	miles	
AL03140103-0402-300	Big Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	5.26	miles	
AL03140103-0601-100	Pond Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	2.85	miles	
AL03140103-0601-200	Fleming Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	3.15	miles	
AL03140103-0602-100	Horsehead Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	4.59	miles	
AL03140104-0105-100	Boggy Hollow Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	7.45	miles	
AL03140104-0106-100	Rock Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	1.98	miles	
AL03140104-0301-200	Sweetwater Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	4.23	miles	
AL03140104-0303-100	Big Jumiper Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	0.49	miles	
AL03140104-0402-100	Dixon Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	0.77	miles	
AL03140106-0701-102	Perdido River	Perdido-Escambia	F&W	Jacks Branch	Its source	3	43.48	miles	
AL03140106-0101-100	Perdido Creek	Perdido-Escambia	F&W	Perdido River	Its source	3	9.61	miles	
AL03140106-0203-100	Dyas Creek	Perdido-Escambia	S/F&W	Perdido River	Its source	3	18.34	miles	
AL03140106-0503-100	Hollinger Creek	Perdido-Escambia	F&W	Styx River	Its source	3	23.1	miles	
AL03140106-0602-100	Negro Creek	Perdido-Escambia	F&W	Blackwater River	Its source	3	9.24	miles	
AL03140106-0601-500	Rock Creek	Perdido-Escambia	F&W	Blackwater River	Its source	3	8.22	miles	
AL03140107-0104-200	Palmetto Creek	Perdido-Escambia	S/F&W	Perdido Bay	Its source	3	4.79	miles	
AL03140107-0104-300	Soldier Creek	Perdido-Escambia	S/F&W	Perdido Bay	Its source	3	8.77	miles	
AL03140107-0104-600	Spring Branch	Perdido-Escambia	S/F&W	Palmetto Creek	Its source	3	3.04	miles	
AL03140107-0201-100	Wolf Creek	Perdido-Escambia	F&W	Wolf Bay	Its source	3	8.91	miles	
AL03140107-0201-200	Sandy Creek	Perdido-Escambia	S/F&W	Wolf Creek	Its source	3	7.57	miles	
AL03140107-0202-101	Miflin Creek	Perdido-Escambia	S/F&W	Wolf Bay	limit of tidal effects	3	3.39	miles	
AL03140107-0202-102	Miflin Creek	Perdido-Escambia	F&W	limit of tidal effects	Its source	3	4.98	miles	
AL03140107-0203-201	Hammock Creek	Perdido-Escambia	S/F&W	Wolf Bay	limit of tidal effects	3	3.69	miles	
AL03140107-0203-202	Hammock Creek	Perdido-Escambia	F&W	limit of tidal effects	Its source	3	2.5	miles	
AL03140301-0503-100	Conecuh River	Perdido-Escambia	F&W	Sepulga River	Point A Dam	3	34.68	miles	
AL03140301-0403-103	Conecuh River	Perdido-Escambia	F&W	Hornet Creek	Broadhead Creek	3	35.36	miles	
AL03140301-0105-100	Conecuh River	Perdido-Escambia	F&W	Mannings Creek	Its source	3	39.63	miles	
AL03140301-0501-300	Prestwood Creek	Perdido-Escambia	F&W	Conecuh River	Its source	3	6.01	miles	
AL03140301-0501-500	UT to Conecuh River	Perdido-Escambia	F&W	Conecuh River	Its source	3	2.22	miles	
AL03140301-0402-500	Double Branch	Perdido-Escambia	F&W	Conecuh River	Its source	3	6.59	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03140302-0505-100	Patsaliga Creek	Perdido-Escambia	F&W	Conecuh River	Its source	3	84.73	miles	
AL03140302-0403-100	Little Patsaliga Creek	Perdido-Escambia	S/F&W	Patsaliga Creek	Its source	3	32	miles	
AL03140303-0704-100	Sepulga River	Perdido-Escambia	F&W	Conecuh River	Its source	3	61.47	miles	
AL03140303-0605-100	Pigeon Creek	Perdido-Escambia	F&W	Sepulga River	Its source	3	79.41	miles	
AL03140303-0501-500	UT to Pigeon Creek	Perdido-Escambia	F&W	Pigeon Creek	Its source	3	3.83	miles	
AL03140303-0305-100	Persimmon Creek	Perdido-Escambia	F&W	Sepulga River	Its source	3	55.01	miles	
AL03140304-0105-102	Conecuh River	Perdido-Escambia	F&W	Mantle Branch	Sepulga River	3	33.57	miles	
AL03140304-0304-100	Murder Creek	Perdido-Escambia	F&W	Conecuh River	Its source	3	67.84	miles	
AL03140304-0206-100	Mill Creek	Perdido-Escambia	F&W	Murder Creek	Its source	3	10.88	miles	
AL03140304-0206-200	Sandy Creek	Perdido-Escambia	F&W	Mill Creek	Its source	3	5.76	miles	
AL03140304-0505-100	Burnt Corn Creek	Perdido-Escambia	S/F&W	Murder Creek	Its source	3	43.47	miles	
AL03140305-0202-100	Sizemore Creek	Perdido-Escambia	S/F&W	Big Escambia Creek	Its source	3	14.28	miles	
AL03140305-0201-100	Wet Weather Creek	Perdido-Escambia	F&W	Sizemore Creek	Its source	3	13.46	miles	
AL03140305-0401-100	Canoe Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	3.85	miles	
AL03140305-0401-300	Reedy Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	1.83	miles	
AL03140305-0501-100	Pine Barren Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	2.62	miles	
AL03140305-0501-200	Beaverdam Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	3	3.99	miles	
AL03150108-0504-102	Tallapoosa River	Tallapoosa	F&W	4 miles upstream of Randolph County Road 88	dam at Cleburne County Road 36	3	5.77	miles	
AL03150108-0504-106	Tallapoosa River	Tallapoosa	F&W	Cleburne County Road 19	Alabama-Georgia state line	3	37.45	miles	
AL03150108-1004-103	Little Tallapoosa River	Tallapoosa	F&W	Wolf Creek	Alabama-Georgia state line	3	30.78	miles	
AL03150109-0502-103	Tallapoosa River	Tallapoosa	F&W	Hillabee Creek	Alabama Highway 77	3	40.75	miles	
AL03150109-0106-102	Tallapoosa River	Tallapoosa	F&W	Cedar Creek	R. L. Harris Dam	3	10.68	miles	
AL03150110-0204-102	Sougahatchee Creek	Tallapoosa	F&W	end of embayment	Sougahatchee Lake dam	3	47.35	miles	
AL03150110-0201-103	Sougahatchee Creek	Tallapoosa	PWS/F&W	end of embayment	Its source	3	4.95	miles	
AL03150110-0403-100	Uphapee Creek	Tallapoosa	F&W	Tallapoosa River	Its source	3	21.16	miles	
AL03150110-0403-400	Bulger Creek	Tallapoosa	PWS/F&W	Uphapee Creek	Its source	3	7.52	miles	
AL03150110-0201-600	Head Creek	Tallapoosa	F&W	Sougahatchee Creek	Its source	3	4	miles	
AL03150110-0803-100	Old Town Creek	Tallapoosa	F&W	Line Creek	Its source	3	40.26	miles	
AL06030002-0201-301	Cole Spring Branch	Tennessee	F&W	Paint Rock River	Bridge at Jones farm	3	0.99	miles	
AL06030002-0201-303	Cole Spring Branch	Tennessee	F&W	Jeep trail crossing	Its source	3	3.29	miles	
AL06030002-0204-301	Little Paint Rock Creek	Tennessee	F&W	Paint Rock River	Merril Road Bridge	3	1.2	miles	
AL06030002-0204-303	Little Paint Rock Creek	Tennessee	F&W	Jeep trail crossing	Its source	3	1.93	miles	
AL06030002-0401-401	Chase Creek	Tennessee	F&W	Flint River	Acuff Spring	3	0.78	miles	
AL06030002-0401-403	Chase Creek	Tennessee	F&W	Alabama Highway 72	Its source	3	2.14	miles	
AL06030002-0505-102	Indian Creek	Tennessee	F&W	Martin Road (Redstone Arsenal)	US Highway 72	3	10.37	miles	
AL06030002-0501-100	Huntsville Spring Branch	Tennessee	F&W	Broglan Branch	Its source	3	1.85	miles	
AL06030002-0601-100	Cotaco Creek	Tennessee	S/F&W	West Fork Cotaco Creek	Its source	3	14.08	miles	
AL06030002-0602-101	West Fork Cotaco Creek	Tennessee	F&W	Cotaco Creek	Alabama Highway 67	3	1.56	miles	
AL06030002-1004-102	No Business Creek	Tennessee	F&W	Johnson Chapel Creek	Its source	3	6.81	miles	
AL06030002-1006-102	West Flint Creek	Tennessee	F&W	McDaniel Creek	Its source	3	24.32	miles	
AL06030002-1005-201	Elam Creek	Tennessee	F&W	West Flint Creek	Rocky Branch	3	2.01	miles	
AL06030002-1009-401	Village Branch	Tennessee	F&W	West Flint Creek	Moss Spring Branch	3	2.94	miles	
AL06030004-0104-101	Anderson Creek	Tennessee	F&W	Elk River	Snake Road bridge	3	4.69	miles	
AL06030006-0103-102	Bear Creek	Tennessee	S/F&W	Alabama Highway 187	Mill Creek	3	22.31	miles	
AL06030006-0206-100	Cedar Creek	Tennessee	F&W	Alabama-Mississippi state line	Cedar Creek Lake Dam	3	18.75	miles	
AL06030006-0201-103	Cedar Creek	Tennessee	F&W	Alabama Highway 24	Its source	3	24.6	miles	
AL06030006-0205-101	Little Bear Creek	Tennessee	S/F&W	Cedar Creek	Little Bear Creek Dam	3	11.88	miles	
AL03160201-0106-200	Sycamore Creek	Tombigbee (Lower)	F&W	Chickasaw Bogue	Its source	3	8.02	miles	
AL03160201-0202-100	Kinterbish Creek	Tombigbee (Lower)	S/F&W	Tombigbee River	Alabama-Mississippi state line	3	52.74	miles	
AL03160201-0302-100	Beaver Creek	Tombigbee (Lower)	S/F&W	Tombigbee River	Its source	3	41.86	miles	
AL03160201-0507-100	Tuckabum Creek	Tombigbee (Lower)	F&W	Tombigbee River	Alabama-Mississippi state line	3	48.25	miles	

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03160201-0506-100	Yantley Creek	Tombigbee (Lower)	F&W	Tuckabum Creek	Alabama-Mississippi state line	3	37.28	miles	
AL03160201-0603-100	Horse Creek	Tombigbee (Lower)	S/F&W	Tombigbee River	Its source	3	45.44	miles	
AL03160201-0703-100	Bashi Creek	Tombigbee (Lower)	S/F&W	Tombigbee River	Its source	3	35.12	miles	
AL03160201-0903-200	Tishlarka Creek	Tombigbee (Lower)	F&W	Wahalak Creek	Its source	3	11.58	miles	
AL03160201-0908-200	Turkey Creek	Tombigbee (Lower)	S/F&W	Tombigbee River	Its source	3	18.15	miles	
AL03160201-0908-300	Okatuppa Creek	Tombigbee (Lower)	F&W	Tombigbee River	Alabama-Mississippi state line	3	48.47	miles	
AL03160201-0804-100	Bogueloosa Creek	Tombigbee (Lower)	F&W	Okatuppa Creek	Its source	3	22.73	miles	
AL03160202-0703-100	Sucarnoochee River	Tombigbee (Lower)	F&W	Tombigbee River	US Highway 11	3	33.41	miles	
AL03160202-0303-102	Sucarnoochee River	Tombigbee (Lower)	PWS/S/F&W	US Highway 11	Miuka Creek	3	6.07	miles	
AL03160202-0303-103	Sucarnoochee River	Tombigbee (Lower)	F&W	Miuka Creek	Alabama-Mississippi state line	3	19.44	miles	
AL03160202-0604-100	Alamuchee Creek	Tombigbee (Lower)	F&W	Sucarnoochee River	Alabama-Mississippi state line	3	37.58	miles	
AL03160202-0502-101	Toomsuba Creek	Tombigbee (Lower)	F&W	Alamuchee Creek	AT&N Railroad	3	1.14	miles	
AL03160202-0502-102	Toomsuba Creek	Tombigbee (Lower)	PWS/F&W	AT&N Railroad	Alabama-Mississippi state line	3	9.9	miles	
AL03160203-0502-201	UT to Toomsuba Creek	Tombigbee (Lower)	PWS	Toomsuba Creek	Lake Louise dam	3	1.91	miles	
AL03160203-1103-101	Tombigbee River	Tombigbee (Lower)	F&W	Mobile River	Upper end of Bilbo Island	3	11.89	miles	
AL03160203-1103-103	Tombigbee River	Tombigbee (Lower)	F&W	Olin Basin	Bassetts Creek	3	21.37	miles	
AL03160203-0901-103	Tombigbee River	Tombigbee (Lower)	PWS/S/F&W	1/2 mile downstream of Southern Railway Crossing	Smiths Creek	3	8.83	miles	
AL03160203-0402-102	Tombigbee River	Tombigbee (Lower)	F&W	Smiths Creek	Coffeeville Lock and Dam	3	18.45	miles	
AL03160203-0104-100	Santa Bogue Creek	Tombigbee (Lower)	S/F&W	Tombigbee River	Its source	3	26.44	miles	
AL03160203-0304-100	Salitpa Creek	Tombigbee (Lower)	S/F&W	Tombigbee River	Its source	3	43.34	miles	
AL03160203-0503-100	Jackson Creek	Tombigbee (Lower)	F&W	Tombigbee River	Its source	3	23.33	miles	
AL03160203-0606-100	Bassett Creek	Tombigbee (Lower)	F&W	Tombigbee River	Little Bassett Creek	3	39.26	miles	
AL03160203-0602-200	James Creek	Tombigbee (Lower)	F&W	Bassett Creek	Its source	3	6.86	miles	
AL03160203-0705-100	Bassetts Creek	Tombigbee (Lower)	S/F&W	Tombigbee River	Its source	3	43.22	miles	
AL03160203-0701-100	Little Bassetts Creek	Tombigbee (Lower)	F&W	Bassetts Creek	Its source	3	13.54	miles	
AL03160203-0702-600	Miles Creek	Tombigbee (Lower)	F&W	Bassetts Creek	Its source	3	5.21	miles	
AL03160203-0802-100	Lewis Creek	Tombigbee (Lower)	S/F&W	Tombigbee River	Its source	3	12.28	miles	
AL03160203-1001-100	Bates Creek	Tombigbee (Lower)	S/F&W	Bilbo Creek	Its source	3	25.3	miles	
Category 4A Lake and Reservoirs									
AL03160109-0106-102	Eightmile Creek	Black Warrior	PWS	Cullman water supply reservoir dam	Moody Branch	4A	527.25	acres	
AL03160111-0408-101	Village Creek	Black Warrior	LWF	Bayview Lake Dam	Second Creek	4A	412.49	acres	Bayview Lake
AL03150105-1003-102	Coosa River	Coosa	PWS/S/F&W	Weiss dam powerhouse	Spring Creek	4A	17829.2	acres	Weiss Lake
AL03150105-1001-102	Coosa River	Coosa	S/F&W	Spring Creek	Alabama-Georgia state line	4A	7689.78	acres	Weiss Lake
AL03140301-0404-101	Conecuh River	Perdido-Escambia	S/F&W	Point A Dam	Point A Lake	4A	610.56	acres	Point A Lake
AL03140301-0403-101	Conecuh River	Perdido-Escambia	S/F&W	Gantt Dam	Gantt Lake	4A	1817.43	acres	Gantt Lake
Category 4A Rivers and Streams									
AL03160109-0103-900	Duck Creek	Black Warrior	F&W	Duck River	Its source	4A	5.76	miles	
AL03160109-0103-150	Long Branch	Black Warrior	F&W	Wolf Creek	Its source	4A	2.04	miles	
AL03160109-0107-100	Broglen River	Black Warrior	F&W	Mulberry Fork	Its source	4A	12.4	miles	
AL03160109-0107-500	Eightmile Creek	Black Warrior	F&W	Broglen River	Cullman water supply reservoir dam	4A	8.15	miles	
AL03160109-0106-103	Eightmile Creek	Black Warrior	PWS	Moody Branch	Its source	4A	7.6	miles	
AL03160109-0202-100	Thacker Creek	Black Warrior	F&W	Mulberry Fork	Its source	4A	9.98	miles	
AL03160110-0403-102	Rock Creek	Black Warrior	F&W	Lake Lewis Smith	Blevens Creek	4A	8.82	miles	
AL03160110-0406-100	Crooked Creek	Black Warrior	F&W	Lake Lewis Smith	Its source	4A	30.47	miles	
AL03160111-0202-200	Graves Creek	Black Warrior	F&W	Locust Fork	Its source	4A	9.79	miles	
AL03160111-0408-300	Camp Branch	Black Warrior	F&W	Bayview Lake	Its source	4A	4.93	miles	
AL03160112-0503-100	Hurricane Creek	Black Warrior	F&W	Black Warrior River	Its source	4A	31.5	miles	
AL03160112-0502-200	Little Hurricane Creek	Black Warrior	F&W	Hurricane Creek	Its source	4A	10.19	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03160112-0502-300	North Fork of Hurricane Creek	Black Warrior	F&W	Hurricane Creek	Its source	4A	6.53	miles	
AL03150202-0201-300	Patton Creek	Cahaba	F&W	Cahaba River	Its source	4A	8.84	miles	
AL03150202-0302-100	Shades Creek	Cahaba	F&W	Cahaba River	Its source	4A	56.38	miles	
AL03150202-0302-202	Mud Creek	Cahaba	F&W	Tannehill Iron Works	Its source	4A	4.08	miles	
AL03150202-0302-800	Mill Creek	Cahaba	F&W	Mud Creek	Its source	4A	6.65	miles	
AL03150202-0302-900	Cooley Creek	Cahaba	F&W	Mill Creek	Its source	4A	2.83	miles	
AL03150202-0902-502	Dry Creek	Cahaba	F&W	Dallas County Road 201	Its source	4A	4.98	miles	
AL03130012-0205-201	Boggy Creek	Chipola	F&W	Buck Creek	Cottondale WWTP	4A	3.48	miles	
AL03150106-0202-300	Little Wills Creek	Coosa	F&W	Big Wills Creek	Its source	4A	5.61	miles	
AL03150107-0502-100	Buxahatchee Creek	Coosa	F&W	Waxahatchee Creek	Its source	4A	14	miles	
AL03170008-0205-102	Puppy Creek	Escatawpa	F&W	Alabama Highway 217	Its source	4A	11.32	miles	
AL03170008-0401-200	Juniper Creek	Escatawpa	F&W	Big Creek	Its source	4A	6.67	miles	
AL03160204-0302-102	Bayou Sara	Mobile	S/F&W	Gunnison Creek	Norton Creek	4A	2.76	miles	
AL03160204-0302-501	Norton Creek	Mobile	F&W	Bayou Sara	Saraland WWTP	4A	0.95	miles	
AL03160204-0403-103	Eightmile Creek	Mobile	F&W	US Highway 45	Highpoint Boulevard	4A	3.32	miles	
AL03160204-0403-200	Gum Tree Branch	Mobile	F&W	Eightmile Creek	Its source	4A	2.27	miles	
AL03160205-0204-101	Dog River	Mobile	S/F&W	Mobile Bay	Halls Mill Creek	4A	2.79	miles	
AL03160205-0204-102	Dog River	Mobile	F&W	Halls Mill Creek	Moore Creek	4A	1.38	miles	
AL03160205-0204-301	Rabbit Creek	Mobile	F&W	Halls Mill Creek	Alabama Highway 163	4A	2.28	miles	
AL03140301-0404-102	Conecuh River	Perdido-Escambia	S/F&W	Point A Lake	Gantt Dam	4A	2.26	miles	
AL03140301-0403-102	Conecuh River	Perdido-Escambia	F&W	Gantt Lake	Hornet Creek	4A	4.55	miles	
AL03140301-0302-102	Conecuh River	Perdido-Escambia	F&W	Broadhead Creek	Mannings Creek	4A	24.53	miles	
AL03150108-0504-103	Tallapoosa River	Tallapoosa	F&W	dam at Cleburne County Road 36	1/2 mile upstream of Cleburne County Road 36	4A	0.44	miles	
AL03150108-0504-104	Tallapoosa River	Tallapoosa	PWS/F&W	1/2 mile upstream of Cleburne County Road 36	Cleburne County Road 19	4A	3.82	miles	
AL03150108-1004-300	Wolf Creek	Tallapoosa	F&W	Little Tallapoosa River	Its source	4A	5.53	miles	
AL06030001-0705-100	Town Creek	Tennessee	F&W	Tennessee River	Its source	4A	69.39	miles	
AL06030001-0804-200	Scarham Creek	Tennessee	F&W	Short Creek	Its source	4A	23.42	miles	
AL06030002-0201-302	Cole Spring Branch	Tennessee	F&W	Bridge at Jones farm	Jeep trail crossing	4A	1.8	miles	
AL06030002-0204-302	Little Paint Rock Creek	Tennessee	F&W	Merril Road Bridge	Jeep trail crossing	4A	2.17	miles	
AL06030002-0304-100	Mountain Fork	Tennessee	F&W	Flint River	Its source	4A	14.9	miles	
AL06030002-0401-402	Chase Creek	Tennessee	F&W	Acuff Spring	Alabama Highway 72	4A	2.14	miles	
AL06030002-0403-101	Hurricane Creek	Tennessee	F&W	Flint River	Gurley Pike Road	4A	7.31	miles	
AL06030002-0405-700	Yellow Bank Creek	Tennessee	F&W	Flint River	Its source	4A	5.33	miles	
AL06030002-0504-100	Indian Creek	Tennessee	F&W	US Highway 72	Its source	4A	6.49	miles	
AL06030002-0604-100	Town Creek	Tennessee	F&W	Cotaco Creek	Its source	4A	8.66	miles	
AL06030002-0902-200	Cane Creek	Tennessee	F&W	Tennessee River	Its source	4A	7.92	miles	
AL06030002-0903-100	Aldridge Creek	Tennessee	F&W	Tennessee River	Its source	4A	11.8	miles	
AL06030002-0703-102	Limestone Creek	Tennessee	F&W	US Highway 72	Leslie Branch	4A	10.79	miles	
AL06030002-0802-201	French Mill Creek	Tennessee	F&W	Piney Creek	Unnamed tributary in Pine Swamp	4A	5.21	miles	
AL06030002-1009-102	Flint Creek	Tennessee	F&W	Alabama Highway 67	L&N Raiload	4A	5.06	miles	
AL06030002-1009-103	Flint Creek	Tennessee	PWS/F&W	L&N Railroad	Alabama Highway 36	4A	9.1	miles	
AL06030002-1009-104	Flint Creek	Tennessee	LWF	Alabama Highway 36	Shoal Creek	4A	10	miles	
AL06030002-1003-102	Flint Creek	Tennessee	F&W	Shoal Creek	Its source	4A	13.39	miles	
AL06030002-1001-200	Robinson Creek	Tennessee	F&W	Flint Creek	Its source	4A	6.69	miles	
AL06030002-1001-500	Indian Creek	Tennessee	F&W	Flint Creek	Its source	4A	4.22	miles	
AL06030002-1001-800	East Fork Flint Creek	Tennessee	F&W	Flint Creek	Its source	4A	15.32	miles	
AL06030002-1002-100	Crowdabout Creek	Tennessee	F&W	Flint Creek	Its source	4A	16.11	miles	
AL06030002-1003-500	Mack Creek	Tennessee	F&W	Flint Creek	Its source	4A	5.91	miles	
AL06030002-1003-600	Shoal Creek	Tennessee	F&W	Flint Creek	Its source	4A	12.59	miles	
AL06030002-1003-700	Cedar Creek	Tennessee	F&W	Flint Creek	Its source	4A	9.54	miles	
AL06030002-1003-900	Town Branch	Tennessee	F&W	Shoal Creek	Its source	4A	1.9	miles	
AL06030002-1003-150	unnamed tributary to Town Branch	Tennessee	F&W	Town Branch	Its source	4A	1.25	miles	
AL06030002-1004-101	No Business Creek	Tennessee	F&W	Flint Creek	Johnson Chapel Creek	4A	7.28	miles	

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL06030002-1008-100	West Flint Creek	Tennessee	F&W	Flint Creek	McDaniel Creek	4A	23.12	miles	
AL06030002-1005-202	Elam Creek	Tennessee	F&W	Rocky Branch	Its source	4A	12.08	miles	
AL06030002-1006-201	McDaniel Creek	Tennessee	F&W	West Flint Creek	Alabama Highway 36	4A	4.16	miles	
AL06030002-1007-100	Big Shoal Creek	Tennessee	F&W	West Flint Creek	Its source	4A	14.47	miles	
AL06030002-1009-402	Village Branch	Tennessee	F&W	Moss Spring Branch	Its source	4A	6.47	miles	
AL06030002-1101-102	Swan Creek	Tennessee	A&I	Alabama Highway 24	Town Creek	4A	2.8	miles	
AL06030002-1103-202	Round Island Creek	Tennessee	F&W	Browns Ferry Road	Beauchamp Branch	4A	3.52	miles	
AL06030002-1106-100	Mallard Creek	Tennessee	F&W	Tennessee River	Its source	4A	14.05	miles	
AL06030002-1204-103	Second Creek	Tennessee	F&W	Lauderdale County Road 76	Alabama-Tennessee state line	4A	13	miles	
AL06030004-0102-100	Shoal Creek	Tennessee	F&W	Elk River	Alabama-Tennessee state line	4A	7.47	miles	
AL06030005-0104-100	Big Nance Creek	Tennessee	F&W	Tennessee River	Its source	4A	27.31	miles	
AL06030006-0201-900	Harris Creek	Tennessee	F&W	Mud Creek	Its source	4A	5.99	miles	
Category 4B Rivers and Streams									
AL03160111-0407-100	Fivemile Creek	Black Warrior	F&W	Locust Fork	Its source	4B	44.57	miles	
AL03140201-0207-300	Dunham Creek	Choctawhatchee	F&W	Blackwood Creek	Its source	4B	4.27	miles	
Category 4C Rivers and Streams									
AL03150105-1003-200	Coosa River	Coosa	F&W	Weiss dam powerhouse	Weiss dam	4C	19.62	miles	
AL03150109-0107-102	Tallapoosa River	Tallapoosa	F&W	Alabama Highway 77	Cedar Creek	4C	3.15	miles	
Category 5 Lake and Reservoirs									
AL03150203-0805-101	Alabama River	Alabama	S/F&W	McCalls Creek	Bear Creek	5	844.79	acres	Claiborne Lake
AL03150203-0805-102	Alabama River	Alabama	S/F&W	Bear Creek	Frisco Railroad Crossing	5	358.4	acres	Claiborne Lake
AL03150203-0805-103	Alabama River	Alabama	F&W	Frisco Railroad Crossing	Pursley Creek	5	563.2	acres	Claiborne Lake
AL03150203-0805-104	Alabama River	Alabama	F&W	Pursley Creek	River Mile 131	5	627.2	acres	Claiborne Lake
AL03150203-0805-105	Alabama River	Alabama	PWS	River Mile 131	Beaver Creek	5	128	acres	Claiborne Lake
AL03150203-0703-101	Alabama River	Alabama	PWS	Beaver Creek	Rockwest Creek	5	467.2	acres	Claiborne Lake
AL03150204-0105-100	Alabama River	Alabama	S/F&W	Claiborne Lock and Dam	McCalls Creek	5	2438.39	acres	Claiborne Lake
AL03150106-0808-102	Coosa River	Coosa	PWS/S/F&W	River Mile 89	Logan Martin Dam	5	698.25	acres	Lay Lake
AL03150106-0801-100	Coosa River	Coosa	S/F&W	Logan Martin Dam	Broken Arrow Creek	5	14415.7	acres	Logan Martin Lake
AL03150106-0501-101	Coosa River	Coosa	PWS/S/F&W	Broken Arrow Creek	Trout Creek	5	1450.26	acres	Logan Martin Lake
AL03150106-0501-102	Coosa River	Coosa	S/F&W	Trout Creek	Neely Henry Dam	5	820.38	acres	Logan Martin Lake
AL03150106-0309-101	Coosa River	Coosa	S/F&W	Neely Henry Dam	McCardney's Ferry	5	5487.94	acres	Neely Henry Lake
AL03150106-0309-102	Coosa River	Coosa	F&W	McCardney's Ferry	Big Wills Creek	5	3502.52	acres	Neely Henry Lake
AL03150106-0104-101	Coosa River	Coosa	F&W	Big Wills Creek	City of Gadsden water supply intake	5	245.39	acres	Neely Henry Lake
AL03150106-0104-102	Coosa River	Coosa	PWS/F&W	City of Gadsden water supply intake	Weiss dam powerhouse	5	1897.43	acres	Neely Henry Lake
AL03150107-0601-100	Coosa River	Coosa	PWS/S/F&W	Mitchell Dam	Lay Dam	5	5400.33	acres	Mitchell Lake
AL03150107-0401-100	Coosa River	Coosa	PWS/S/F&W	Lay Dam	Southern RR Bridge	5	11806.34	acres	Lay Lake
AL03150107-0101-102	Coosa River	Coosa	S/F&W	Southern RR Bridge	River Mile 89	5	862.4	acres	Lay Lake
AL03170008-0402-100	Big Creek	Escatawpa	PWS/F&W	Big Creek Reservoir	Collins Creek	5	3309.31	acres	Big Creek Lake
AL03150110-0204-101	Sougahatchee Creek	Tallapoosa	PWS/S/F&W	Tallapoosa River	End of embayment	5	203.78	acres	Yates Lake
AL06030004-0105-101	Elk River	Tennessee	S/F&W	Tennessee River	Anderson Creek	5	1569.21	acres	Wheeler Lake
AL06030006-0103-101	Bear Creek	Tennessee	PWS/S/F&W	Bear Creek Lake Dam	Alabama Highway 187	5	653.54	acres	Bear Creek Lake
AL06030006-0103-104	Bear Creek	Tennessee	PWS/S/F&W	Upper Bear Creek Dam	Pretty Branch	5	1462.58	acres	Upper Bear Creek Lake
AL06030006-0205-102	Little Bear Creek	Tennessee	PWS/S/F&W	Little Bear Creek Dam	Scott Branch	5	1435.05	acres	Little Bear Creek Lake
AL03160106-0402-102	Tombigbee River	Tombigbee (Upper)	S/F&W	Bevill Lock and Dam	Alabama-Mississippi state line	5	2291.85	acres	Aliceville Lake
AL03160203-1103-800	Olin Basin	Tombigbee (Lower)	F&W	Olin Basin		5	85.73	acres	
Category 5 Rivers and Streams									
AL03150201-0104-302	Three Mile Branch	Alabama	F&W	Lower Wetumpka Rd	Its source	5	7.65	miles	
AL03150201-0203-102	Autauga Creek	Alabama	S/F&W	Matthews Branch	Its source	5	26.87	miles	
AL03150201-0309-100	Catoma Creek	Alabama	F&W	Alabama River	Ramer Creek	5	23.19	miles	
AL03150201-0402-100	Pintlalla Creek	Alabama	S/F&W	Pinchony Creek	Its source	5	26.45	miles	
AL03150203-0802-100	Pursley Creek	Alabama	F&W	Alabama River	Its source	5	26.11	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03150203-0802-400	Town Branch	Alabama	F&W	Pursley Creek	Its source	5	4.35	miles	Local Name
AL03160109-0204-101	Mulberry Fork	Black Warrior	F&W	Marriott Creek	Mill Creek	5	2.52	miles	
AL03160109-0204-102	Mulberry Fork	Black Warrior	F&W	Mill Creek	Broglen River	5	17.27	miles	
AL03160109-0102-101	Mulberry Fork	Black Warrior	F&W	Broglen River	Blount County Road 6	5	18.23	miles	
AL03160109-0101-600	Tibb Creek	Black Warrior	F&W	Mulberry Fork	Its source	5	5.13	miles	
AL03160109-0101-150	Riley Maze Creek	Black Warrior	F&W	Tibb Creek	Its source	5	4.13	miles	
AL03160109-0105-101	Brindley Creek	Black Warrior	PWS	Broglen River	State Highway 69	5	7.17	miles	
AL03160109-0105-102	Brindley Creek	Black Warrior	PWS	State Highway 69	Its source	5	9.89	miles	
AL03160109-0201-102	Mud Creek	Black Warrior	F&W	Alabama Highway 31	Its source	5	4.66	miles	
AL03160109-0404-101	Cane Creek (Oakman)	Black Warrior	F&W	Lost Creek	Dixie Springs Road	5	7.15	miles	
AL03160109-0404-102	Cane Creek (Oakman)	Black Warrior	LWF	Dixie Springs Road	Alabama Highway 69	5	3.49	miles	
AL03160109-0404-103	Cane Creek (Oakman)	Black Warrior	F&W	Alabama Highway 69	Its source	5	7.38	miles	
AL03160109-0404-500	Black Branch	Black Warrior	F&W	Cane Creek	Its source	5	3.15	miles	
AL03160109-0405-104	Lost Creek	Black Warrior	F&W	Mill dam at Cedrum	Alabama Highway 69 at Oakman	5	17.33	miles	
AL03160109-0403-103	Lost Creek	Black Warrior	F&W	US Highway 78 at Carbon Hill	US Highway 78 north of Cedrum	5	6.53	miles	
AL03160109-0503-100	Wolf Creek	Black Warrior	F&W	Lost Creek	Alabama Highway 102	5	38.4	miles	
AL03160109-0601-601	Old Town Creek	Black Warrior	F&W	Mulberry Fork	Pinhook Creek	5	2.71	miles	
AL03160109-0604-900	Baker Creek	Black Warrior	F&W	Mulberry Fork	Its source	5	7.01	miles	
AL03160110-0502-100	Ryan Creek	Black Warrior	F&W	Lake Lewis Smith	Its source	5	16.12	miles	
AL03160111-0404-102	Locust Fork	Black Warrior	F&W	Jefferson County Road 77	US Highway 31	5	14.25	miles	
AL03160111-0306-102	Locust Fork	Black Warrior	PWS/F&W	US Highway 31	county road between Hayden and County Line	5	14.86	miles	
AL03160111-0303-102	Locust Fork	Black Warrior	F&W	county road between Hayden and County Line	Little Warrior River	5	18.15	miles	
AL03160111-0204-101	Locust Fork	Black Warrior	F&W	Little Warrior River	Blount County Road 30	5	27.18	miles	
AL03160111-0203-100	Dry Creek	Black Warrior	F&W	Locust Fork	Its source	5	12	miles	
AL03160111-0406-101	Newfound Creek	Black Warrior	F&W	Fivemile Creek	Impoundment	5	2.76	miles	
AL03160111-0408-102	Village Creek	Black Warrior	LWF	Second Creek	Woodlawn Bridge	5	12.6	miles	
AL03160111-0408-103	Village Creek	Black Warrior	LWF	Woodlawn Bridge	Its source	5	4.04	miles	
AL03160112-0101-101	Valley Creek	Black Warrior	LWF	19th Street North (Bessemer)	Opossum Creek	5	0.9	miles	
AL03160112-0101-200	Opossum Creek	Black Warrior	A&I	Valley Creek	Its source	5	7.45	miles	
AL03160112-0105-101	Mud Creek	Black Warrior	F&W	Valley Creek	Big Branch	5	14.12	miles	
AL03160112-0201-101	Big Yellow Creek	Black Warrior	S/F&W	Bankhead Lake	Its source	5	14.59	miles	
AL03160112-0303-100	Pegues Creek	Black Warrior	F&W	Black Warrior River	Its source	5	4.23	miles	
AL03160112-0304-100	Daniel Creek	Black Warrior	F&W	Black Warrior River	Its source	5	10.42	miles	
AL03160112-0404-102	North River	Black Warrior	F&W	Lake Tuscaloosa	Ellis Creek	5	43.48	miles	
AL03160113-0703-100	Cottonwood Creek	Black Warrior	F&W	Big Prarie Creek	Its source	5	11.42	miles	
AL03150202-0503-102	Cahaba River	Cahaba	OAW/S	Alabama Highway 82	lower Little Cahaba River	5	10.58	miles	
AL03150202-0405-100	Cahaba River	Cahaba	OAW/F&W	lower Little Cahaba River	Shades Creek	5	13.51	miles	
AL03150202-0203-101	Cahaba River	Cahaba	OAW/F&W	Shades Creek	Shelby County Road 52	5	23.61	miles	
AL03150202-0203-102	Cahaba River	Cahaba	F&W	Shelby County Road 52	Buck Creek	5	3.62	miles	
AL03150202-0201-101	Cahaba River	Cahaba	F&W	Buck Creek	Dam near US Highway 280	5	17.46	miles	
AL03150202-0201-102	Cahaba River	Cahaba	OAW/PWS	Dam near US Highway 280	Grant's Mill Road	5	13.45	miles	
AL03150202-0104-102	Cahaba River	Cahaba	F&W	Grant's Mill Road	US Highway 11	5	21.11	miles	
AL03150202-0101-102	Cahaba River	Cahaba	OAW/F&W	US Highway 11	I-59	5	3.13	miles	
AL03150202-0103-300	Lee Branch	Cahaba	F&W	Lake Purdy	Its source	5	2.87	miles	
AL03150202-0202-101	Buck Creek	Cahaba	F&W	Cahaba River	Cahaba Valley Creek	5	2.92	miles	
AL03150202-0202-401	Cahaba Valley Creek	Cahaba	F&W	Buck Creek	US Highway 31	5	4.67	miles	
AL03150202-0901-100	Childers Creek	Cahaba	F&W	Cahaba River	Its source	5	18.79	miles	
AL03130003-1307-100	Barbour Creek	Chattahoochee	F&W	Chattahoochee River	Its source	5	27.23	miles	
AL03130003-0101-100	Mill Creek	Chattahoochee	F&W	Chattahoochee River	Its source	5	9.93	miles	
AL03130004-0601-500	Cedar Creek	Chattahoochee	F&W	Omusee Creek	Its source	5	4.04	miles	
AL03130012-0201-400	Cypress Creek	Chipola	F&W	Limestone Creek	Its source	5	8.11	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03140201-0404-100	Judy Creek	Choctawhatchee	F&W	West Fork Choctawhatchee River	Its source	5	23.64	miles	
AL03140201-0502-100	Hurricane Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	5	9.39	miles	
AL03140201-0704-600	Dowling Branch	Choctawhatchee	F&W	Cox Mill Creek	Its source	5	2.1	miles	
AL03140201-0602-201	Beaver Creek	Choctawhatchee	F&W	Newton Creek	Dothan WWTP	5	2.09	miles	
AL03140201-1001-100	Harrand Creek	Choctawhatchee	F&W	Claybank Creek	Its source	5	9.71	miles	
AL03140201-1001-700	Indian Camp Creek	Choctawhatchee	F&W	Harrand Creek	Its source	5	3.98	miles	
AL03140202-0502-102	Walnut Creek	Choctawhatchee	F&W	Pike County Road 59	Walters Branch	5	2.61	miles	
AL03150105-0807-102	Spring Creek	Coosa	F&W	Weiss Lake	Mud Creek	5	5.39	miles	
AL03150105-0807-103	Spring Creek	Coosa	F&W	Mud Creek	Its source	5	9.88	miles	
AL03150105-0807-200	Mud Creek	Coosa	F&W	Spring Creek	Its source	5	5.24	miles	
AL03150106-0612-100	Choccolocco Creek	Coosa	F&W	Coosa River	UT from Boiling Spring	5	39.85	miles	
AL03150106-0604-102	Choccolocco Creek	Coosa	PWS/F&W	UT from Boiling Spring	Hillabee Creek	5	2.37	miles	
AL03150107-0102-700	UT to Dry Branch	Coosa	F&W	Dry Branch	Its source	5	1.58	miles	
AL03170008-0302-100	Escatawpa River	Escatawpa	S/F&W	AL-MS state line	Its source	5	70.66	miles	
AL03170008-0402-400	Boggy Branch	Escatawpa	F&W	Big Creek Lake	Its source	5	4.58	miles	
AL03170008-0402-700	Collins Creek	Escatawpa	F&W	Big Creek	Its source	5	5.15	miles	
AL03170009-0102-100	Bayou La Batre	Escatawpa	F&W	Portersville Bay	Its source	5	5.46	miles	
AL03160204-0505-100	Mobile River	Mobile	LWF	Mobile Bay	Spanish River	5	7.61	miles	
AL03160204-0303-102	Mobile River	Mobile	F&W	Spanish River	Cold Creek	5	20.9	miles	
AL03160204-0505-201	Tensaw River	Mobile	F&W	Mobile Bay	Junction of Tensaw and Apalachee Rivers	5	6.51	miles	
AL03160204-0505-202	Tensaw River	Mobile	OAW/S/F&W	Junction of Tensaw and Apalachee Rivers	Junction of Briar Lake	5	21.73	miles	
AL03160204-0105-302	Tensaw River	Mobile	OAW/F&W	Junction of Briar Lake	Junction of Tensaw Lake	5	2.93	miles	
AL03160204-0105-303	Tensaw River	Mobile	F&W	Junction of Tensaw Lake	Mobile River	5	10.98	miles	
AL03160204-0201-200	Middle River	Mobile	F&W	Tensaw River (RM 20.6)	Tensaw River (RM 37.7)	5	9.72	miles	
AL03160204-0106-101	Cold Creek	Mobile	F&W	Mobile River	Dam 1 1/2 miles west of US Highway 43	5	4.21	miles	
AL03160204-0404-101	Chickasaw Creek	Mobile	LWF	Mobile River	US Highway 43	5	4.43	miles	
AL03160204-0404-102	Chickasaw Creek	Mobile	F&W	US Highway 43	Mobile College	5	6.64	miles	
AL03160204-0402-100	Chickasaw Creek	Mobile	S/F&W	Mobile College	Its source	5	26.82	miles	
AL03160204-0503-102	Bay Minette Creek	Mobile	F&W	Bay Minette	Its source	5	18.15	miles	
AL03160204-0504-101	Threemile Creek	Mobile	A&I	Mobile River	Toulmins Spring Branch	5	2.04	miles	
AL03160204-0504-102	Threemile Creek	Mobile	A&I	Toulmins Spring Branch	Mobile Street	5	4.34	miles	
AL03160204-0504-103	Threemile Creek	Mobile	A&I	Mobile Street	Its source	5	8.85	miles	
AL03160204-0504-300	Toulmins Spring Branch	Mobile	F&W	Threemile Creek	Its source	5	3.22	miles	
AL03160204-0504-500	UT to Threemile Creek	Mobile	F&W	Threemile Creek	Its source	5	1.04	miles	
AL03160204-0505-500	D'Olive Creek	Mobile	F&W	D'Olive Bay	Its source	5	4.89	miles	
AL03160204-0505-505	UT to D'Olive Creek	Mobile	F&W	D'Olive Creek	Its source	5	1.22	miles	
AL03160204-0505-800	Joes Branch	Mobile	F&W	D'Olive Creek	Its source	5	1.57	miles	
AL03160204-0505-900	Tiawasee Creek	Mobile	F&W	D'Olive Creek	Its source	5	3.54	miles	
AL03160204-0505-905	UT to Tiawasee Creek	Mobile	F&W	Tiawasee Creek	Its source	5	1.87	miles	
AL03160205-0202-300	Bolton Branch	Mobile	F&W	Dog River	Its source	5	2.44	miles	
AL03160205-0202-400	Eslava Creek	Mobile	F&W	Dog River	Its source	5	3.17	miles	
AL03160205-0202-700	Bolton Branch	Mobile	F&W	Moore Creek	Its source	5	5.69	miles	
AL03160205-0205-100	Middle Fork Deer River	Mobile	F&W	Mobile Bay	Its source	5	3.51	miles	
AL03160205-0206-100	Fowl River	Mobile	S/F&W	Mobile Bay	Its source	5	20.56	miles	
AL03160205-0307-102	Fish River	Mobile	S/F&W	Weeks Bay	Its source	5	30.01	miles	
AL03160205-0306-200	Polecat Creek	Mobile	S/F&W	Fish River	Its source	5	7.89	miles	
AL03160205-0306-500	Baker Branch	Mobile	F&W	Polecat Creek	Its source	5	6.15	miles	
AL03160205-0307-700	Cowpen Creek	Mobile	S/F&W	Fish River	Its source	5	7.04	miles	
AL03160205-0310-101	Bon Secour River	Mobile	S/F&W	Bon Secour Bay	One mile upstream from first bridge above its mouth	5	9.12	miles	
AL03160205-0310-102	Bon Secour River	Mobile	S/F&W	One mile upstream from first bridge above its mouth	Its source	5	4.38	miles	

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03160205-0310-702	UT to Bon Secour River	Mobile	F&W	Baldwin County Road 65	Its source	5	1.64	miles	
AL03140103-0402-100	Yellow River	Perdido-Escambia	F&W	Alabama-Florida state line	North Creek	5	14.87	miles	
AL03140103-0102-700	UT to Jackson Lake 2-S	Perdido-Escambia	F&W	W.F. Jackson Lake	Its source	5	1.05	miles	
AL03140103-0102-800	UT to Jackson Lake 3-C	Perdido-Escambia	F&W	W.F. Jackson Lake	Its source	5	1.77	miles	
AL03140104-0104-100	Blackwater River	Perdido-Escambia	F&W	Alabama-Florida state line	Its source	5	2.78	miles	
AL03140106-0703-100	Perdido River	Perdido-Escambia	F&W	Perdido Bay	Jacks Branch	5	21.93	miles	
AL03140106-0302-101	Brushy Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Boggy Branch	5	0.22	miles	
AL03140106-0302-201	Boggy Branch	Perdido-Escambia	F&W	Brushy Creek	Atmore WWTP	5	1.54	miles	
AL03140106-0302-202	Boggy Branch	Perdido-Escambia	F&W	Atmore WWTP	Masland Carpets WWTP	5	0.22	miles	
AL03140106-0506-100	Styx River	Perdido-Escambia	F&W	Perdido River	Hollinger Creek	5	18.52	miles	
AL03140106-0502-100	Styx River	Perdido-Escambia	S/F&W	Hollinger Creek	Its source	5	22.72	miles	
AL03140106-0603-101	Blackwater River	Perdido-Escambia	F&W	Perdido River	Narrow Gap Creek	5	3.11	miles	
AL03140303-0302-101	Rocky Creek	Perdido-Escambia	F&W	Persimmon Creek	County road north of Chapman	5	9.23	miles	
AL03140304-0106-100	Conecuh River	Perdido-Escambia	F&W	Alabama-Florida state line	Mantle Branch	5	12.7	miles	
AL03140304-0605-100	Little Escambia Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Wild Fork Creek	5	12.21	miles	
AL03140305-0301-100	Big Escambia Creek	Perdido-Escambia	F&W	Alabama-Florida state line	Big Spring Creek	5	17.03	miles	
AL03150110-0201-700	Pepperell Branch	Tallapoosa	F&W	Sougahatchee Creek	Its source	5	6.67	miles	
AL03150110-0301-300	Parkerson Mill Creek	Tallapoosa	F&W	Chewacla Creek	Its source	5	6.85	miles	
AL03150110-0301-400	Moores Mill Creek	Tallapoosa	S/F&W	Chewacla Creek	Its source	5	10.51	miles	
AL03150110-0504-101	Calebee Creek	Tallapoosa	F&W	Tallapoosa River	Macon County Road 9	5	10.26	miles	
AL03150110-0703-100	Cubahatchee Creek	Tallapoosa	S/F&W	Tallapoosa River	Coon Hop Creek	5	22.07	miles	
AL03150110-0702-102	Cubahatchee Creek	Tallapoosa	S/F&W	Coon Hop Creek	Its source	5	22.37	miles	
AL03150110-0903-101	Line Creek	Tallapoosa	F&W	Tallapoosa River	Johnsons Creek	5	10.29	miles	
AL03150110-0903-102	Line Creek	Tallapoosa	F&W	Johnsons Creek	Panther Creek	5	5.51	miles	
AL06030001-0402-401	Warren Smith Creek	Tennessee	F&W	Dry Creek	Ross Branch	5	1.96	miles	
AL06030002-0105-101	Guess Creek	Tennessee	F&W	Paint Rock River	Bee Branch	5	11.08	miles	
AL06030002-0401-102	Flint River	Tennessee	F&W	Alabama Highway 72	Mountain Fork	5	15.32	miles	
AL06030002-0304-200	Hester Creek	Tennessee	F&W	Mountain Fork	Alabama-Tennessee state line	5	7.27	miles	
AL06030002-0307-100	Brier Fork	Tennessee	F&W	Flint River	Alabama-Tennessee state line	5	21.89	miles	
AL06030002-0306-100	Beaverdam Creek	Tennessee	F&W	Brier Fork	Its source	5	22.14	miles	
AL06030002-0404-200	Goose Creek	Tennessee	F&W	Flint River	Its source	5	8.89	miles	
AL06030002-0505-101	Indian Creek	Tennessee	F&W	Tennessee River	Martin Road (Redstone Arsenal)	5	7.69	miles	
AL06030002-0502-101	Huntsville Spring Branch	Tennessee	F&W	Indian Creek	Johnson Road (Huntsville Field)	5	11.08	miles	
AL06030002-0502-102	Huntsville Spring Branch	Tennessee	F&W	Johnson Road (Huntsville Field)	Broglan Branch	5	1.98	miles	
AL06030002-0603-102	Cotaco Creek	Tennessee	S/F&W	Guyer Branch	West Fork Cotaco Creek	5	5.38	miles	
AL06030002-0601-300	Hughes Creek	Tennessee	F&W	Cotaco Creek	Its source	5	3.02	miles	
AL06030002-0601-700	Mill Pond Creek	Tennessee	F&W	Hog Jaw Creek	Its source	5	1.29	miles	
AL06030002-0602-102	West Fork Cotaco Creek	Tennessee	F&W	Alabama Highway 67	Frost Creek	5	8.12	miles	
AL06030002-0602-200	Mud Creek	Tennessee	F&W	West Fork Cotaco Creek	Its source	5	3.42	miles	
AL06030002-1002-300	Herrin Creek	Tennessee	F&W	Crowdabout Creek	Its source	5	6.21	miles	
AL06030002-1008-200	Flat Creek	Tennessee	F&W	West Flint Creek	Its source	5	7.78	miles	
AL06030002-1101-101	Swan Creek	Tennessee	F&W	Tennessee River	Alabama Highway 24	5	8.97	miles	
AL06030004-0103-600	Sulphur Creek	Tennessee	F&W	Elk River	Its source	5	8.34	miles	
AL06030004-0104-102	Anderson Creek	Tennessee	F&W	Snake Road bridge	Its source	5	9.31	miles	
AL06030005-0701-201	McKiernan Creek	Tennessee	PWS/S/F&W	Tennessee River	Shegog Creek	5	2.71	miles	
AL06030005-0702-100	Pond Creek	Tennessee	A&I	Tennessee River	Its source	5	12.43	miles	
AL06030006-0103-103	Bear Creek	Tennessee	S/F&W	Mill Creek	Upper Bear Creek Dam	5	3	miles	
AL06030006-0101-700	Little Dice Branch	Tennessee	F&W	Bear Creek	Its source	5	3.83	miles	
AL03160103-0204-202	Purgatory Creek	Tombigbee (Upper)	F&W	Wickett Creek	US Highway 278	5	1.86	miles	
AL03160103-0204-203	Purgatory Creek	Tombigbee (Upper)	PWS/F&W	US Highway 278	Its source	5	1.28	miles	

Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	From	To	Cat	Size	Type	Comment
AL03160105-0101-200	East Branch Luxapallila Creek	Tombigbee (Upper)	PWS/F&W	Luxapallila Creek	Its source	5	11.18	miles	
AL03160106-0607-101	Factory Creek	Tombigbee (Upper)	F&W	Tombigbee River	End of embayment	5	1.86	miles	
AL03160107-0306-100	Sipsey River	Tombigbee (Upper)	F&W	Tombigbee River	Tuscaloosa county line	5	44.22	miles	
AL03160201-0903-101	Wahalak Creek	Tombigbee (Lower)	F&W	Tombigbee River	Spear Creek	5	14.83	miles	
AL03160203-1103-102	Tombigbee River	Tombigbee (Lower)	F&W	Upper end of Bilbo Island	Olin Basin	5	3.75	miles	
AL03160203-0901-102	Tombigbee River	Tombigbee (Lower)	F&W	Bassetts Creek	1/2 mile downstream of Southern Railway Crossing	5	7.83	miles	
AL03160203-0601-100	Bassett Creek	Tombigbee (Lower)	F&W	Little Bassett Creek	Its source	5	14.47	miles	
AL03160203-1103-700	Bilbo Creek	Tombigbee (Lower)	S/F&W	Tombigbee River	Its source	5	30.74	miles	
Category 5 Estuaries									
AL03170009-0201-100	Mississippi Sound	Escatawpa	SH/S/F&W	Mississippi Sound		5	93.72	square miles	
AL03170009-0201-200	Portersville Bay	Escatawpa	SH/S/F&W	1000 feet west of outfall	Bayou la Batre Utilities outfall	5	18.81	square miles	
AL03170009-0201-300	Grand Bay	Escatawpa	SH/S/F&W	Grand Bay		5	30.73	square miles	
AL03160205-0104-100	Mobile Bay	Mobile	SH/F&W	Segment classified for shellfish harvesting		5	170.6	square miles	
AL03160205-0104-200	Bon Secour Bay	Mobile	SH/S/F&W	Segment classified for shellfish harvesting		5	103.84	square miles	
AL03160205-0311-100	Oyster Bay	Mobile	SH/F&W	Oyster Bay		5	0.95	square miles	
AL-Gulf-of-Mexico	Gulf of Mexico	Mobile	SH/S/F&W	Mississippi	Florida	5	201.02	square miles	
AL03140107-0103-100	Perdido Bay	Perdido-Escambia	SH/S/F&W	Lillian Bridge	Its source	5	4.21	square miles	
AL03140107-0205-100	Little Lagoon	Perdido-Escambia	SH/S/F&W	In its entirety		5	3.96	square miles	

Appendix C

Alabama’s 2008 § 303(d) List Fact Sheet

Alabama's 2008 §303(d) List
Fact Sheet

Background

Section 303(d) of the Clean Water Act requires that each state identify those waters that do not currently support designated uses, and to establish a priority ranking of these waters by taking into account the severity of the pollution and the designated uses of such waters. For each waterbody on the list, the state is required to establish a total maximum daily load (TMDL) for the pollutant or pollutants of concern at a level necessary to implement the applicable water quality standards. Guidance issued in August 1997 by the Environmental Protection Agency (EPA) suggested that states also include a schedule for TMDL development. The TMDL schedule included as part of Alabama's 2008 List provides the expected date the specific TMDL will be drafted and submitted for public notice and comment. TMDL dates range from one to ten years following EPA approval of the 2008 §303(d) List.

Alabama's 2008 §303(d) List

Alabama's 2008 §303(d) List includes segments of rivers, streams, lakes, reservoirs, and estuaries that do not fully support their currently designated use or uses. Most of the waterbodies on the 2008 §303(d) List also appeared on Alabama's 2006 §303(d) List as submitted to EPA in April 2006. The Department has attempted to obtain and evaluate all existing and readily available water quality-related data and information. The notice soliciting information is included in **Appendix A**. The notice was published in Alabama's four major daily newspapers, appeared on the Department's web page, and was mailed to the Department's general mailing list. Data in the Department's multiple databases, information from §319 nonpoint assessments, special watershed studies, other federal and state agencies, industries, and watershed initiatives were evaluated as the 2008 §303(d) List was compiled. Any individual or organization may submit additional data or information during the advertised comment period relative to water quality impairment in waterbodies in Alabama. Chemical, physical, and biological data collected primarily during the previous six years have been considered in the preparation of the 2008 §303(d) List, consistent with the Department's water quality assessment and listing methodology. Comments on the methodology were solicited in the public notice included in **Appendix A**. The assessment and listing methodology is included as **Appendix B**. Data sources include the Alabama Department of Environmental Management, the Alabama Department of Public Health, the Geological Survey of Alabama, the United States Geological Survey, the Tennessee Valley Authority, other public agencies, universities, county and municipal governments, and industries.

The list contains information such as the waterbody name, county(s) in which the listed segment is located, dates when the data on which the listing is based were collected, cause(s) for the use impairment, the source(s) of the pollutant(s) causing the impairment, the size of the impaired segment, and the location of the listed waterbody. Also included on the list is the segment's priority ranking (high, low, medium), which was developed using the prioritization strategy included in the assessment and listing methodology in **Appendix B**.

Appendix B

<u>Changes Since the 2006 §303(d) List</u>

A number of differences exist between the 2008 §303(d) List and the 2006 §303(d) List. Some of the changes were to correct errors or omissions in the 2006 List and to provide additional or updated information about waterbodies on the list. Other significant changes since 2006 include the addition and deletion of waterbodies. **Table 1** shows the waterbody/pollutant combinations that have been added to Alabama's §303(d) List and the justification for the additions. **Table 2** provides the waterbody/pollutant combinations that have been removed from the list and the corresponding justification for each removal.

Changes have also been made to the TMDL completion schedule since the 2006 Section 303(d) List. The changes reflect the pace of TMDL development that can reasonably be expected given ADEM's current funding and staffing levels. The TMDL schedule provides the expected date the specific TMDL will be drafted and submitted for public notice and comment. TMDL dates range from one to seven years following EPA approval of the 2008 303(d) List. Where more than one TMDL is required for a segment, TMDLs for specific pollutants may be developed in advance of the expected date shown on the list. A notice of availability will be published on the Department's web page as draft TMDLs are completed and offered for public review and comment.

Table 3 provides a listing of other changes appearing on the 2008 §303(d) List that were not on the 2006 List. Most of these changes result from the use of metal names listed under causes instead of using their chemical symbols and updates to the draft TMDL development schedule.

Table 4 provides revisions made between the draft 2008 List and the final 2008 List. These revisions were made to the list as a result of comments received during the public notice period or as a result of errors or omissions identified by ADEM staff since the Draft 2008 §303(d) List was public noticed. Most of the changes involve clarifications of the causes for listing. One change was to segments listed for 'siltation' and 'other habitat alteration'. These listings were intended to show that the problem is habitat alteration which is caused by the siltation process. As previously shown, siltation and habitat alteration appeared as two impairment causes when there is really only one. We have combined the listings for 'siltation' and 'other habitat alteration' into one listing - 'siltation (habitat alteration)'. Another change to the causes is in the listings for 'Organic Enrichment/DO'. This listing really has two components - Carbonaceous Biochemical Oxygen Demand (CBOD) and Nitrogenous Biochemical Oxygen Demand (NBOD). This listing has been broken into both parts and will be listed as Organic Enrichment (CBOD, NBOD).

Table 1
Alabama's 2008 §303(d) List
<u>New Waterbody/Pollutant Combinations Appearing on the 2008 List</u>

The waterbody/pollutant combinations listed in the following table have been added to Alabama's 2008 §303(d) List for the reasons presented in the table.

Assessment Unit	Waterbody Name	River Basin	County	Causes	Basis for Addition to the List	Source / Date of Data
AL03150203-0805-101	Alabama River	Alabama	Clarke Monroe Wilcox	Metals (Mercury)	Fish consumption advisory issued by the Alabama Department of Public Health.	ADPH, 2006
AL03150204-0105-100	Alabama River	Alabama	Clarke Monroe	Metals (Mercury)	Fish consumption advisory issued by the Alabama Department of Public Health.	ADPH, 2006
AL03130004-0601-500	Cedar Creek	Chattahoochee	Henry Houston	Metals (Mercury)	Fish consumption advisory issued by the Alabama Department of Public Health.	ADPH, 2006
AL03170009-0402-100	Big Creek (Big Creek Reservoir)	Escatawpa	Mobile	Metals (Mercury)	Fish consumption advisory issued by the Alabama Department of Public Health.	ADPH, 2006
AL03160204-0504-300	Toulmins Spring Branch	Mobile	Mobile	Ammonia Nutrients	United States Geological Survey National Water Information System 2000-2005; site number 0247101550.	USGS 2000-2001
AL03160204-0504-500	Unnamed tributary to Threemile Creek	Mobile	Mobile	Nutrients	United States Geological Survey National Water Information System 2000-2005; site number 0247101495.	USGS 2000-2001

Assessment Unit	Waterbody Name	River Basin	County	Causes	Basis for Addition to the List	Source / Date of Data
AL03160204-0505-500	D'Olive Creek	Mobile	Baldwin	Siltation	**Analysis of Sediment Loading Rates And Impacts of Land-Use Change on the D'Olive And Tiawasee Creek Watersheds, Baldwin County, Alabama, 2007,** Geological Survey of Alabama.	GSA, 2007
AL03160204-0505-800	Joes Branch	Mobile	Baldwin	Siltation	**Analysis of Sediment Loading Rates And Impacts of Land-Use Change on the D'Olive And Tiawasee Creek Watersheds, Baldwin County, Alabama, 2007,** Geological Survey of Alabama.	GSA, 2007
AL03160204-0505-900	Tiawasee Creek	Mobile	Baldwin	Siltation	**Analysis of Sediment Loading Rates And Impacts of Land-Use Change on the D'Olive And Tiawasee Creek Watersheds, Baldwin County, Alabama, 2007,** Geological Survey of Alabama.	GSA, 2007
AL03160204-0505-905	Unnamed tributary to Tiawasee Creek	Mobile	Baldwin	Siltation	**Analysis of Sediment Loading Rates And Impacts of Land-Use Change on the D'Olive And Tiawasee Creek Watersheds, Baldwin County, Alabama, 2007,** Geological Survey of Alabama.	GSA, 2007
AL03160204-0505-505	Unnamed tributary to D'Olive Creek	Mobile	Baldwin	Siltation	**Analysis of Sediment Loading Rates And Impacts of Land-Use Change on the D'Olive And Tiawasee Creek Watersheds, Baldwin County, Alabama, 2007,** Geological Survey of Alabama.	GSA, 2007
AL03160205-0307-700	Cowpen Creek	Mobile	Baldwin	Metals (Mercury)	Fish consumption advisory issued by the Alabama Department of Public Health.	ADPH, 2006

Assessment Unit	Waterbody Name	River Basin	County	Causes	Basis for Addition to the List	Source / Date of Data
AL03140106-0302-201	Boggy Branch	Perdido-Escambia	Escambia	Metals (Mercury)	ADEM 303(d) Monitoring - 2005, Stations BOB-1, BOB-2, BOB-3	ADEM 2006
AL03140106-0302-202	Boggy Branch	Perdido-Escambia	Escambia	Metals (Mercury)	ADEM 303(d) Monitoring - 2005, Stations BOB-1, BOB-2, BOB-3	ADEM 2006
AL03150110-0301-300	Parkerson Mill Creek	Tallapoosa	Lee	Pathogens	**Auburn / Opelika Intensive Fecal Coliform Study 2007.** Alabama Department of Environmental Management.	ADEM 2007
AL06030002-1101-101	Swan Creek	Tennessee	Limestone	Nutrients	ADEM 303(d) Monitoring - 2006, Station SWNL-390.	ADPH 2006
AL06030004-0103-600	Sulphur Creek	Tennessee	Limestone	Nutrients	ADEM 303(d) Monitoring - 2004-2006, Station SLRL-1.	ADEM 2004-06
AL06030006-0103-104	Bear Creek (Upper Bear Creek Reservoir)	Tennessee	Franklin Marion Winston	Metals (Mercury)	Fish consumption advisory issued by the Alabama Department of Public Health.	ADPH, 2006
AL03160203-0901-102	Tombigbee River	Lower Tombigbee	Clarke Washington	Metals (Mercury)	Fish consumption advisory issued by the Alabama Department of Public Health.	ADPH, 2006
AL03160203-1103-700	Bilbo Creek	Lower Tombigbee	Washington	Metals (Mercury)	Fish consumption advisory issued by the Alabama Department of Public Health.	ADPH, 2006

Table 2
Alabama's 2008 §303(d) List
Waterbody/Pollutants Removed from the 2008 List

The waterbody/pollutant combinations listed in the following table are proposed for removal from Alabama's 2006 §303(d) List and will not be included on Alabama's 2008 §303(d) List for the reasons presented. Waterbody/pollutant combinations for which EPA has approved a TMDL will be included in Category 4A of the 2008 Integrated Water Quality Report.

Waterbody ID	Waterbody Name	River Basin	County	Pollutant	Good Cause Justification for Removal
AL03150202-0503-102	Cahaba River	Cahaba	Bibb	Nutrients	TMDL approved by EPA.
AL03150202-0405-100	Cahaba River	Cahaba	Bibb	Nutrients	TMDL approved by EPA.
AL03150202-0203-101	Cahaba River	Cahaba	Shelby	Nutrients	TMDL approved by EPA.
AL03150202-0203-102	Cahaba River	Cahaba	Shelby	Nutrients	TMDL approved by EPA.
AL03150202-0201-101	Cahaba River	Cahaba	Jefferson Shelby	Nutrients	TMDL approved by EPA.
AL03150202-0201-102	Cahaba River	Cahaba	Jefferson	Nutrients	TMDL approved by EPA.
AL03150202-0104-102	Cahaba River	Cahaba	Jefferson St. Clair	Nutrients	TMDL approved by EPA.

Waterbody ID	Waterbody Name	River Basin	County	Pollutant	Good Cause Justification for Removal
AL03150202-0101-102	Cahaba River	Cahaba	Jefferson	Nutrients	TMDL approved by EPA.
AL03130004-0601-201	Poplar Spring Branch	Chattahoochee	Houston	pH	During 1999, 2004, and 2006, ADEM's Field Operations Division collected monthly physical and chemical water quality data at two sampling locations along Poplar Spring Branch. A review of this data from both sampling locations revealed no pH violations. All of the data collected during the above mentioned time period was in the applicable pH range of 6.0 and 8.5 s.u. (no exceedances). Recent diurnal water quality data from station PSB-1A collected by ADEM's Water Quality Branch between July 31 and August 3, 2006, also revealed no pH exceedances.
AL03150107-0502-100	Buxahatchee Creek	Coosa	Chilton Shelby	Nutrients	TMDL approved by EPA.
AL03170008-0205-102	Puppy Creek	Escatawpa	Mobile	Nutrients	TMDL approved by EPA.
AL03160204-0504-101	Threemile Creek	Mobile	Mobile	Organic Enrichment/ DO	TMDL approved by EPA.

Waterbody ID	Waterbody Name	River Basin	County	Pollutant	Good Cause Justification for Removal
AL03160204-0504-102	Threemile Creek	Mobile	Mobile	Organic Enrichment/ DO	TMDL approved by EPA.
AL03160204-0504-103	Threemile Creek	Mobile	Mobile	Organic Enrichment/ DO	TMDL approved by EPA.
AL06030002-0304-100	Mountain Fork	Tennessee	Madison	Pathogens	TMDL approved by EPA.
AL06030002-0304-200	Hester Creek	Tennessee	Madison	Pathogens	TMDL approved by EPA.
AL06030002-0403-101	Hurricane Creek	Tennessee	Madison	Pathogens	TMDL approved by EPA.
AL06030002-0604-100	Town Creek	Tennessee	Morgan	Organic Enrichment/ DO	TMDL approved by EPA.
AL06030002-0802-201	French Mill Creek	Tennessee	Limestone	Pathogens	TMDL approved by EPA.
AL06030002-1204-103	Second Creek	Tennessee	Lauderdale	Pathogens	TMDL approved by EPA.

Waterbody ID	Waterbody Name	River Basin	County	Pollutant	Good Cause Justification for Removal
AL06030004-0102-100	Shoal Creek	Tennessee	Limestone	Pathogens	TMDL approved by EPA.

Table 3
List of Other Changes Appearing on the 2008 §303(d) List

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03160109-0404-101	Cane Creek (Oakman)	Black Warrior	Walker	Specified that the listing for metals is Aluminum and Iron.
AL03160109-0404-102	Cane Creek (Oakman)	Black Warrior	Walker	Specified that the listing for metals is Aluminum and Iron.
AL03160109-0404-103	Cane Creek (Oakman)	Black Warrior	Walker	Specified that the listing for metals is Aluminum and Iron.
AL03160109-0404-500	Black Branch	Black Warrior	Walker	Specified that the listing for metals is Aluminum and Iron.
AL03160112-0101-101	Valley Creek	Black Warrior	Jefferson	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160112-0101-200	Opossum Creek	Black Warrior	Jefferson	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160112-0201-101	Big Yellow Creek	Black Warrior	Tuscaloosa	Changed the metals listing to (Chromium, Lead) instead of using the chemical symbols (Cr, Pb).
AL03160112-0303-100	Pegues Creek	Black Warrior	Tuscaloosa	Changed the metals listing to (Chromium, Lead) instead of using the chemical symbols (Cr, Pb).
AL03160112-0304-100	Daniel Creek	Black Warrior	Tuscaloosa	Changed the metals listing to (Chromium, Lead) instead of using the chemical symbols (Cr, Pb).
AL03140202-0502-102	Walnut Creek	Choctawhatchee	Pike	Changed the draft TMDL due date to 2010.
AL03140201-1001-700	UT to Harrand Creek	Choctawhatchee	Coffee	Changed its name to Indian Camp Creek as listed in the GNIS.
AL03150105-0807-102	Spring Creek	Coosa	Cherokee	Changed the draft TMDL due date to 2012 to reflect the current TMDL schedule.
AL03150105-0807-200	Mud Creek	Coosa	Cherokee	Changed the draft TMDL due date to 2012 to reflect the current TMDL schedule.
AL03150106-0801-100	Coosa River (Logan Martin Lake)	Coosa	St. Clair Talladega	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03150106-0501-101	Coosa River (Logan Martin Lake)	Coosa	Calhoun St. Clair Talladega	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150106-0501-102	Coosa River (Logan Martin Lake)	Coosa	Calhoun St. Clair	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150106-0309-101	Coosa River (Neely Henry Lake)	Coosa	Calhoun Etowah St. Clair	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150106-0309-102	Coosa River (Neely Henry Lake)	Coosa	Etowah	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150106-0104-101	Coosa River (Neely Henry Lake)	Coosa	Etowah	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150106-0104-102	Coosa River (Neely Henry Lake)	Coosa	Etowah Cherokee	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150107-0401-100	Coosa River (Lay Lake)	Coosa	Talladega Chilton Coosa Shelby	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150107-0101-102	Coosa River (Lay Lake)	Coosa	Talladega Shelby	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150106-0808-102	Coosa River (Lay Lake)	Coosa	Talladega Shelby St. Clair	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150107-0601-100	Coosa River (Mitchell Lake)	Coosa	Chilton Coosa	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150107-0502-100	Buxahatchee Creek			Changed the draft TMDL due date to 2007 to reflect the current TMDL schedule.
AL03170008-0302-100	Escatawpa River	Escatawpa	Mobile	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03170008-0402-100	Boggy Branch	Escatawpa	Mobile	Changed the metals listing to (Iron) instead of using its chemical symbol (Fe).
AL03170008-0402-700	Collins Creek	Escatawpa	Mobile	Changed the metals listing to (Arsenic) instead of using its chemical symbol (As).

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03160204-0505-100	Mobile River	Mobile	Mobile	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0303-102	Mobile River	Mobile	Baldwin Mobile	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0106-101	Cold Creek	Mobile	Mobile	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160205-0202-700	Bolton Branch	Mobile	Mobile	Changed the draft TMDL due date to 2012 to reflect the current TMDL schedule.
AL03160204-0201-200	Middle River	Mobile	Mobile Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0404-101	Chickasaw Creek	Mobile	Mobile	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0404-102	Chickasaw Creek	Mobile	Mobile	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0402-100	Chickasaw Creek	Mobile	Mobile	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0503-10	Chickasaw Creek	Mobile	Mobile	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0503-102	Bay Minette Creek	Mobile	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0505-201	Tensaw River	Mobile	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0505-202	Tensaw River	Mobile	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0105-302	Tensaw River	Mobile	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160204-0105-303	Tensaw River	Mobile	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160205-0206-100	Fowl River	Mobile	Mobile	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160205-0306-200	Polecat Creek	Mobile	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160205-0307-102	Fish River	Mobile	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03160205-0310-101	Bon Secour River	Mobile	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160205-0310-102	Bon Secour River	Mobile	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL-Gulf-of-Mexico	Gulf of Mexico	Mobile	Baldwin Mobile	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03140103-0402-100	Yellow River	Perdido-Escambia	Covington	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03140103-0104-100	Blackwater River	Perdido-Escambia	Covington	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03140106-0302-101	Brushy Creek	Perdido-Escambia	Escambia	Changed the metals listing to (Lead) instead of using its chemical symbol (Pb).
AL03140106-0302-201	Boggy Branch	Perdido-Escambia	Escambia	Changed the metals listing to (Copper, Lead) instead of using the chemical symbols (Cu, Pb).
AL03140106-0302-202	Boggy Branch	Perdido-Escambia	Escambia	Changed the metals listing to (Zinc) instead of using its chemical symbol (Zn).
AL03140106-0502-100	Styx River	Perdido-Escambia	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03140106-0506-100	Styx River	Perdido-Escambia	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03140106-0603-101	Blackwater River	Perdido-Escambia	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03140106-0703-100	Perdido River	Perdido-Escambia	Baldwin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03140304-0106-100	Conecuh River	Perdido-Escambia	Escambia	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03140304-0605-100	Little Escambia Creek	Perdido-Escambia	Escambia	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03140304-0301-100	Big Escambia Creek	Perdido-Escambia	Escambia	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL06030002-0502-102	Huntsville Spring Branch	Tennessee	Madison	Changed the metals listing to (Arsenic, Mercury) instead of using the chemical symbols (As, Hg).
AL06030005-0702-100	Pond Creek	Tennessee	Colbert	Changed the metals listing to (Arsenic, Cyanide, Mercury) instead of using the chemical symbols (As, Cn, Hg).

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL06030006-0103-101	Bear Creek (Bear Creek Lake)	Tennessee	Franklin	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL06030006-0103-103	Bear Creek	Tennessee	Marion	Changed the metals listing to (Aluminum) instead of using its chemical symbol (Al).
AL03160107-0306-100	Sipsey River	Upper Tombigbee	Pickens Greene	Changed the metals listing to (Iron) instead of using its chemical symbol (Fe).
AL03160203-1103-102	Tombigbee River	Lower Tombigbee	Clarke Washington	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).
AL03160203-1103-800	Olin Basin	Lower Tombigbee	Washington	Changed the metals listing to (Mercury) instead of using its chemical symbol (Hg).

Table 4

Additional Revisions made between the Draft 2008 §303(d) List and the Final 2008 §303(d) List

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03150203-0805-101	Alabama River	Alabama	Clarke Monroe Wilcox	Corrected the type of segment to Lake and changed the waterbody size to 844.79 acres.
AL03150203-0805-101	Alabama River	Alabama	Clarke Monroe Wilcox	Changed the draft TMDL due date to 2017 to reflect the current TMDL schedule.
AL03150203-0805-102	Alabama River	Alabama	Wilcox	Corrected the type of segment to Lake and changed the waterbody size to 358.40 acres.
AL03150203-0805-102	Alabama River	Alabama	Wilcox	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150203-0805-102	Alabama River	Alabama	Wilcox	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150203-0805-102	Alabama River	Alabama	Wilcox	Removed Industrial as a source and added Dam construction and Flow regulation/modification as sources.
AL03150203-0805-103	Alabama River	Alabama	Wilcox	Corrected the type of segment to Lake and changed the waterbody size to 563.20 acres.
AL03150203-0805-103	Alabama River	Alabama	Wilcox	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150203-0805-103	Alabama River	Alabama	Wilcox	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150203-0805-103	Alabama River	Alabama	Wilcox	Removed Industrial as a source and added Dam construction and Flow regulation/modification as sources.

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03150203-0805-104	Alabama River	Alabama	Wilcox	Corrected the type of segment to Lake and changed the waterbody size to 358.40 acres.
AL03150203-0805-104	Alabama River	Alabama	Wilcox	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150203-0805-104	Alabama River	Alabama	Wilcox	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150203-0805-105	Alabama River	Alabama	Wilcox	Corrected the type of segment to Lake and changed the waterbody size to 128.00 acres.
AL03150203-0805-105	Alabama River	Alabama	Wilcox	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150203-0805-105	Alabama River	Alabama	Wilcox	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150203-0703-101	Alabama River	Alabama	Wilcox	Corrected the type of segment to Lake and changed the waterbody size to 467.20 acres.
AL03150203-0703-101	Alabama River	Alabama	Wilcox	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150203-0703-101	Alabama River	Alabama	Wilcox	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150204-0105-100	Alabama River	Alabama	Clarke Monroe	Corrected the type of segment to Lake and changed the waterbody size to 2438.39 acres.
AL03150204-0105-100	Alabama River	Alabama	Clarke Monroe	Changed the draft TMDL due date to 2017 to reflect the current TMDL schedule.
AL03160109-0204-102	Mulberry Fork	Black Warrior	Blount Cullman	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160109-0102-101	Mulberry Fork	Black Warrior	Blount Cullman	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160109-0102-101	Mulberry Fork	Black Warrior	Blount Cullman	Changed the draft TMDL due date to 2014 to reflect the current TMDL schedule.
AL03160109-0101-150	Riley Maze Creek	Black Warrior	Cullman Marshall	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160109-0101-150	Riley Maze Creek	Black Warrior	Cullman Marshall	Changed the draft TMDL due date to 2014 to reflect the current TMDL schedule.
AL03160109-0101-600	Tibb Creek	Black Warrior	Cullman Marshall	Changed the Siltation cause listing to Siltation (habitat alteration).

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03160109-0101-600	Tibb Creek	Black Warrior	Cullman Marshall	Changed the draft TMDL due date to 2014 to reflect the current TMDL schedule.
AL03160109-0105-101	Brindley Creek	Black Warrior	Cullman	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03160109-0105-102	Brindley Creek	Black Warrior	Cullman	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03160109-0201-102	Mud Creek	Black Warrior	Cullman	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160109-0403-103	Lost Creek	Black Warrior	Walker	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160109-0404-101	Cane Creek (Oakman)	Black Warrior	Walker	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160109-0404-101	Cane Creek (Oakman)	Black Warrior	Walker	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160109-0404-102	Cane Creek (Oakman)	Black Warrior	Walker	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160109-0404-102	Cane Creek (Oakman)	Black Warrior	Walker	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160109-0404-103	Cane Creek (Oakman)	Black Warrior	Walker	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160109-0404-103	Cane Creek (Oakman)	Black Warrior	Walker	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160109-0404-500	Black Branch	Black Warrior	Walker	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160109-0405-104	Lost Creek	Black Warrior	Walker	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160109-0503-100	Wolf Creek	Black Warrior	Walker	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160109-0601-601	Old Town Creek	Black Warrior	Walker	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160109-0601-601	Old Town Creek	Black Warrior	Walker	Changed the draft TMDL due date to 2014 to reflect the current TMDL schedule.
AL03160109-0604-900	Baker Creek	Black Warrior	Walker	Changed the Siltation cause listing to Siltation (habitat alteration).

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03160111-0404-102	Locust Fork	Black Warrior	Blount Jefferson	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160111-0306-102	Locust Fork	Black Warrior	Blount Jefferson	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160111-0303-102	Locust Fork	Black Warrior	Blount Jefferson	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160111-0204-101	Locust Fork	Black Warrior	Blount	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160111-0203-100	Dry Creek	Black Warrior	Blount	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160111-0406-101	Newfound Creek	Black Warrior	Jefferson	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160111-0408-102	Village Creek	Black Warrior	Jefferson	Changed the draft TMDL due date to 2014 to reflect the current TMDL schedule.
AL03160111-0408-103	Village Creek	Black Warrior	Jefferson	Changed the draft TMDL due date to 2014 to reflect the current TMDL schedule.
AL03160112-0105-101	Mud Creek	Black Warrior	Jefferson	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160112-0303-100	Pegues Creek	Black Warrior	Tuscaloosa	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160112-0303-100	Pegues Creek	Black Warrior	Tuscaloosa	Changed the draft TMDL due date to 2014 to reflect the current TMDL schedule.
AL03160112-0304-100	Daniel Creek	Black Warrior	Tuscaloosa	Changed the draft TMDL due date to 2014 to reflect the current TMDL schedule.
AL03160112-0404-102	North River	Black Warrior	Fayette Tuscaloosa	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03160113-0703-100	Cottonwood Creek	Black Warrior	Hale Marengo Perry	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160113-0703-100	Cottonwood Creek	Black Warrior	Hale Marengo Perry	Changed the Siltation cause listing to Siltation (habitat alteration).

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03160113-0703-100	Cottonwood Creek	Black Warrior	Hale Marengo Perry	Changed the draft TMDL due date to 2014 to reflect the current TMDL schedule.
AL03150202-0503-102	Cahaba River	Cahaba	Bibb	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03150202-0503-102	Cahaba River	Cahaba	Bibb	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150202-0405-100	Cahaba River	Cahaba	Bibb	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03150202-0405-100	Cahaba River	Cahaba	Bibb	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150202-0203-101	Cahaba River	Cahaba	Shelby	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03150202-0203-101	Cahaba River	Cahaba	Shelby	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150202-0203-102	Cahaba River	Cahaba	Shelby	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03150202-0203-102	Cahaba River	Cahaba	Shelby	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150202-0201-101	Cahaba River	Cahaba	Jefferson Shelby	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03150202-0201-101	Cahaba River	Cahaba	Jefferson Shelby	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150202-0201-102	Cahaba River	Cahaba	Jefferson	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03150202-0201-102	Cahaba River	Cahaba	Jefferson	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150202-0104-102	Cahaba River	Cahaba	Jefferson St. Clair	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03150202-0104-102	Cahaba River	Cahaba	Jefferson St. Clair	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150202-0101-102	Cahaba River	Cahaba	Jefferson	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03150202-0101-102	Cahaba River	Cahaba	Jefferson	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150202-0901-100	Childers Creek	Cahaba	Dallas	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03150202-0901-100	Childers Creek	Cahaba	Dallas	Changed the draft TMDL due date to 2014 to reflect the current TMDL schedule.
AL03130003-0101-100	Mill Creek	Chattahoochee	Lee Russell	Changed the draft TMDL due date to 2010 to reflect the current TMDL schedule.
AL03130003-1307-100	Barbour Creek	Chattahoochee	Barbour	Changed the draft TMDL due date to 2009 to reflect the current TMDL schedule.
AL03130003-1307-100	Barbour Creek	Chattahoochee	Barbour	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03130004-0601-500	Cedar Creek	Chattahoochee	Henry Houston	Changed the draft TMDL due date to 2016 to reflect the current TMDL schedule.
AL03130012-0201-400	Cypress Creek	Chipola	Houston	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03130012-0201-400	Cypress Creek	Chipola	Houston	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03140201-0404-100	Judy Creek	Choctawhatchee	Barbour Dale	Changed the draft TMDL due date to 2010 to reflect the current TMDL schedule.
AL03140201-0502-100	Hurricane Creek	Choctawhatchee	Dale	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03140201-0602-201	Beaver Creek	Choctawhatchee	Houston	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03140201-0602-201	Beaver Creek	Choctawhatchee	Houston	Changed the draft TMDL due date for Nutrients to 2008 to reflect the current TMDL schedule.
AL03140201-0602-201	Beaver Creek	Choctawhatchee	Houston	Changed the draft TMDL due date for Organic enrichment (CBOD, NBOD) to 2009 to reflect the current TMDL schedule.
AL03140201-0704-600	Dowling Branch	Choctawhatchee	Geneva	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03140201-0704-600	Dowling Branch	Choctawhatchee	Geneva	Changed the draft TMDL due date for Pathogens to 2008 to reflect the current TMDL schedule.

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03140201-0704-600	Dowling Branch	Choctawhatchee	Geneva	Changed the draft TMDL due date for Organic enrichment (CBOD, NBOD) to 2009 to reflect the current TMDL schedule.
AL03140201-1001-100	Harrand Creek	Choctawhatchee	Coffee Dale	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03140201-1001-100	Harrand Creek	Choctawhatchee	Coffee Dale	Changed the draft TMDL due date to 2010 to reflect the current TMDL schedule.
AL03140201-1001-700	Indian Camp Creek	Choctawhatchee	Coffee	Changed the draft TMDL due dates for Nutrients and Siltation to 2008 to reflect the current TMDL schedule.
AL03140201-1001-700	Indian Camp Creek	Choctawhatchee	Coffee	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03140201-1001-700	Indian Camp Creek	Choctawhatchee	Coffee	Changed the draft TMDL due date for Pathogens to 2010 to reflect the current TMDL schedule.
AL03140202-0502-102	Walnut Creek	Choctawhatchee	Pike	Changed the downstream location to Pike County Road 3304 due to a County Road renumbering.
AL03150106-0801-100	Coosa River (Logan Martin Lake)	Coosa	St. Clair Talladega	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150106-0801-100	Coosa River (Logan Martin Lake)	Coosa	St. Clair Talladega	Changed the draft TMDL due date for Priority Organics (PCBs) to 2017 to reflect the current TMDL schedule.
AL03150106-0501-101	Coosa River (Logan Martin Lake)	Coosa	St. Clair Talladega Calhoun	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150106-0501-101	Coosa River (Logan Martin Lake)	Coosa	St. Clair Talladega Calhoun	Changed the draft TMDL due date for Priority Organics (PCBs) to 2017 to reflect the current TMDL schedule.
AL03150106-0501-102	Coosa River (Logan Martin Lake)	Coosa	St. Clair Calhoun	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150106-0501-102	Coosa River (Logan Martin Lake)	Coosa	St. Clair Calhoun	Changed the draft TMDL due date for Priority Organics (PCBs) to 2017 to reflect the current TMDL schedule.

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03150106-0309-101	Coosa River (Neely Henry Lake)	Coosa	Etowah St. Clair Calhoun	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150106-0309-102	Coosa River (Neely Henry Lake)	Coosa	Etowah	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150106-0104-101	Coosa River (Neely Henry Lake)	Coosa	Etowah	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150106-0104-101	Coosa River (Neely Henry Lake)	Coosa	Etowah	Changed the draft TMDL due date for Priority Organics (PCBs) to 2017 to reflect the current TMDL schedule.
AL03150106-0104-102	Coosa River (Neely Henry Lake)	Coosa	Etowah Cherokee	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150106-0104-102	Coosa River (Neely Henry Lake)	Coosa	Etowah Cherokee	Changed the draft TMDL due date for Priority Organics (PCBs) to 2017 to reflect the current TMDL schedule.
AL03150106-0612-100	Choccolocco Creek	Coosa	Talladega Calhoun	Changed the upstream location to UT from Boiling Spring and the waterbody size to 39.85 miles to reflect a change to the use classifications for Choccolocco Creek.
AL03150106-0612-100	Choccolocco Creek	Coosa	Talladega Calhoun	Changed the draft TMDL due date to 2017 to reflect the current TMDL schedule.
AL03150106-0604-102	Choccolocco Creek	Coosa	Calhoun	This is the new Public Water Supply segment of the former Choccolocco Creek listing.
AL03150107-0401-100	Coosa River (Lay Lake)	Coosa	Talladega Chilton Coosa Shelby	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150107-0401-100	Coosa River (Lay Lake)	Coosa	Talladega Chilton Coosa Shelby	Changed the draft TMDL due date for Priority Organics (PCBs) to 2017 to reflect the current TMDL schedule.
AL03150107-0101-102	Coosa River (Lay Lake)	Coosa	Talladega Shelby	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03150107-0101-102	Coosa River (Lay Lake)	Coosa	Talladega Shelby	Changed the draft TMDL due date for Priority Organics (PCBs) to 2017 to reflect the current TMDL schedule.
AL03150106-0808-102	Coosa River (Lay Lake)	Coosa	Talladega Shelby St. Clair	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150106-0808-102	Coosa River (Lay Lake)	Coosa	Talladega Shelby St. Clair	Changed the draft TMDL due date for Priority Organics (PCBs) to 2017 to reflect the current TMDL schedule.
AL03150107-0102-700	UT to Dry Branch	Coosa	Shelby	Changed the draft TMDL due date to 2012 to reflect the current TMDL schedule.
AL03170008-0302-100	Escatawpa River	Escatawpa	Mobile	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03170008-0402-100	Big Creek (Big Creek Reservoir)	Escatawpa	Mobile	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03170009-0201-100	Mississippi Sound	Escatawpa	Mobile	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160204-0106-101	Cold Creek	Mobile	Mobile	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160204-0504-101	Threemile Creek	Mobile	Mobile	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160204-0504-300	Toulmins Spring Branch	Mobile	Mobile	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160204-0504-500	UT to Threemile Creek	Mobile	Mobile	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160204-0505-500	D'Olive Creek	Mobile	Baldwin	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160204-0505-500	D'Olive Creek	Mobile	Baldwin	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160204-0505-800	Joes Branch	Mobile	Baldwin	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160204-0505-800	Joes Branch	Mobile	Baldwin	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03160204-0505-900	Tiawasee Creek	Mobile	Baldwin	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160204-0505-900	Tiawasee Creek	Mobile	Baldwin	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160204-0505-905	UT to Tiawasee Creek	Mobile	Baldwin	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160204-0505-905	UT to Tiawasee Creek	Mobile	Baldwin	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160204-0505-505	UT to D'Olive Creek	Mobile	Baldwin	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03160204-0505-505	UT to D'Olive Creek	Mobile	Baldwin	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160205-0104-100	Mobile Bay	Mobile	Mobile	Changed the draft TMDL due date to 2009 to reflect the current TMDL schedule.
AL03160205-0202-700	Bolton Branch	Mobile	Mobile	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160205-0205-100	Middle Fork Deer River	Mobile	Mobile	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160205-0306-500	Baker Branch	Mobile	Baldwin	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160205-0307-700	Cowpen Creek	Mobile	Baldwin	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03140103-0102-700	UT to Jackson Lake 2-S	Perdido-Escambia	Covington	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03140103-0102-700	UT to Jackson Lake 2-S	Perdido-Escambia	Covington	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03140103-0102-800	UT to Jackson Lake 3-C	Perdido-Escambia	Covington	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03140103-0102-800	UT to Jackson Lake 3-C	Perdido-Escambia	Covington	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03140103-0402-100	Yellow River	Perdido-Escambia	Covington	Changed the draft TMDL due date to 2016 to reflect the current TMDL schedule.
AL03140104-0104-100	Blackwater River	Perdido-Escambia	Escambia	Changed the draft TMDL due date to 2016 to reflect the current TMDL schedule.

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03140106-0302-101	Brushy Creek	Perdido-Escambia	Escambia	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03140106-0302-101	Brushy Creek	Perdido-Escambia	Escambia	Changed the draft TMDL due dates for Organic Enrichment (CBOD, NBOD) and Metals (Lead) to 2010 to reflect the current TMDL schedule.
AL03140106-0302-201	Boggy Branch	Perdido-Escambia	Escambia	Changed the draft TMDL due date to 2010 to reflect the current TMDL schedule.
AL03140106-0302-202	Boggy Branch	Perdido-Escambia	Escambia	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03140106-0302-202	Boggy Branch	Perdido-Escambia	Escambia	Changed the draft TMDL due date to 2010 to reflect the current TMDL schedule.
AL03140106-0502-100	Styx River	Perdido-Escambia	Baldwin	Changed the draft TMDL due date to 2016 to reflect the current TMDL schedule.
AL03140106-0506-100	Styx River	Perdido-Escambia	Baldwin	Changed the draft TMDL due date to 2016 to reflect the current TMDL schedule.
AL03140106-0603-101	Blackwater River	Perdido-Escambia	Baldwin	Changed the draft TMDL due date to 2016 to reflect the current TMDL schedule.
AL03140106-0703-100	Perdido River	Perdido-Escambia	Baldwin	Changed the draft TMDL due date to 2016 to reflect the current TMDL schedule.
AL03140107-0103-100	Perdido Bay	Perdido-Escambia	Baldwin	Changed the draft TMDL due date to 2010 to reflect the current TMDL schedule.
AL03140107-0205-100	Little Lagoon	Perdido-Escambia	Baldwin	Changed the draft TMDL due date to 2010 to reflect the current TMDL schedule.
AL03140303-0302-101	Rocky Creek	Perdido-Escambia	Butler	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03140304-0106-100	Conecuh River	Perdido-Escambia	Escambia	Changed the draft TMDL due date to 2016 to reflect the current TMDL schedule.
AL03140304-0605-100	Little Escambia Creek	Perdido-Escambia	Escambia	Changed the draft TMDL due date to 2016 to reflect the current TMDL schedule.
AL03140305-0301-100	Big Escambia Creek	Perdido-Escambia	Escambia	Changed the draft TMDL due date to 2016 to reflect the current TMDL schedule.
AL03150110-0201-700	Pepperell Branch	Tallapoosa	Lee	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03150110-0204-101	Sougahatchee Creek	Tallapoosa	Tallapoosa	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03150110-0204-101	Sougahatchee Creek	Tallapoosa	Tallapoosa	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03150110-0301-300	Parkerson Mill Creek	Tallapoosa	Lee	Changed the draft TMDL due date to 2012 to reflect the current TMDL schedule.
AL03150110-0301-400	Moores Mill Creek	Tallapoosa	Lee	Changed the Siltation cause listing to Siltation (habitat alteration).
AL03150110-0301-400	Moores Mill Creek	Tallapoosa	Lee	Changed the draft TMDL due date to 2012 to reflect the current TMDL schedule.
AL03150110-0504-101	Calebee Creek	Tallapoosa	Macon	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03150110-0703-100	Cubahatchee Creek	Tallapoosa	Macon	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03150110-0702-102	Cubahatchee Creek	Tallapoosa	Macon Bullock	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03150110-0903-101	Line Creek	Tallapoosa	Macon Montgomery	Changed the Siltation and Other habitat alterations cause listings to Siltation (habitat alteration).
AL03150110-0903-102	Line Creek	Tallapoosa	Macon Montgomery	Changed the Siltation cause listing to Siltation (habitat alteration).
AL06030001-0402-401	Warren Smith Creek	Tennessee	Jackson	Changed the Siltation cause listing to Siltation (habitat alteration).
AL06030001-0402-401	Warren Smith Creek	Tennessee	Jackson	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030002-0105-101	Guess Creek	Tennessee	Jackson	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL06030002-0105-101	Guess Creek	Tennessee	Jackson	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030002-0304-200	Hester Creek	Tennessee	Madison	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030002-0306-100	Beaverdam Creek	Tennessee	Madison	Changed the Siltation cause listing to Siltation (habitat alteration).
AL06030002-0306-100	Beaverdam Creek	Tennessee	Madison	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL06030002-0307-100	Brier Fork	Tennessee	Madison	Changed the Siltation cause listing to Siltation (habitat alteration).
AL06030002-0307-100	Brier Fork	Tennessee	Madison	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030002-0401-102	Flint River	Tennessee	Madison	Changed the draft TMDL due date for pathogens to 2008 to reflect the current TMDL schedule.
AL06030002-0401-102	Flint River	Tennessee	Madison	Changed the draft TMDL due date for turbidity to 2011 to reflect the current TMDL schedule.
AL06030002-0404-200	Goose Creek	Tennessee	Madison	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030002-0502-101	Huntsville Spring Branch	Tennessee	Madison	Changed the draft TMDL due date to 2015 to reflect the current TMDL schedule.
AL06030002-0502-102	Huntsville Spring Branch	Tennessee	Madison	Changed the draft TMDL due date to 2015 to reflect the current TMDL schedule.
AL06030002-0505-101	Indian Creek	Tennessee	Madison	Changed the draft TMDL due date to 2015 to reflect the current TMDL schedule.
AL06030002-0601-300	Hughes Creek	Tennessee	Morgan Marshall	Changed the Siltation cause listing to Siltation (habitat alteration).
AL06030002-0601-300	Hughes Creek	Tennessee	Morgan Marshall	Changed the draft TMDL due date to 2009 to reflect the current TMDL schedule.
AL06030002-0601-700	Mill Pond Creek	Tennessee	Marshall	Changed the Siltation cause listing to Siltation (habitat alteration).
AL06030002-0601-700	Mill Pond Creek	Tennessee	Marshall	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030002-0602-102	West Fork Cotaco Creek	Tennessee	Morgan	Changed the Siltation cause listing to Siltation (habitat alteration).
AL06030002-0602-102	West Fork Cotaco Creek	Tennessee	Morgan	Changed the draft TMDL due date for Siltation (habitat alteration) to 2011 to reflect the current TMDL schedule.
AL06030002-0602-102	West Fork Cotaco Creek	Tennessee	Morgan	Changed the draft TMDL due date for Pathogens to 2008 to reflect the current TMDL schedule.
AL06030002-0602-200	Mud Creek	Tennessee	Morgan	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL06030002-0602-200	Mud Creek	Tennessee	Morgan	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030002-0603-102	Cotaco Creek	Tennessee	Morgan	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL06030002-1002-300	Herrin Creek	Tennessee	Morgan	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030002-1008-200	Flat Creek	Tennessee	Lawrence	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030004-0104-102	Anderson Creek	Tennessee	Lauderdale	Changed the Siltation cause listing to Siltation (habitat alteration).
AL06030004-0104-102	Anderson Creek	Tennessee	Lauderdale	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030004-0105-101	Elk River	Tennessee	Limestone Lauderdale	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL06030005-0701-201	McKiernan Creek	Tennessee	Colbert	Changed the Siltation cause listing to Siltation (habitat alteration).
AL06030005-0701-201	McKiernan Creek	Tennessee	Colbert	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL06030005-0701-201	McKiernan Creek	Tennessee	Colbert	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030005-0702-100	Pond Creek	Tennessee	Colbert	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL06030005-0702-100	Pond Creek	Tennessee	Colbert	Changed the draft TMDL due date for Organic enrichment (CBOD, NBOD) to 2011 to reflect the current TMDL schedule.
AL06030005-0702-100	Pond Creek	Tennessee	Colbert	Changed the draft TMDL due date for Metals (Arsenic, Cyanide, Mercury) to 2015 to reflect the current TMDL schedule.
AL06030006-0101-700	Little Dice Branch	Tennessee	Franklin	Changed the Siltation cause listing to Siltation (habitat alteration).
AL06030006-0101-700	Little Dice Branch	Tennessee	Franklin	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030006-0103-101	Bear Creek (Bear Creek Lake)	Tennessee	Franklin	Changed the draft TMDL due date to 2015 to reflect the current TMDL schedule.

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL06030006-0103-103	Bear Creek	Tennessee	Marion	Changed the draft TMDL due date to 2011 to reflect the current TMDL schedule.
AL06030006-0103-104	Bear Creek (Upper Bear Creek Reservoir)	Tennessee	Franklin Marion Winston	Changed the source to Unknown.
AL06030006-0103-104	Bear Creek (Upper Bear Creek Reservoir)	Tennessee	Franklin Marion Winston	Corrected the type of segment to Lake and changed the waterbody size to 1462.58 acres.
AL06030006-0205-102	Little Bear Creek (Little Bear Creek Lake)	Tennessee	Franklin	Corrected the type of segment to Lake and changed the waterbody size to 1435.05 acres.
AL06030006-0205-102	Little Bear Creek (Little Bear Creek Lake)	Tennessee	Franklin	Changed the draft TMDL due date to 2015 to reflect the current TMDL schedule.
AL03160106-0402-102	Tombigbee River	Upper Tombigbeee	Pickens	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160106-0402-102	Tombigbee River	Upper Tombigbeee	Pickens	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03160106-0607-101	Factory Creek	Upper Tombigbeee	Sumter	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160106-0607-101	Factory Creek	Upper Tombigbeee	Sumter	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160107-0306-100	Sipsey River	Upper Tombigbeee	Pickens Greene	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03160203-0901-102	Tombigbee River	Lower Tombigbeee	Clarke Washington	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160203-0901-102	Tombigbee River	Lower Tombigbeee	Clarke Washington	Corrected the waterbody size to 7.83 miles.
AL03160203-0901-102	Tombigbee River	Lower Tombigbeee	Clarke Washington	Corrected the upstream location to 1/2 mile upstream of Southern Railway.
AL03160203-0601-100	Bassett Creek	Lower Tombigbeee	Clarke	Changed the draft TMDL due date to 2008 to reflect the current TMDL schedule.
AL03160203-1103-102	Tombigbee River	Lower Tombigbeee	Clarke Washington	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03160203-1103-700	Bilbo Creek	Lower Tombigbeee	Washington	Changed the Organic Enrichment/DO cause listing to Organic Enrichment (CBOD, NBOD).
AL03160203-1103-700	Bilbo Creek	Lower Tombigbeee	Washington	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.
AL03160203-1103-800	Olin Basin	Lower Tombigbeee	Washington	Changed the draft TMDL due date to 2013 to reflect the current TMDL schedule.

APPENDIX A

Public Notice Soliciting Available Data and Information for Preparation of Alabama's 2008 303(d) List and Comments on Alabama's Draft Assessment and Listing Methodology

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NOTICE OF AVAILABILITY OF THE PROPOSED SECTION 303(d) LIST OF IMPAIRED WATERS FOR THE YEAR 2008
STATE OF ALABAMA

Section 303(d) of the Clean Water Act requires that each state shall identify those waters within its boundaries for which controls of pollutant sources are not stringent enough to implement water quality standards applicable to such waters. In addition, each State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. For each waterbody identified on the list, the state is required to establish a total maximum daily load (TMDL) for each pollutant at a level necessary to implement applicable water quality standards.

The Alabama Department of Environmental Management (ADEM) has developed the Draft 2008 Section 303(d) List and is now making it available for public review and comment. Single copies of the Draft List and Fact Sheet can be obtained at no charge by calling, writing, or e-mailing ADEM at the phone number, address, or e-mail address provided below. Electronic copies of the Draft List and Fact Sheet are also available on the ADEM web site at the following address:
http://www.adem.state.al.us/PublicNotice/PublicNotice.htm **Click here for a Direct Link**

Persons wishing to submit comments or new information regarding on the Draft 2008 Section 303(d) List are invited to do so in writing to Mr. Joseph Roy, Water Division, Alabama Department of Environmental Management, P.O. Box 301463, Montgomery, Alabama 36130-1463 (street address: 1400 Coliseum Boulevard, Montgomery, Alabama 36110-2059). Written comments must be received prior to 5:00 p.m. on March 12, 2008. Mr. Roy can be contacted by phone at 334-270-5635 or by e-mail at jtr@adem.state.al.us. Comments may also be submitted via Mr. Roy's e-mail address or by fax to 334-279-3051.

This notice is hereby given this 10th day of February 2008 by authority of ADEM.

____Original signed by______
Onis "Trey" Glenn, III, Director

Appendix D

Alabama's 2008 §303(d) List

2008 §303(d) List for Alabama

Assessment Unit ID	Waterbody Name	Type	Rank	River Basin	County	Uses	Causes	Sources	Date of Data	Size	Downstream / Upstream Locations	Draft TMDL Date
AL03150201-0104-302	Three Mile Branch	R	M	Alabama	Montgomery	Fish & Wildlife	Pesticides (Dieldrin)	Unknown source	1999	7.65 miles	Lower Wetumpka Road / Its source	2008
AL03150201-0203-102	Autauga Creek	R	L	Alabama	Autauga	Swimming Fish & Wildlife	Unknown	Unkown source	2000	26.87 miles	Matthews Branch / Its source	2012
AL03150201-0309-100	Catoma Creek	R	M	Alabama	Montgomery	Fish & Wildlife	Pathogens	Urban runoff/storm sewers Agriculture	1999	23.19 miles	Alabama River / Ramer Creek	2008
AL03150201-0402-100	Pintlalla Creek	R	L	Alabama	Crenshaw Montgomery	Swimming Fish & Wildlife	Pathogens	Pasture grazing	1999-2000	26.45 miles	Pinchony Creek / Its source	2012
AL03150203-0805-101	Alabama River	L	L	Alabama	Clarke Monroe Wilcox	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2006	844.79 acres	McCalls Creek / Bear Creek	2017
AL03150203-0805-102	Alabama River	L	L	Alabama	Wilcox	Swimming Fish & Wildlife	Organic Enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	1991 1995-99	358.40 acres	Bear Creek / Frisco Railroad Crossing	2008
AL03150203-0805-103	Alabama River	L	L	Alabama	Wilcox	Fish & Wildlife	Organic Enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	1991 1995-99	563.20 acres	Frisco Railroad Crossing / Pursley Creek	2008
AL03150203-0805-104	Alabama River	L	L	Alabama	Wilcox	Fish & Wildlife	Organic Enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	1995-99	627.20 acres	Pursley Creek / River Mile 131	2008
AL03150203-0805-105	Alabama River	L	L	Alabama	Wilcox	Public Water Supply	Organic Enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	1995-99	128.00 acres	River Mile 131 / Beaver Creek	2008
AL03150203-0703-101	Alabama River	L	L	Alabama	Wilcox	Public Water Supply	Organic Enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	1991	467.20 acres	Beaver Creek / Rockwest Creek	2008
AL03150203-0802-100	Pursley Creek	R	L	Alabama	Wilcox	Fish & Wildlife	Pathogens	Municipal Pasture grazing	2000 2001	26.11 miles	Alabama River / Its source	2012
AL03150203-0802-400	Town Branch	R	L	Alabama	Wilcox	Fish & Wildlife	Pathogens	Municipal Urban runoff/storm sewers	2000 2001	4.35 miles	Pursley Creek / Its source	2012
AL03150204-0105-100	Alabama River	L	L	Alabama	Clarke Monroe	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2006	2438.39 acres	Claiborne Lock and Dam / McCalls Creek	2017
AL03160109-0204-101	Mulberry Fork	R	H	Black Warrior	Blount Cullman	Fish & Wildlife	Nutrients	Agriculture Industrial Municipal	1972-83 1988 1996	2.52 miles	Marriott Creek / Mill Creek	2014
AL03160109-0204-102	Mulberry Fork	R	H	Black Warrior	Blount Cullman	Fish & Wildlife	Nutrients Siltation (habitat alteration)	Agriculture Industrial Municipal	1972-83 1988 1996	17.27 miles	Mill Creek / Broglen River	2014
AL03160109-0102-101	Mulberry Fork	R	H	Black Warrior	Blount Cullman	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	1974-83	18.23 miles	Broglen River / Blount County Road 6	2014
AL03160109-0101-150	Riley Maze Creek	R	L	Black Warrior	Cullman Marshall	Fish & Wildlife	Toxicity Siltation (habitat alteration)	Municipal	1998	4.13 miles	Tibb Creek / Its source	2014
AL03160109-0101-600	Tibb Creek	R	L	Black Warrior	Cullman Marshall	Fish & Wildlife	Toxicity Siltation (habitat alteration)	Municipal	1998	5.13 miles	Mulberry Fork / Its source	2014
AL03160109-0105-101	Brindley Creek	R	H	Black Warrior	Cullman	Public Water Supply	Nutrients	Agrilculture Urban runoff/storm sewers	1996	7.17 miles	Broglen River / State Highway 69	2008

2008 §303(d) List for Alabama

Assessment Unit ID	Waterbody Name	Type	Rank	River Basin	County	Uses	Causes	Sources	Date of Data	Size	Downstream / Upstream Locations	Draft TMDL Date
AL03160109-0105-102	Brindley Creek	R	H	Black Warrior	Cullman	Public Water Supply	Nutrients	Agriculture Urban runoff/storm sewers	1996	9.89 miles	State Highway 69 / Its source	2008
AL03160109-0201-102	Mud Creek	R	H	Black Warrior	Cullman	Fish & Wildlife	Organic Enrichment (CBOD, NBOD)	Urban runoff/storm sewers	1996	4.66 miles	Alabama Highway 31 / Its source	2009
AL03160109-0403-103	Lost Creek	R	H	Black Warrior	Walker	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	1987	6.53 miles	US Highway 78 at Carbon Hill / US Highway 78 north of Cedrum	2009
AL03160109-0404-101	Cane Creek (Oakman)	R	M	Black Warrior	Walker	Fish & Wildlife	Metals (Aluminum, Iron) Nutrients pH Organic Enrichment (CBOD, NBOD) Siltation (habitat alteration)	Municipal Surface mining-abandoned	1988 1993	7.15 miles	Lost Creek / Dixie Springs Road	2014
AL03160109-0404-102	Cane Creek (Oakman)	R	M	Black Warrior	Walker	Limited Warmwater Fishery	Metals (Aluminum, Iron) Nutrients pH Organic Enrichment (CBOD, NBOD) Siltation (habitat alteration)	Municipal Surface mining-abandoned	1988 1993	3.49 miles	Dixie Springs Road / Alabama Highway 69	2014
AL03160109-0404-103	Cane Creek (Oakman)	R	M	Black Warrior	Walker	Fish & Wildlife	Metals(Aluminum, Iron) Nutrients pH Organic Enrichment (CBOD, NBOD) Siltation (habitat alteration)	Municipal Surface mining-abandoned	1988 1993	7.38 miles	Alabama Highway 69 / Its source	2014
AL03160109-0404-500	Black Branch	R	H	Black Warrior	Walker	Fish & Wildlife	Metals (Aluminum, Iron) pH Siltation (habitat alteration)	Surface mining-abandoned	1996-97	3.15 miles	Cane Creek / Its source	2009
AL03160109-0405-104	Lost Creek	R	H	Black Warrior	Walker	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	1987	17.33 miles	Mill dam at Cedrum / Alabama Highway 69 at Oakman	2009
AL03160109-0503-100	Wolf Creek	R	H	Black Warrior	Walker	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	1996	38.40 miles	Lost Creek / Alabama Highway 102	2009
AL03160109-0601-601	Old Town Creek	R	L	Black Warrior	Walker	Fish & Wildlife	Nutrients Siltation (habitat alteration)	Surface mining-abandoned	2002	2.71 miles	Mulberry Fork / Pinhook Creek	2014
AL03160109-0604-900	Baker Creek	R	L	Black Warrior	Walker	Fish & Wildlife	Siltation (habitat alteration)	Unknown source	2002	7.01 miles	Mulberry Fork / Its source	2014
AL03160110-0502-100	Ryan Creek	R	L	Black Warrior	Cullman	Fish & Wildlife	Pathogens	Pasture grazing	2002	16.12 miles	Lewis Smith Lake/ Its source	2009
AL03160111-0404-102	Locust Fork	R	H	Black Warrior	Blount Jefferson	Fish & Wildlife	Nutrients Siltation (habitat alteration)	Agriculture Surface mining-abandoned	1998	14.25 miles	Jefferson County Road 77 / US Highway 31	2014

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AL03160111-0306-102	Locust Fork	R	H	Black Warrior	Blount Jefferson	Public Water Supply Fish & Wildlife	Nutrients Siltation (habitat alteration)	Agriculture Surface mining-abandoned	1998	14.86 miles	US Highway 31 / county road between Hayden and County Line	2014
AL03160111-0303-102	Locust Fork	R	H	Black Warrior	Blount Jefferson	Fish & Wildlife	Nutrients Siltation (habitat alteration)	Agriculture Surface mining-abandoned	1998	18.15 miles	county road between Hayden and County Line / Little Warrior River	2014
AL03160111-0204-101	Locust Fork	R	H	Black Warrior	Blount	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining-abandoned	1987 1998	27.18 miles	Little Warrior River / Blount County Road 30	2014
AL03160111-0203-100	Dry Creek	R	M	Black Warrior	Blount	Fish & Wildlife	Nutrients Ammonia Organic Enrichment (CBOD, NBOD) Pathogens	Pasture grazing	1988 1991	12.00 miles	Locust Fork / Its source	2009
AL03160111-0406-101	Newfound Creek	R	M	Black Warrior	Jefferson	Fish & Wildlife	Siltation (habitat alteration)	Urban runoff/storm sewers	1986 2002	2.76 miles	Fivemile Creek / Impoundment	2009
AL03160111-0408-102	Village Creek	R	L	Black Warrior	Jefferson	Limited Warmwater Fishery	Pathogens Pesticides (Dieldrin)	Urban runoff/storm sewers Collection system failure	2000 2001 2002 2004	12.60 miles	Second Creek / Woodlawn Bridge	2014
AL03160111-0408-103	Village Creek	R	L	Black Warrior	Jefferson	Limited Warmwater Fishery	Pathogens Pesticides (Dieldrin)	Urban runoff/storm sewers Collection system failure	2000 2001 2002 2004	4.04 miles	Woodlawn Bridge / Its source	2014
AL03160112-0101-101	Valley Creek	R	L	Black Warrior	Jefferson	Limited Warmwater Fishery	Metals (Mercury)	Unknown source	2003	0.90 miles	19th Street North (Bessemer) / Opossum Creek	2014
AL03160112-0101-200	Opossum Creek	R	H	Black Warrior	Jefferson	Agricultural & Industrial	Metals (Mercury)	Unknown source	2003	7.45 miles	Valley Creek / Its source	2014
AL03160112-0105-101	Mud Creek	R	H	Black Warrior	Jefferson	Fish & Wildlife	pH Siltation (habitat alteration)	Unknown source	1974-83	14.12 miles	Valley Creek / Big Branch	2009
AL03160112-0201-101	Big Yellow Creek	R	H	Black Warrior	Tuscaloosa	Swimming Fish & Wildlife	Metals (Chromium, Lead)	Surface mining-abandoned	1979-85 1988	14.59 miles	Bankhead Lake / Its source	2009
AL03160112-0303-100	Pegues Creek	R	L	Black Warrior	Tuscaloosa	Fish & Wildlife	Metals (Chromium, Lead) Siltation (habitat alteration)	Surface mining-abandoned	2002	4.23 miles	Black Warrior River / Its source	2014
AL03160112-0304-100	Daniel Creek	R	L	Black Warrior	Tuscaloosa	Fish & Wildlife	Metals (Chromium, Lead)	Surface mining-abandoned	2002	10.42 miles	Black Warrior River / Its source	2014
AL03160112-0404-102	North River	R	H	Black Warrior	Fayette Tuscaloosa	Fish & Wildlife	Nutrients Siltation (habitat alteration)	Surface mining-abandoned	1987	43.48 miles	Lake Tuscaloosa / Ellis Creek	2009
AL03160113-0703-100	Cottonwood Creek	R	L	Black Warrior	Hale Marengo Perry	Fish & Wildlife	Organic Enrichment (CBOD, NBOD) Siltation (habitat alteration) Nutrients	Municipal Pasture grazing	2002	11.42 miles	Big Prarie Creek / Its source	2014

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AL03150202-0503-102	Cahaba River	R	H	Cahaba	Bibb	Outstanding Alabama Water Swimming	Siltation (habitat alteration)	Municipal Urban runoff/storm sewers Land development	1990 1992 1993 2002-04	10.58 miles	Alabama Highway 82 / lower Little Cahaba River	2008
AL03150202-0405-100	Cahaba River	R	H	Cahaba	Bibb	Outstanding Alabama Water Fish & Wildlife	Siltation (habitat alteration)	Municipal Urban runoff/storm sewer Land development	1990 1992 1993 2002-04	13.51 miles	lower Little Cahaba River / Shades Creek	2008
AL03150202-0203-101	Cahaba River	R	H	Cahaba	Shelby	Outstanding Alabama Water Fish & Wildlife	Siltation (habitat alteration) Pathogens	Municipal Urban runoff/storm sewers Land development	1993-97 2002-04	23.61 miles	Shades Creek / Shelby County Road 52	2008
AL03150202-0203-102	Cahaba River	R	H	Cahaba	Shelby	Fish & Wildlife	Siltation (habitat alteration) Pathogens	Municipal Urban runoff/storm sewers Land development	1993-97 2002-04	3.62 miles	Shelby County Road 52 / Buck Creek	2008
AL03150202-0201-101	Cahaba River	R	H	Cahaba	Jefferson Shelby	Fish & Wildlife	Siltation (habitat alteration)	Urban runoff/storm sewers Municipal	1993 2002-04	17.46 miles	Buck Creek / Dam near US Highway 280	2008
AL03150202-0201-102	Cahaba River	R	H	Cahaba	Jefferson	Outstanding Alabama Water Public Water Supply	Siltation (habitat alteration)	Urban runoff/storm sewers	1993 2002-04	13.45 miles	Dam near US Highway 280 / Grant's Mill Road	2008
AL03150202-0104-102	Cahaba River	R	H	Cahaba	Jefferson St. Clair	Fish & Wildlife	Siltation (habitat alteration)	Urban runoff/storm sewers	1993 2002-04	21.11 miles	Grant's Mill Road / US Highway 11	2008
AL03150202-0101-102	Cahaba River	R	H	Cahaba	Jefferson	Outstanding Alabama Water Fish & Wildlife	Siltation (habitat alteration)	Urban runoff/storm sewers	1993 2002-04	3.13 miles	US Highway 11 / I-59	2008
AL03150202-0103-300	Lee Branch	R	H	Cahaba	Shelby	Fish & Wildlife	Pathogens	Urban runoff/storm sewers	1996-99	2.87 miles	Lake Purdy / Its source	2009
AL03150202-0202-101	Buck Creek	R	L	Cahaba	Shelby	Fish & Wildlife	Pathogens	Urban runoff/storm sewers	2003	2.92 miles	Cahaba River / Cahaba Valley Creek	2009
AL03150202-0202-401	Cahaba Valley Creek	R	L	Cahaba	Shelby	Fish & Wildlife	Pathogens	Urban runoff/storm sewers	1999-00	4.67 miles	Buck Creek / US Highway 31	2009
AL03150202-0901-100	Childers Creek	R	L	Cahaba	Dallas	Fish & Wildlife	Siltation (habitat alteration)	Pasture grazing	2002	18.79 miles	Cahaba River / Its source	2014
AL03130003-0101-100	Mill Creek	R	L	Chattahoochee	Lee Russell	Fish & Wildlife	Unknown	Unknown source	1999	9.93 miles	Chattahoochee River / Its source	2010
AL03130003-1307-100	Barbour Creek	R	H	Chattahoochee	Barbour	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	1987	27.23 miles	Chattahoochee River / Its source	2009
AL03130004-0601-500	Cedar Creek	R	L	Chattahoochee	Henry Houston	Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2006	4.04 miles	Omusee Creek / Its source	2016
AL03130012-0201-400	Cypress Creek	R	M	Chipola	Houston	Fish & Wildlife	Nutrients Organic Enrichment (CBOD, NBOD)	Municipal Urban runoff/storm sewers	1984 1986	8.11 miles	Limestone Creek / Its source	2008
AL03140201-0404-100	Judy Creek	R	L	Choctawhatchee	Barbour Dale	Fish & Wildlife	Nutrients	Unknown source	1998, 1999	23.64 miles	West Fork Choctawhatchee River / Its source	2010

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AL03140201-0502-100	Hurricane Creek	R	H	Choctawhatchee	Dale	Fish & Wildlife	Pathogens	Agriculture Municipal Urban runoff/storm sewers	1991	9.39 miles	Choctawhatchee River / Its source	2008
AL03140201-0602-201	Beaver Creek	R	H	Choctawhatchee	Houston	Fish & Wildlife	Nutrients	Municipal Urban runoff/storm sewers	1977-86	2.09 miles	Newton Creek / Dothan WWTP	2008
AL03140201-0602-201	Beaver Creek	R	H	Choctawhatchee	Houston	Fish & Wildlife	Organic Enrichment (CBOD, NBOD)	Municipal Urban runoff/storm sewers	1977-86	2.09 miles	Newton Creek / Dothan WWTP	2009
AL03140201-0704-600	Dowling Branch	R	H	Choctawhatchee	Geneva	Fish & Wildlife	Pathogens	Municipal Urban runoff/storm sewers Agriculture	1991	2.10 miles	Cox Mill Creek / Its source	2008
AL03140201-0704-600	Dowling Branch	R	H	Choctawhatchee	Geneva	Fish & Wildlife	Organic Enrichment (CBOD, NBOD)	Municipal Urban runoff/storm sewers Agriculture	1991	2.10 miles	Cox Mill Creek / Its source	2009
AL03140201-1001-100	Harrand Creek	R	L	Choctawhatchee	Coffee Dale	Fish & Wildlife	Siltation (habitat alteration)	Urban runoff/storm sewers	1999	9.71 miles	Claybank Creek / Its source	2010
AL03140201-1001-700	Indian Camp Creek	R	M	Choctawhatchee	Coffee	Fish & Wildlife	Nutrients	Urban runoff/storm sewers	1985 1986	3.98 miles	Harrand Creek / Its source	2008
AL03140201-1001-700	Indian Camp Creek	R	M	Choctawhatchee	Coffee	Fish & Wildlife	Siltation (habitat alteration)	Urban runoff/storm sewers Land development	1999	3.98 miles	Harrand Creek / Its source	2008
AL03140201-1001-700	Indian Camp Creek	R	L	Choctawhatchee	Coffee	Fish & Wildlife	Pathogens	Urban runoff/storm sewers	1999 2004	3.98 miles	Harrand Creek / Its source	2010
AL03140202-0502-102	Walnut Creek	R	M	Choctawhatchee	Pike	Fish & Wildlife	Unknown toxicity	Municipal	1997	2.61 miles	Pike County Road 3304 / Walters Branch	2010
AL03150105-0807-102	Spring Creek	R	H	Coosa	Cherokee	Fish & Wildlife	Pathogens	Unknown source	2002	5.39 miles	Coosa River / Mud Creek	2012
AL03150105-0807-103	Spring Creek	R	L	Coosa	Cherokee	Fish & Wildlife	Nutrients	Agriculture	2002	9.88 miles	Mud Creek / Its source	2012
AL03150105-0807-200	Mud Creek	R	H	Coosa	Cherokee	Fish & Wildlife	Pathogens	Unknown source	2002	5.24 miles	Spring Creek / Its source	2012
AL03150106-0801-100	Coosa River (Logan Martin Lake)	L	L	Coosa	St. Clair Talladega	Swimming Fish & Wildlife	Nutrients Organic Enrichment (CBOD, NBOD)	Urban runoff/storm sewers Flow regulation/modification	1991-93 1994-97 1995-97	14415.70 acres	Logan Martin Dam / Broken Arrow Creek	2008
AL03150106-0801-100	Coosa River (Logan Martin Lake)	L	L	Coosa	St. Clair Talladega	Swimming Fish & Wildlife	Priority Organics (PCBs)	Contaminated sediments	1996	14415.70 acres	Logan Martin Dam / Broken Arrow Creek	2017
AL03150106-0501-101	Coosa River (Logan Martin Lake)	L	L	Coosa	St. Clair Talladega Calhoun	Public Water Supply Swimming Fish & Wildlife	Nutrients Organic Enrichment (CBOD, NBOD)	Urban runoff/storm sewers Flow regulation/modification	1991-93 1994-97 1995-97	1450.26 acres	Broken Arrow Creek / Trout Creek	2008
AL03150106-0501-101	Coosa River (Logan Martin Lake)	L	L	Coosa	St. Clair Talladega Calhoun	Public Water Supply Swimming Fish & Wildlife	Priority Organics (PCBs)	Contaminated sediments	1996	1450.26 acres	Broken Arrow Creek / Trout Creek	2017
AL03150106-0501-102	Coosa River (Logan Martin Lake)	L	L	Coosa	St. Clair Calhoun	Swimming Fish & Wildlife	Nutrients Organic Enrichment (CBOD, NBOD)	Urban runoff/storm sewers Flow regulation/modification	1991-93 1994-97 1995-97	820.38 acres	Trout Creek / Neely Henry Dam	2008

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AL03150106-0501-102	Coosa River (Logan Martin Lake)	L	L	Coosa	St. Clair Calhoun	Swimming Fish & Wildlife	Priority Organics (PCBs)	Contaminated sediments	1996	820.38 acres	Trout Creek / Neely Henry Dam	2017
AL03150106-0309-101	Coosa River (Neely Henry Lake)	L	M	Coosa	Etowah St. Clair Calhoun	Swimming Fish & Wildlife	Nutrients pH Organic Enrichment (CBOD, NBOD)	Industrial Municipal Flow regulation/modification Upstream sources	1992-95 1994-97	5487.94 acres	Neely Henry Dam / McCardney's Ferry	2008
AL03150106-0309-102	Coosa River (Neely Henry Lake)	L	M	Coosa	Etowah	Fish & Wildlife	Nutrients pH Organic Enrichment (CBOD, NBOD)	Industrial Municipal Flow regulation/modification Upstream sources	1992-95 1994-97	3502.52 acres	McCardney's Ferry / Big Wills Creek	2008
AL03150106-0104-101	Coosa River (Neely Henry Lake)	L	M	Coosa	Etowah	Fish & Wildlife	Nutrients pH Organic Enrichment (CBOD, NBOD)	Industrial Municipal Flow regulation/modification Upstream sources	1992-95 1994-97	245.39 acres	Big Wills Creek / City of Gadsden water supply intake	2008
AL03150106-0104-101	Coosa River (Neely Henry Lake)	L	M	Coosa	Etowah	Fish & Wildlife	Priority Organics (PCBs)	Contaminated sediments	2001-02	245.39 acres	Big Wills Creek / City of Gadsden water supply intake	2017
AL03150106-0104-102	Coosa River (Neely Henry Lake)	L	M	Coosa	Etowah Cherokee	Public Water Supply Fish & Wildlife	Nutrients pH Organic Enrichment (CBOD, NBOD)	Industrial Municipal Flow regulation/modification Upstream sources	1992-95 1994-97	1897.43 acres	City of Gadsden water supply intake / Weiss Dam powerhouse	2008
AL03150106-0104-102	Coosa River (Neely Henry Lake)	L	M	Coosa	Etowah Cherokee	Public Water Supply Fish & Wildlife	Priority Organics (PCBs)	Contaminated sediments	2001-02	1897.43 acres	City of Gadsden water supply intake / Weiss Dam powerhouse	2017
AL03150106-0612-100	Choccolocco Creek	R	L	Coosa	Talladega Calhoun	Fish & Wildlife	Priority Organics (PCBs)	Contaminated sediments	1994	39.85 miles	Coosa River / UT from Boiling Spring	2017
AL03150106-0604-102	Choccolocco Creek	R	L	Coosa	Calhoun	Public Water Supply Fish & Wildlife	Priority Organics (PCBs)	Contaminated sediments	1994	2.37 miles	UT from Boiling Spring / Hillabee Creek	2017
AL03150107-0401-100	Coosa River (Lay Lake)	L	L	Coosa	Talladega Chilton Coosa Shelby	Public Water Supply Swimming Fish & Wildlife	Nutrients Organic Enrichment (CBOD, NBOD)	Flow regulation/modification Upstream sources	1990-91 1992-97	11806.34 acres	Lay Dam / Southern RR Bridge	2008
AL03150107-0401-100	Coosa River (Lay Lake)	L	L	Coosa	Talladega Chilton Coosa Shelby	Public Water Supply Swimming Fish & Wildlife	Priority Organics (PCBs)	Contaminated sediments	1990-91 1992-97	11806.34 acres	Lay Dam / Southern RR Bridge	2017
AL03150107-0101-102	Coosa River (Lay Lake)	L	L	Coosa	Talladega Shelby	Swimming Fish & Wildlife	Nutrients Organic Enrichment (CBOD, NBOD)	Flow regulation/modification Upstream sources	1990-91 1992-97	862.40 acres	Southern RR Bridge / River Mile 89	2008
AL03150107-0101-102	Coosa River (Lay Lake)	L	L	Coosa	Talladega Shelby	Swimming Fish & Wildlife	Priority Organics (PCBs)	Contaminated sediments	1990-91 1992-97	862.40 acres	Southern RR Bridge / River Mile 89	2017
AL03150106-0808-102	Coosa River (Lay Lake)	L	L	Coosa	Talladega Shelby St. Clair	Public Water Supply Swimming Fish & Wildlife	Nutrients Organic Enrichment (CBOD, NBOD)	Flow regulation/modification Upstream sources	1990-91 1992-97	698.25 acres	River Mile 89 / Logan Martin Dam	2008

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AL03150106-0808-102	Coosa River (Lay Lake)	L	L	Coosa	Talladega Shelby St. Clair	Public Water Supply Swimming Fish & Wildlife	Priority Organics (PCBs)	Contaminated sediments	1990-91 1992-97	698.25 acres	River Mile 89 / Logan Martin Dam	2017
AL03150107-0601-100	Coosa River (Mitchell Lake)	L	L	Coosa	Chilton Coosa	Public Water Supply Swimming Fish & Wildlife	Nutrients	Urban runoff/storm sewers Flow regulation/modification	1991-93 1994-97	5400.33 acres	Mitchell Dam / Lay Dam	2008
AL03150107-0102-700	UT to Dry Branch	R	H	Coosa	Shelby	Fish & Wildlife	Nutrients	Municipal Urban runoff/storm sewers	1991	1.58 miles	Dry Branch / Its source	2012
AL03170008-0302-100	Escatawpa River	R	H	Escatawpa	Mobile	Swimming Fish & Wildlife	Metals (Mercury)	Unknown source	2002	70.66 miles	AL-MS state line / Its source	2013
AL03170008-0402-100	Big Creek (Big Creek Reservoir)	R	L	Escatawpa	Mobile	Public Water Supply Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2006	3309.31 acres	Big Creek Reservoir / Collins Creek	2013
AL03170008-0402-400	Boggy Branch	R	M	Escatawpa	Mobile	Fish & Wildlife	Metals (Iron)	Natural	1996-99	4.58 miles	Big Creek Lake / Its source	2008
AL03170008-0402-700	Collins Creek	R	H	Escatawpa	Mobile	Fish & Wildlife	Pathogens	Pasture grazing On-site wastewater systems	1996-99	5.15 miles	Big Creek / Its source	2008
AL03170008-0402-700	Collins Creek	R	L	Escatawpa	Mobile	Fish & Wildlife	Metals (Arsenic)	Unknown source	2001 2002	5.15 miles	Big Creek / Its source	2013
AL03170009-0102-100	Bayou La Batre	R	L	Escatawpa	Mobile	Fish & Wildlife	Pathogens	Urban runoff/storm sewers	1997	5.46 miles	Portersville Bay / Its source	2008
AL03170009-0201-100	Mississippi Sound	E	M	Escatawpa	Mobile	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens	Urban runoff/storm sewers	1994-97	93.72 square miles	Segment classified for shellfish harvesting	2013
AL03170009-0201-200	Portersville Bay	E	L	Escatawpa	Mobile	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens	Municipal	1996	18.81 square miles	1000 feet west of outfall / Bayou la Batre Utilities outfall	2013
AL03170009-0201-300	Grand Bay	E	L	Escatawpa	Mobile	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens	On-site wastewater systems	2003-2005	30.73 square miles	Grand Bay	2013
AL03160204-0505-100	Mobile River	R	L	Mobile	Mobile	Limited Warmwater Fishery	Metals (Mercury)	Unknown source	2000	7.61 miles	Mobile Bay / Spanish River	2013
AL03160204-0303-102	Mobile River	R	L	Mobile	Baldwin Mobile	Fish & Wildlife	Metals (Mercury)	Unknown source	2000	20.90 miles	Spanish River / Cold Creek	2013
AL03160204-0106-101	Cold Creek	R	L	Mobile	Mobile	Fish & Wildlife	Metals (Mercury)	Contaminated sediments Flow regulation/modification	1993	4.21 miles	Mobile River / Dam 1 1/2 miles west of US Highway 43	2013
AL03160204-0201-200	Middle River	R	H	Mobile	Mobile Baldwin	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	9.72 miles	Tensaw River(RM 20.6) / Tensaw River(RM 37.7)	2013
AL03160204-0404-101	Chickasaw Creek	R	H	Mobile	Mobile	Limited Warmwater Fishery	Metals (Mercury)	Unknown source	2000	4.43 miles	Mobile River / US Highway 43	2013
AL03160204-0404-102	Chickasaw Creek	R	H	Mobile	Mobile	Fish & Wildlife	Metals (Mercury)	Unknown source	2000	6.64 miles	US Highway 43 / Mobile College	2013
AL03160204-0402-100	Chickasaw Creek	R	H	Mobile	Mobile	Swimming Fish & Wildlife	Metals (Mercury)	Unknown source	2000	26.82 miles	Mobile College / Its source	2013
AL03160204-0503-102	Bay Minette Creek	R	H	Mobile	Baldwin	Fish & Wildlife	Metals (Mercury)	Unknown source	2000	18.15 miles	Bay Minette / Its source	2013

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AL03160204-0504-101	Threemile Creek	R	L	Mobile	Mobile	Agricultural & Industrial	Pesticides (Chlordane)	Unknown source	2000	2.04 miles	Mobile River / Toulmins Spring Branch	2013
AL03160204-0504-101	Threemile Creek	R	L	Mobile	Mobile	Agricultural & Industrial	Pathogens	Municipal Collection system failure Urban runoff/storm sewers	2000-01	2.04 miles	Mobile River / Toulmins Spring Branch	2008
AL03160204-0504-102	Threemile Creek	R	L	Mobile	Mobile	Agricultural & Industrial	Pathogens	Municipal Collection system failure Urban runoff/storm sewers	2000-01	4.34 miles	Toulmins Spring Branch / Mobile Street	2008
AL03160204-0504-103	Threemile Creek	R	L	Mobile	Mobile	Agricultural & Industrial	Pathogens	Municipal Collection system failure Urban runoff/storm sewers	2000-01	8.85 miles	Mobile Street / Its source	2008
AL03160204-0504-300	Toulmins Spring Branch	R	H	Mobile	Mobile	Fish & Wildlife	Pathogens	Urban runoff/storm sewers	2000-01	3.22 miles	Threemile Creek / Its source	2008
AL03160204-0504-300	Toulmins Spring Branch	R	L	Mobile	Mobile	Fish & Wildlife	Ammonia Nutrients	Urban runoff/storm sewers	2000-01	3.22 miles	Threemile Creek / Its source	2013
AL03160204-0504-500	UT to Threemile Creek	R	H	Mobile	Mobile	Fish & Wildlife	Pathogens	Urban runoff/storm sewers	2000-01	1.04 miles	Threemile Creek / Its source	2008
AL03160204-0504-500	UT to Threemile Creek	R	L	Mobile	Mobile	Fish & Wildlife	Nutrients	Urban runoff/storm sewers	2000-01	1.04 miles	Threemile Creek / Its source	2013
AL03160204-0505-201	Tensaw River	R	H	Mobile	Baldwin	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	6.51 miles	Mobile Bay / Junction of Tensaw and Apalachee Rivers	2013
AL03160204-0505-202	Tensaw River	R	H	Mobile	Baldwin	Outstanding Alabama Water Swimming Fish & Wildlife	Metals (Mercury)	Unknown source	2002	21.73 miles	Junction of Tensaw and Apalachee Rivers / Junction of Briar Lake	2013
AL03160204-0505-500	D'Olive Creek	R	L	Mobile	Baldwin	Fish & Wildlife	Siltation (habitat alteration)	Land development	2007	4.89 miles	D'Olive Bay / Its source	2013
AL03160204-0505-800	Joes Branch	R	L	Mobile	Baldwin	Fish & Wildlife	Siltation (habitat alteration)	Land development	2007	1.57 miles	D'Olive Creek / Its source	2013
AL03160204-0505-900	Tiawasee Creek	R	L	Mobile	Baldwin	Fish & Wildlife	Siltation (habitat alteration)	Land development	2007	3.54 miles	D'Olive Creek / Its source	2013
AL03160204-0505-905	UT to Tiawasee Creek	R	L	Mobile	Baldwin	Fish & Wildlife	Siltation (habitat alteration)	Land development	2007	1.87 miles	Tiawasee Creek / Its source	2013
AL03160204-0505-505	UT to D'Olive Creek	R	L	Mobile	Baldwin	Fish & Wildlife	Siltation (habitat alteration)	Land development	2007	1.22 miles	D'Olive Creek / Its source	2013
AL03160204-0105-302	Tensaw River	R	H	Mobile	Baldwin	Outstanding Alabama Water Fish & Wildlife	Metals (Mercury)	Unknown source	2002	2.93 miles	Junction of Briar Lake / Junction of Tensaw Lake	2013
AL03160204-0105-303	Tensaw River	R	H	Mobile	Baldwin Mobile	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	10.98 miles	Junction of Tensaw Lake / Mobile River	2013
AL03160205-0104-100	Mobile Bay	E	M	Mobile	Mobile	Shellfish Harvesting Fish & Wildlife	Pathogens	Urban runoff/storm sewers	1994-97	170.60 sq. miles	Segment classified for shellfish harvesting	2009

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AL03160205-0104-200	Bon Secour Bay	E	M	Mobile	Baldwin	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens	Urban runoff/storm sewers Onsite wastewater systems	1994-97	103.84 sq. miles	Segment classified for shellfish harvesting	2008
AL03160205-0202-300	Bolton Branch	R	M	Mobile	Mobile	Fish & Wildlife	Pathogens	Urban runoff/storm sewers	2003	2.44 miles	Dog River / Its source	2008
AL03160205-0202-400	Eslava Creek	R	M	Mobile	Mobile	Fish & Wildlife	Pathogens	Urban runoff/storm sewers	2003	3.17 miles	Dog River / Its source	2008
AL03160205-0202-700	Bolton Branch	R	L	Mobile	Mobile	Fish & Wildlife	Pathogens	Urban runoff/storm sewers Collection system failure	2003-05	5.69 miles	Moore Creek / Its source	2013
AL03160205-0205-100	Middle Fork Deer River	R	L	Mobile	Mobile	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Urban runoff/storm sewers Collection system failure	2003-05	3.51 miles	Mobile Bay / Its source	2013
AL03160205-0206-100	Fowl River	R	H	Mobile	Mobile	Swimming Fish & Wildlife	Metals (Mercury)	Unknown source	2000	20.56 miles	Mobile Bay / Its source	2013
AL03160205-0306-200	Polecat Creek	R	L	Mobile	Baldwin	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2005	7.89 miles	Fish River / Its source	2013
AL03160205-0306-500	Baker Branch	R	L	Mobile	Baldwin	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Pasture grazing	2001	6.15 miles	Polecat Creek / Its source	2013
AL03160205-0307-102	Fish River	R	L	Mobile	Baldwin	Swimming Fish & Wildlife	Metals (Mercury) Pathogens	Unknown source Pasture grazing	1996	30.01 miles	Weeks Bay / Its source	2013
AL03160205-0307-700	Cowpen Creek	R	L	Mobile	Baldwin	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2006	7.04 miles	Fish River / Its source	2013
AL03160205-0310-101	Bon Secour River	R	L	Mobile	Baldwin	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2005	9.12 miles	Bon Secour Bay / One mile upstream from first bridge above its mouth	2013
AL03160205-0310-102	Bon Secour River	R	L	Mobile	Baldwin	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2005	4.38 miles	One mile upstream from first bridge above its mouth / Its source	2013
AL03160205-0310-702	UT to Bon Secour River	R	H	Mobile	Baldwin	Fish & Wildlife	Pathogens	Urban runoff/storm sewers Pasture grazing	1995	1.64 miles	Baldwin County Road 65 / Its source	2008
AL03160205-0311-100	Oyster Bay	E	L	Mobile	Baldwin	Shellfish Harvesting Fish & Wildlife	Pathogens	Unknown source	2003-2005	0.95 square miles	Oyster Bay	2013
AL-Gulf-of-Mexico	Gulf of Mexico	E	L	Mobile	Baldwin Mobile	Shellfish Harvesting Swimming Fish & Wildlife	Metals (Mercury)	Unknown source	1996-97	201.02 square miles	Mississippi / Florida	2013
AL03140103-0102-700	UT to Jackson Lake 2-S	R	H	Perdido-Escambia	Covington	Fish & Wildlife	Organic Enrichment (CBOD, NBOD) Pathogens	Pasture grazing Feedlots	1996-97	1.05 miles	W.F. Jackson Lake / Its source	2008
AL03140103-0102-800	UT to Jackson Lake 3-C	R	H	Perdido-Escambia	Covington	Fish & Wildlife	Organic Enrichment (CBOD, NBOD) Pathogens	Pasture grazing Feedlots	1996-97	1.77 miles	W.F. Jackson Lake / Its source	2008
AL03140103-0402-100	Yellow River	R	L	Perdido-Escambia	Covington	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	14.87 miles	AL-FL state line / North Creek	2016
AL03140104-0104-100	Blackwater River	R	L	Perdido-Escambia	Escambia	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	2.78 miles	AL-FL state line / Blackwater Creek	2016

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AL03140106-0302-101	Brushy Creek	R	H	Perdido-Escambia	Escambia	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Industrial Municpal Urban runoff/storm sewers	1999	0.22 miles	AL-FL state line / Boggy Branch	2010
AL03140106-0302-101	Brushy Creek	R	L	Perdido-Escambia	Escambia	Fish & Wildlife	Metals (Lead)	Municipal Industrial	2004 2005	0.22 miles	AL-FL state line / Boggy Branch	2010
AL03140106-0302-201	Boggy Branch	R	L	Perdido-Escambia	Escambia	Fish & Wildlife	Pathogens Metals (Copper, Lead, Mercury)	Municipal Industrial	2004	1.54 miles	Brushy Creek / Atmore WWTP	2010
AL03140106-0302-202	Boggy Branch	R	L	Perdido-Escambia	Escambia	Fish & Wildlife	Organic Enrichment (CBOD, NBOD) Metals (Zinc, Mercury) Chlorides	Industrial	1996 1997	0.22 miles	Atmore WWTP / Masland Carpets WWTP	2010
AL03140106-0302-202	Boggy Branch	R	L	Perdido-Escambia	Escambia	Fish & Wildlife	Ammonia	Municipal Industrial	2004 2005	0.22 miles	Atmore WWTP / Masland Carpets WWTP	2010
AL03140106-0502-100	Styx River	R	M	Perdido-Escambia	Baldwin	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	22.72 miles	Hollinger Creek / Its source	2016
AL03140106-0506-100	Styx River	R	M	Perdido-Escambia	Baldwin	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	18.52 miles	Perdido River / Hollinger Creek	2016
AL03140106-0603-101	Blackwater River	R	L	Perdido-Escambia	Baldwin	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	3.11 miles	Perdido River / Narrow Gap Creek	2016
AL03140106-0703-100	Perdido River	R	L	Perdido-Escambia	Baldwin	Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2005	21.93 miles	Perdido Bay / Jacks Branch	2016
AL03140107-0103-100	Perdido Bay	E	L	Perdido-Escambia	Baldwin	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens	Urban runoff/storm sewers Onsite wastewater systems	2001 2002	4.21 square miles	Lillian Bridge / Its source	2010
AL03140107-0205-100	Little Lagoon	E	L	Perdido-Escambia	Baldwin	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens	Urban runoff/storm sewers	2000	3.96 square miles	In its entirety	2010
AL03140303-0302-101	Rocky Creek	R	H	Perdido-Escambia	Butler	Fish & Wildlife	Unknown toxicity	Unknown source	1986 1990	9.23 miles	Persimmon Creek / County Road north of Chapman	2008
AL03140304-0106-100	Conecuh River	R	L	Perdido-Escambia	Escambia	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	12.70 miles	AL-FL state line / Mantle Branch	2016
AL03140304-0605-100	Little Escambia Creek	R	L	Perdido-Escambia	Escambia	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	12.21 miles	AL-FL state line / Wild Fork Creek	2016
AL03140305-0301-100	Big Escambia Creek	R	L	Perdido-Escambia	Escambia	Fish & Wildlife	Metals (Mercury)	Unknown source	2002	17.03 miles	AL-FL state line / Big Spring Creek	2016
AL03150110-0201-700	Pepperell Branch	R	H	Tallapoosa	Lee	Fish & Wildlife	Nutrients	Industrial	1988	6.67 miles	Sougahatchee Creek / Its source	2008
AL03150110-0204-101	Sougahatchee Creek (Yates Reservoir Embayment)	L	H	Tallapoosa	Tallapoosa	Public Water Supply Swimming Fish & Wildlife	Nutrients Organic Enrichment (CBOD, NBOD)	Industrial Municipal Non-irrigated crop production Pasture grazing	1994-97	203.78 acres	Tallapoosa River / end of embayment	2008
AL03150110-0301-300	Parkerson Mill Creek	R	L	Tallapoosa	Lee	Fish & Wildlife	Pathogens	Urban runoff/storm sewers	2007	6.85 miles	Chewacla Creek / Its source	2012
AL03150110-0301-400	Moores Mill Creek	R	L	Tallapoosa	Lee	Swimming Fish & Wildlife	Siltation (habitat alteration)	Land development Urban runoff/storm sewers	1998	10.51 miles	Chewacla Creek / Its source	2012

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AL03150110-0504-101	Calebee Creek	R	H	Tallapoosa	Macon	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining	1996	10.26 miles	Tallapoosa River / Macon County Road 9	2012
AL03150110-0703-100	Cubahatchee Creek	R	H	Tallapoosa	Macon	Swimming Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining	1996	22.07 miles	Tallapoosa River / Coon Hop Creek	2012
AL03150110-0702-102	Cubahatchee Creek	R	H	Tallapoosa	Macon Bullock	Swimming Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining	1996	22.37 miles	Coon Hop Creek / Its source	2012
AL03150110-0702-102	Cubahatchee Creek	R	L	Tallapoosa	Macon Bullock	Swimming Fish & Wildlife	Pathogens	Pasture Grazing	2000	22.37 miles	Coon Hop Creek / Its source	2012
AL03150110-0903-101	Line Creek	R	M	Tallapoosa	Macon Montgomery	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining	1996	10.29 miles	Tallapoosa River / Johnsons Creek	2012
AL03150110-0903-102	Line Creek	R	M	Tallapoosa	Macon Montgomery	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining	1996	5.51 miles	Johnsons Creek / Panther Creek	2012
AL06030001-0402-401	Warren Smith Creek	R	H	Tennessee	Jackson	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	1986 1987	1.96 miles	Dry Creek / Ross Branch	2011
AL06030002-0105-101	Guess Creek	R	H	Tennessee	Jackson	Fish & Wildlife	Unknown toxicity Organic Enrichment (CBOD, NBOD) Pathogens	Unknown source Pasture grazing	1997	11.08 miles	Paint Rock River / Bee Branch	2011
AL06030002-0304-200	Hester Creek	R	M	Tennessee	Madison	Fish & Wildlife	Nutrients	Pasture grazing	1994-95	7.27 miles	Mountain Fork / AL-TN state line	2011
AL06030002-0304-200	Hester Creek	R	L	Tennessee	Madison	Fish & Wildlife	Turbidity	Land development Agriculture	1999-2004	7.27 miles	Mountain Fork / AL-TN state line	2011
AL06030002-0306-100	Beaverdam Creek	R	M	Tennessee	Madison	Fish & Wildlife	Siltation (habitat alteration)	Non-irrigated crop production Land development	1994-95	22.14 miles	Brier Fork / Its source	2011
AL06030002-0307-100	Brier Fork	R	L	Tennessee	Madison	Fish & Wildlife	Siltation (habitat alteration)	Non-irrigated crop production Land development	1994-95	21.89 miles	Flint River / AL-TN state line	2011
AL06030002-0401-102	Flint River	R	M	Tennessee	Madison	Fish & Wildlife	Pathogens	Pasture grazing	1999	15.32 miles	Alabama Highway 72 / Mountain Fork	2008
AL06030002-0401-102	Flint River	R	L	Tennessee	Madison	Fish & Wildlife	Turbidity	Land development Agriculture	1999-2004	15.32 miles	Alabama Highway 72 / Mountain Fork	2011
AL06030002-0404-200	Goose Creek	R	H	Tennessee	Madison	Fish & Wildlife	Unknown Toxicity	Agriculture	1997	8.89 miles	Flint River / Its source	2011
AL06030002-0502-101	Huntsville Spring Branch	R	L	Tennessee	Madison	Fish & Wildlife	Pesticides (DDT)	Contaminated sediments	1993	11.08 miles	Indian Creek / Johnson Road (Huntsville Field)	2015
AL06030002-0502-102	Huntsville Spring Branch	R	L	Tennessee	Madison	Fish & Wildlife	Metals (Arsenic, Mercury)	Urban Runoff/Storm Sewers	1994-95	1.98 miles	Johnson Road (Huntsville Field) / Broglan Branch	2015
AL06030002-0505-101	Indian Creek	R	L	Tennessee	Madison	Fish & Wildlife	Pesticides (DDT)	Contaminated sediments	1991 1993	7.69 miles	Tennessee River / Martin Road (Redstone Arsenal)	2015
AL06030002-0601-300	Hughes Creek	R	M	Tennessee	Morgan Marshall	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	1995	3.02 miles	Cotaco Creek / Its source	2009
AL06030002-0601-700	Mill Pond Creek	R	H	Tennessee	Marshall	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	1994-95	1.29 miles	Hog Jaw Creek / Its source	2011
AL06030002-0602-102	West Fork Cotaco Creek	R	M	Tennessee	Morgan	Fish & Wildlife	Pathogens	Agriculture	1997	8.12 miles	Alabama Highway 67 / Frost Creek	2008

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AL06030002-0602-102	West Fork Cotaco Creek	R	M	Tennessee	Morgan	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	1997	8.12 miles	Alabama Highway 67 / Frost Creek	2011
AL06030002-0602-200	Mud Creek	R	L	Tennessee	Morgan	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Agriculture	2004 2005	3.42 miles	West Fork of Cotaco Creek / Its source	2011
AL06030002-0603-102	Cotaco Creek	R	H	Tennessee	Morgan	Swimming Fish & Wildlife	Pathogens	Agriculture	1997	5.38 miles	Guyer Branch / West Fork of Cotaco Creek	2008
AL06030002-1002-300	Herrin Creek	R	M	Tennessee	Morgan	Fish & Wildlife	Ammonia Nutrients	Pasture grazing	1994-95	6.21 miles	Crowdabout Creek / Its source	2011
AL06030002-1008-200	Flat Creek	R	H	Tennessee	Lawrence	Fish & Wildlife	Ammonia Nutrients	Pasture grazing	1997	7.78 miles	West Flint Creek / Its source	2011
AL06030002-1101-101	Swan Creek	R	L	Tennessee	Limestone	Fish & Wildlife	Nutrients	Agriculture Municipal Urban runoff/storm sewers	2006	8.97 miles	Tennessee River / Alabama Highway 24	2015
AL06030004-0104-102	Anderson Creek	R	M	Tennessee	Lauderdale	Fish & Wildlife	Siltation (habitat alteration)	Pasture grazing Non-irrigated crop production	1994-95	9.31 miles	Snake Road bridge / Its source	2011
AL06030004-0105-101	Elk River	L	L	Tennessee	Limestone Lauderdale	Swimming Fish & Wildlife	pH	Pasture grazing Non-irrigated crop production	1990-91	1569.21 acres	Wheeler Lake / Anderson Creek	2008
AL06030004-0105-101	Elk River	L	L	Tennessee	Limestone Lauderdale	Swimming Fish & Wildlife	Nutrients	Pasture grazing Non-irrigated crop production	1999-02	1569.21 acres	Wheeler Lake / Anderson Creek	2008
AL06030004-0103-600	Sulphur Creek	R	L	Tennessee	Limestone	Fish & Wildlife	Nutrients	Agriculture Industrial	2004-06	8.34 miles	Elk River / Its source	2015
AL06030005-0701-201	McKiernan Creek	R	H	Tennessee	Colbert	Public Water Supply Swimming Fish & Wildlife	Ammonia Nutrients Siltation (habitat alteration) Organic Enrichment (CBOD, NBOD)	Agriculture	1988	2.71 miles	Tennessee River / Shegog Creek	2011
AL06030005-0702-100	Pond Creek	R	L	Tennessee	Colbert	Agricultural & Industrial	Organic Enrichment (CBOD, NBOD)	Non-irrigated crop production Urban runoff/storm sewers Natural	1991	12.43 miles	Tennessee River / Its source	2011
AL06030005-0702-100	Pond Creek	R	L	Tennessee	Colbert	Agricultural & Industrial	Metals (Arsenic, Cyanide, Mercury)	Non-irrigated crop production Urban runoff/storm sewers Natural	1991	12.43 miles	Tennessee River / Its source	2015
AL06030006-0101-700	Little Dice Branch	R	M	Tennessee	Franklin	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	1982	3.83 miles	Bear Creek / Its source	2011
AL06030006-0103-101	Bear Creek (Bear Creek Lake)	L	L	Tennessee	Franklin	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Unkown source	2005	653.54 acres	Bear Creek Lake Dam / Alabama Highway 187	2015
AL06030006-0103-103	Bear Creek	R	H	Tennessee	Marion	Swimming Fish & Wildlife	Metals (Aluminum)	Surface mining-abandoned	1992-96	3.00 miles	Mill Creek / Upper Bear Creek Dam	2011
AL06030006-0103-104	Bear Creek (Upper Bear Creek Reservoir)	L	L	Tennessee	Franklin Marion Winston	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Unkown source	2006	1462.58 acres	Upper Bear Creek Dam / Pretty Branch	2015

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AL06030006-0205-102	Little Bear Creek (Little Bear Creek Lake)	L	L	Tennessee	Franklin	Public Water Supply Swimming Fish & Wildlife	Nutrients	Unkown source	1994-2005	1435.05 acres	Little Bear Creek Dam / Scott Branch	2015
AL03160103-0204-202	Purgatory Creek	R	H	Upper Tombigbee	Marion	Fish & Wildlife	pH	Surface mining-abandoned	1988	1.86 miles	Wickett Creek / US Highway 278	2008
AL03160103-0204-203	Purgatory Creek	R	H	Upper Tombigbee	Marion	Public Water Supply Fish & Wildlife	pH	Surface mining-abandoned	1988	1.28 miles	US Highway 278 / Its source	2008
AL03160105-0101-200	East Branch Luxapallila Creek	R	L	Upper Tombigbee	Fayette Marion	Public Water Supply Fish & Wildlife	Pathogens	Municipal	2001	11.18 miles	Luxapallila Creek / Its source	2013
AL03160106-0402-102	Tombigbee River (Aliceville Reservoir)	L	L	Upper Tombigbee	Pickens	Swimming Fish & Wildlife	Organic Enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	1991	2291.85 acres	Beville Dam / AL-MS state line	2008
AL03160106-0607-101	Factory Creek	R	M	Upper Tombigbee	Sumter	Fish & Wildlife	Organic Enrichment (CBOD, NBOD) Nutrients	Agriculture	2001	1.86 miles	Tombigbee River / End of embayment	2013
AL03160107-0306-100	Sipsey River	R	M	Upper Tombigbee	Pickens Greene	Fish & Wildlife	Metals (Iron)	Surface mining	1991-93	44.22 miles	Tombigbee River / Tuscaloosa County line	2008
AL03160201-0903-101	Wahalak Creek	R	L	Lower Tombigbee	Choctaw	Fish & Wildlife	Pathogens	Municipal Urban runoff/storm sewers	2001	14.83 miles	Tombigbee River / Spear Creek	2013
AL03160203-0901-102	Tombigbee River	R	L	Lower Tombigbee	Clarke Washington	Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2006	7.83 miles	Bassetts Creek / 1/2 mile downstream of Southern Railway	2013
AL03160203-0601-100	Bassett Creek	R	M	Lower Tombigbee	Clarke	Fish & Wildlife	Pathogens	Municipal Urban runoff	2001-02	14.47 miles	Little Bassett Creek / Its source	2008
AL03160203-1103-102	Tombigbee River	R	L	Lower Tombigbee	Clarke Washington	Fish & Wildlife	Metals (Mercury)	In place contaminants	2001-02	3.75 miles	Upper end of Bilbo Island / Olin Basin	2013
AL03160203-1103-700	Bilbo Creek	R	L	Lower Tombigbee	Washington	Swimming Fish & Wildlife	Organic Enrichment (CBOD, NBOD)	Unknown source	2001-02	29.27 miles	Tombigbee River / Its source	2013
AL03160203-1103-700	Bilbo Creek	R	L	Lower Tombigbee	Washington	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition	2006	29.27 miles	Tombigbee River / Its source	2013
AL03160203-1103-800	Olin Basin	L	L	Lower Tombigbee	Washington	Fish & Wildlife	Pesticides (DDT) Metals (Mercury)	Contaminated sediments	1993	85.73 acres	All of Olin Basin	2013