
In This Section

- Identified Basin Planning and Management Concerns
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- Priorities for Water Quantity Concerns

Section 6

Concerns and Priority Issues

The assessments in Section 5 present a number of water quality and quantity concerns within the Suwannee River basin. This section aggregates the assessment data to identify priority issues for development of management strategies.

6.1 Identified Basin Planning and Management Concerns

Section 4 and 5 identified both site-specific and generalized sources of water quality stressors. Some issues are limited to specific segments, but a number of water quality concerns apply throughout the basin. The criterion listed most frequently in the Georgia 2000 305(b)/303(d) List as contributor to nonsupporting or partial supporting status was dissolved oxygen followed by fish consumption guidance and fecal coliform bacteria. Low dissolved oxygen conditions have been documented for many years in the waters of the Suwannee River and this situation is likely due primarily to natural conditions. A few additional segments were listed due to metals and one segment was listed as a result of aquatic toxicity testing results on a municipal water pollution control plant effluent which predicted toxicity in the receiving stream at critical low 7Q10 stream flows. Fish consumption issues are associated primarily with mercury as a result of air deposition and possibly naturally occurring sources and fecal coliform is associated primarily with urban runoff or nonpoint sources.

Within some individual stream reaches, other sources may be of greater importance (e.g., WPCP effluent); however, urban runoff and general nonpoint sources represent a basin-wide concern. Further, strong population growth and development pressure in parts of the basin will tend to increase the importance of urban runoff as a stressor of concern. For such widespread concerns, basin-wide management strategies will be needed.

Major water quality and quantity concerns for the Suwannee River basin are summarized by geographic area in terms of the concerns and sources of these concerns in Table 6-1. Table 6-2 summarizes the pollutants identified as causing impairment of designated uses in the basin; however, not all identified concerns are related to pollutant

Table 6-1. Summary of Concerns in the Suwannee River Basin

Stressors of Concern	Potential Source of the Stressor by HUC			
	HUC 03110201	HUC 03110202	HUC 03110203	HUC 03110204
Metals/Toxicity	Rural NPS	Municipal WPCP		
Dissolved Oxygen	Natural Inputs Urban and Rural NPS	Natural Inputs Urban and Rural NPS	Natural Inputs Urban and Rural NPS	Natural Inputs Urban and Rural NPS
Fecal Coliform Bacteria		Multiple source potential	Multiple source potential	Multiple source potential
Fish Consumption Guidelines	Nonpoint Mercury	Nonpoint Mercury	Nonpoint Mercury	
Erosion and Sedimentation	Urban and Rural NPS	Urban and Rural NPS	Urban and Rural NPS	Urban and Rural NPS
Drought Conditions (Gulf Coastal Plain Region)		Lack of Rainfall	Lack of Rainfall	Lack of Rainfall
Widespread Flooding	Heavy Rainfall	Heavy Rainfall	Heavy Rainfall	Heavy Rainfall

Table 6-2. Summary of Pollutants Causing Water Quality Impairment in the Suwannee River Basin

Use Classification of Waterbody Segments	Pollutants Causing Impairment by HUC			
	HUC 03110201	HUC 03110202	HUC 03110203	HUC 03110204
Fishing (Support for Aquatic Life)	DO, Metals	DO, Metals, Fecal Coliform, Toxicity	DO, Fecal Coliform	DO, Fecal Coliform
Fishing (Fish Consumption)	Mercury	Mercury	Mercury	
Drinking Water				

loads. Ongoing control strategies are expected to result in support of designated uses in a number of waters. In other waters, however, the development of additional management strategies may be required or implemented in order to achieve water quality standards.

In the following pages, priority water quality and quantity concerns are presented by Hydrologic Unit. For some water quality and quantity concerns, problem statements are identical for each HUC, others differ between HUCs. Detailed strategies for addressing these concerns are then supplied in Section 7.

Each concern is listed in the form of a “Problem Statement” which summarizes the linkage between stressor sources and water quality impacts. The order in which concerns are listed for each HUC should not be considered to be significant. Prioritization of basin concerns requires consensus among all stakeholders, and has not been finalized; however, short-term water quality action priorities for EPD are summarized in Section 6.2.

6.1.1 Problem Statements

Suwannee River Subbasin (HUC 03110201)

Metals

The water use classification of fishing was not fully supported in one tributary stream segment due to an exceedance of the water quality standard for cadmium due to nonpoint sources.

Fish Consumption Guidelines

The water use classification of fishing was not fully supported in two segments of the Suwannee River due to fish consumption guidelines recommended because of mercury residues. The guidelines are for largemouth bass, bullhead catfish and chain pickerel.

Erosion and Sedimentation

The water use classifications of fishing, recreation, and drinking water are potentially threatened in waterbodies by erosion and loading of sediment which can alter stream morphology, impact habitat, and reduce water clarity. Potential sources include urban runoff and development (particularly construction), unpaved rural roads, forestry practices, and agriculture. There are no stream segments listed at this time in this subbasin as not fully supporting designated water uses due to poor fish communities or sedimentation.

Widespread Flooding

In March 1998, Georgia experienced widespread flooding due to heavy rainfall. The severity of the rain and the damages that resulted from flooding caused more than 65 percent of Georgia's counties to be declared federal disaster areas under Presidential Disaster Declaration 1209. Counties that experienced flooding in the Suwannee basin include Berrien, Brooks, Charlton, Clinch, Colquitt, Cook, Irwin, Tift, and Worth. Before 1998, the last major flooding event occurred in July 1994, when tropical storm Alberto moved into southwest Georgia and caused the worst flooding in the State's history. In some parts of Georgia, the rainfall total was up to 27 inches.

Suwannee River Subbasin (HUC 03110202)

Fecal Coliform Bacteria

The water use classification of fishing was not fully supported in four tributary stream segments due to exceedances of the water quality standard for fecal coliform bacteria. These may be attributed to a combination of urban runoff, septic systems, sanitary sewer overflows, rural nonpoint sources and/or animal wastes.

Metals and Toxicity

The water use classification of fishing was not fully supported in two tributary stream segments due to exceedance of metals standards. Mercury standards were exceeded in one stream due to nonpoint sources. In the second stream cadmium, copper, lead, zinc and mercury standards were exceeded due to a municipal water pollution control plant discharge. In addition, aquatic toxicity testing on the municipal water pollution control plant effluent predicted toxicity in the stream at critical, 7Q10 low flows.

Fish Consumption Guidelines

The water use classification of fishing was not fully supported in two Alapaha River segments and one tributary segment based on fish consumption guidelines due to mercury. The guidelines are for largemouth bass, spotted sucker or bullhead catfish. The water use classification of fishing was also not fully supported in Banks Lake in Lanier County due to mercury. The guidelines are for largemouth bass.

Low Dissolved Oxygen

The water use classification of fishing was not fully supported in two Alapaha River segments and fourteen tributary segments due to dissolved oxygen concentrations less than standards. Low dissolved oxygen in the tributaries was attributed to nonpoint sources. Dissolved oxygen may be lower in these areas due to natural conditions.

Erosion and Sedimentation

The water use classifications of fishing, recreation, and drinking water are potentially threatened in waterbodies by erosion and loading of sediment which can alter stream morphology, impact habitat, and reduce water clarity. Potential sources include urban runoff and development (particularly construction), unpaved rural roads, forestry practices, and agriculture. There are no stream segments listed at this time in this subbasin as not fully supporting designated water uses due to poor fish communities or sedimentation.

Drought Conditions (Gulf Coastal Plain Region)

Drought conditions during the 1998-2000 period significantly impacted the southwest region of the state, which includes the Chattahoochee, Flint, Ochlockonee and Suwannee River basins. According to EPD's "1998-2000 Georgia Drought Report," the rainfall shortage in this region amounted to almost 23 inches. The report provides a summary of the environmental, economic and social impacts of the drought and an objective assessment of the state's vulnerability and mitigation efforts. In addition, the report evaluates the management actions implemented by state and local authorities during the drought and presents a set of recommendations for improving drought preparedness and response.

Widespread Flooding

In March 1998, Georgia experienced widespread flooding due to heavy rainfall. The severity of the rain and the damages that resulted from flooding caused more than 65 percent of Georgia's counties to be declared federal disaster areas under Presidential Disaster Declaration 1209. Counties that experienced flooding in the Suwannee basin include Berrien, Brooks, Charlton, Clinch, Colquitt, Cook, Irwin, Tift, and Worth. Before 1998, the last major flooding event occurred in July 1994, when tropical storm Alberto moved into southwest Georgia and caused the worst flooding in the State's history. In some parts of Georgia, the rainfall total was up to 27 inches.

Suwannee River Subbasin (HUC 03110203)

Fecal Coliform Bacteria

The water use classification of fishing was not fully supported in one Withlacoochee River segment and five tributary segments due to exceedances of the water quality standard for fecal coliform bacteria. These may be attributed to a combination of urban runoff, septic systems, sanitary sewer overflows, rural nonpoint sources and/or animal wastes.

Fish Consumption Guidelines

The water use classification of fishing was not fully supported four segments of the Withlacoochee River due to fish consumption guidelines recommended because of mercury residues. The guidelines are for largemouth bass and redbreast sunfish.

Low Dissolved Oxygen

The water use classification of fishing was not fully supported in one Withlacoochee River segment and fourteen tributary segments due to dissolved oxygen concentrations less than standards. Low dissolved oxygen in the tributaries was attributed to nonpoint sources, urban runoff and a water pollution control plant discharge. Dissolved oxygen may be lower in these areas due to natural conditions.

Erosion and Sedimentation

The water use classifications of fishing, recreation, and drinking water are potentially threatened in waterbodies by erosion and loading of sediment which can alter stream

morphology, impact habitat, and reduce water clarity. Potential sources include urban runoff and development (particularly construction), unpaved rural roads, forestry practices, and agriculture. There are no stream segments listed at this time in this subbasin as not fully supporting designated water use due to poor fish communities or sedimentation.

Flooding

In March 1998, Georgia experienced widespread flooding due to heavy rainfall. The severity of the rain and the damages that resulted from flooding caused more than 65 percent of Georgia's counties to be declared federal disaster areas under Presidential Disaster Declaration 1209, including counties within the Suwannee river basin. Before 1998, the last major flooding event occurred in July 1994, when tropical storm Alberto moved into southwest Georgia and caused the worst flooding in the State's history. In some parts of Georgia, the rainfall total was up to 27 inches.

Drought Conditions (Gulf Coastal Plain Region)

Drought conditions during the 1998-2000 period significantly impacted the southwest region of the state, which includes the Chattahoochee, Flint, Ochlockonee and Suwannee River basins. According to EPD's "1998-2000 Georgia Drought Report," the rainfall shortage in this region amounted to almost 23 inches. The report provides a summary of the environmental, economic and social impacts of the drought and an objective assessment of the state's vulnerability and mitigation efforts. In addition, the report evaluates the management actions implemented by state and local authorities during the drought and presents a set of recommendations for improving drought preparedness and response.

Widespread Flooding

In March 1998, Georgia experienced widespread flooding due to heavy rainfall. The severity of the rain and the damages that resulted from flooding caused more than 65 percent of Georgia's counties to be declared federal disaster areas under Presidential Disaster Declaration 1209. Counties that experienced flooding in the Suwannee basin include Berrien, Brooks, Charlton, Clinch, Colquitt, Cook, Irwin, Tift, and Worth. Before 1998, the last major flooding event occurred in July 1994, when tropical storm Alberto moved into southwest Georgia and caused the worst flooding in the State's history. In some parts of Georgia, the rainfall total was up to 27 inches.

Suwannee Coastal Subbasin (HUC 03110204)

Fecal Coliform Bacteria

The water use classification of fishing was not fully supported in three tributary stream segments due to exceedances of the water quality standard for fecal coliform bacteria. These may be attributed to a combination of urban runoff, septic systems, sanitary sewer overflows, rural nonpoint sources and/or animal wastes.

Low Dissolved Oxygen

The water use classification of fishing was not fully supported in two Little River segments and ten tributary segments due to dissolved oxygen concentrations less than standards. Low dissolved oxygen in the tributaries was attributed to urban runoff and nonpoint sources. Dissolved oxygen may be lower in these areas due to natural conditions.

Erosion and Sedimentation

The water use classifications of fishing, recreation, and drinking water are potentially threatened in waterbodies by erosion and loading of sediment which can alter stream morphology, impact habitat, and reduce water clarity. Potential sources include urban

runoff and development (particularly construction), unpaved rural roads, forestry practices, and agriculture. There are no stream segments listed at this time in this subbasin as not fully supporting designated water uses due to poor fish communities or sedimentation.

Drought Conditions (Gulf Coastal Plain Region)

Drought conditions during the 1998-2000 period significantly impacted the southwest region of the state, which includes the Chattahoochee, Flint, Ochlockonee and Suwannee River basins. According to EPD's "1998-2000 Georgia Drought Report," the rainfall shortage in this region amounted to almost 23 inches. The report provides a summary of the environmental, economic and social impacts of the drought and an objective assessment of the state's vulnerability and mitigation efforts. In addition, the report evaluates the management actions implemented by state and local authorities during the drought and presents a set of recommendations for improving drought preparedness and response.

Widespread Flooding

In March 1998, Georgia experienced widespread flooding due to heavy rainfall. The severity of the rain and the damages that resulted from flooding caused more than 65 percent of Georgia's counties to be declared federal disaster areas under Presidential Disaster Declaration 1209. Counties that experienced flooding in the Suwannee basin include Berrien, Brooks, Charlton, Clinch, Colquitt, Cook, Irwin, Tift, and Worth. Before 1998, the last major flooding event occurred in July 1994, when tropical storm Alberto moved into southwest Georgia and caused the worst flooding in the State's history. In some parts of Georgia, the rainfall total was up to 27 inches.

6.2 Priorities for Water Quality Concerns

6.2.1 Short-Term Water Quality Action Priorities for EPD

Section 6.1 identifies known priority concerns for which management and planning are needed in the Suwannee River basin. Because of limited resources, and, in some cases, limitations to technical knowledge, not all of these concerns can be addressed at the same level of detail within the current 5-year cycle of basin management. It is therefore necessary to assign action priorities for the short term based on where the greatest return for available effort can be expected.

Current priorities for action by EPD (2000) are summarized in Table 6-3 and discussed below. These reflect EPD's assessment of where the greatest short-term return can be obtained from available resources. These priorities were presented to and discussed with the local advisory committee in November 2000. The priorities were also public noticed and approved by the USEPA as part of the Georgia CWA 303(d) listing process in 2000 and discussed in the report, *Water Quality in Georgia, 1998-1999*.

Table 6-3. EPD's Short-Term Priorities for Addressing Waters Not Fully Supporting Designated Use

Priority	Type
1	Segments where ongoing pollution control strategies are expected to result in achieving support of designated uses; active special projects.
2	Segments with multiple data points which showed metals in excess of water quality standards and segments in which dissolved oxygen is an issue.
3	Waters for which urban runoff and generalized nonpoint sources have resulted in violations of standards for fecal coliform bacteria and waters for which fish consumption guidelines are in place due to air deposition of mercury.

Assigning Priorities for Stream Segments

For several waters in the Suwannee River basin and other river basins around the state, currently planned control strategies are expected to result in attainment of designated uses. EPD resources will be directed to ensure that the ongoing pollution control strategies are implemented as planned and water quality improvements are achieved. These waters on the Georgia 2000 305(b)/303(d) List are identified as active 305(b) waters, and are the highest priority waters, as these segments will continue to require resources to complete actions and ensure standards are achieved. These stream segments have been assigned priority one (See Appendix E).

Second priority was allocated to segments with multiple data points which showed metals concentrations from nonpoint sources in excess of water quality standards and to segments in which dissolved oxygen concentration was an issue.

Third priority was assigned to waters where air deposition, urban runoff or general nonpoint sources caused fish consumption guidelines listings, and/or metal or fecal coliform bacteria standards violations. Waters added to the Georgia 303(d) list by EPA were also assigned to third priority. Within the current round of basin planning these sources will be addressed primarily through general strategies of encouraging best management practices for control of stressor loadings. In addition, additional work will be initiated to implement approved TMDLs on waters in this group. TMDLs have been completed on those waters in Appendix E that have a “3” in the column labeled 303(d).

Several issues helped forge the rationale for priorities. First, strategies are currently in place to address the significant water quality problems in the Suwannee River basin and significant resources will be required to ensure that these actions are completed. Second, the vast majority of waters for which no control strategy is currently in place are listed due to fish consumption guidelines or as a result of exceedance of fecal coliform bacteria due to urban runoff or nonpoint. At the present time, the efficacy of the standards for fecal coliform bacteria standard are in question in the scientific community, as described in Section 4.2. Also, there is no national strategy in place to address air deposition of mercury which is thought to cause the mercury which contributes to the fish tissue guidance listings.

6.2.2 General Long-Term Priorities for Water Quality Concerns

Long-term priorities for water quality management in the Suwannee River basin will need to be developed by EPD and all other stakeholders during the next iteration of the basin management cycle. Long-term priorities must seek a balance between a number of different basinwide objectives. These objectives include:

- Protecting water quality in lakes, rivers, streams, and estuaries through attainment of water quality standards and support for designated uses;
- Providing adequate, high quality water supply for municipal, agricultural, industrial, and other human activities;
- Preserving habitat suitable for the support of healthy aquatic and riparian ecosystems;
- Protecting human health and welfare through prevention of water-borne disease; minimization of risk from contaminated fish tissue, and reduction of risks from flooding; and
- Ensuring opportunities for economic growth, development, and recreation in the region.

6.3 Priorities for Water Quantity Concerns

Drought conditions during the 1998-2000 period impacted the southwest region of the state which includes the Suwannee River basin. According to EPD's "1998-2000 Georgia Drought Report," rainfall shortages in this region amounted to almost 23 inches. The report summarizes the environmental, economic, and social impacts of the drought; evaluates the management actions implemented by state and local authorities during the drought; and presents a clear set of recommendations for improving drought preparedness and response.

Among the recommendations, include the following:

1. **Emergency Relief:** The State of Georgia should provide emergency grants and loans to assist local governments with critical or threatened water supplies.
2. **Water Conservation:** The State of Georgia must develop a comprehensive water conservation plan to address a wide range of water conserving measures that can be implemented to reduce water demand in Georgia.
3. **Agricultural Water Use:** The State of Georgia must develop an effective method to evaluate consumptive use of water for agricultural irrigation and implement programs for reducing water use while protecting the prosperity of farmers and agricultural communities.
4. **State Water Plan:** The state of Georgia must perform a detailed review of existing water policy and laws and develop a comprehensive state water plan that will provide the framework and support for effective management of Georgia's water resources.
5. **State Drought Plan:** The state of Georgia must continue developing a comprehensive drought plan and drought management process in order to implement appropriate drought response, preparedness and mitigation measures in future droughts.

6.3.1 Priorities for Competing Demands

With regard to the priority to be placed on meeting competing demands for future water use, the EPD (in conjunction with a broad group of stakeholders from north, central, and southwest Georgia) has established a set of "guiding principles" which will be followed in developing the state's position regarding the allocation of water. These principles are partially based upon the prioritization given to meeting categories of water needs under Georgia law (i.e., municipal needs are the first priority, and agricultural water needs are second; all other water needs follow these two). The principles are summarized below:

1. Municipal (M&I) demands have the highest priority.
2. Agriculture needs must be satisfied.
3. Minimum instream flow rates must be met in order to preserve water quality.
4. If other demands (e.g., industrial, recreation, hydropower, navigation, and environment) can not be met under conditions of water shortage, efforts will be made to optimize the mix of economic and environmental values.