Section 1

Introduction

1.1 Purposes and Organization of This Plan

This document presents Georgia's river basin management plan for the Flint River, which is being produced as a part of Georgia's River Basin Management Planning (RBMP) approach (described in section 1.2 below).

A river basin management plan is intended to facilitate the coordination of water quality and quantity management efforts of public and private sector partners within the practical management unit that a river basin provides. The purposes of this plan are to provide information on key river basin characteristics, describe the status of water quality and quantity in the Flint River Basin, identify present and future water resource demands, present and facilitate the implementation of water protection efforts, and enhance stakeholder understanding and involvement in basin planning. This plan should help to achieve goals of river basin management such as providing environmental education, improving water quality, reducing pollution at the source, improving aquatic habitat, reestablishing native species of fish, restoring and protecting wildlife habitat, meeting water supply needs, providing recreational benefits, and other goals.

Begun in 1993, RBMP is a new approach to the management of Georgia's water resources. This is the first river basin management plan produced under RBMP for the Flint River. RBMP is an iterative, cyclical approach to water resources management; under this approach, the Flint River plan will be updated every five years. During the first iteration of RBMP in Georgia, much effort and resources are being dedicated to making programmatic changes, building the infrastructure of RBMP, cataloging current water management activities, and beginning to coordinate with the many agencies, organizations, and individuals that have a stake in river basin management. As a result, some portions of the RBMP cycle have had to be condensed during this first iteration; in particular, it has not been possible to spend as much effort on developing management strategies as is planned for future iterations. Future iterations of the basin planning cycle will provide a better opportunity for developing new, innovative, and cost-effective strategies for managing water quality and quantity.

This plan has been produced by the Georgia Department of Natural Resources Environmental Protection Division (EPD), based on data and information gathered by EPD, other state and federal agencies, universities, utilities, consultants, and environmental groups. A basin team made up of representatives from the Georgia Soil and Water Conservation Commission (GSWCC), the Natural Resources Conservation Service (NRCS), Georgia Department of Natural Resources Wildlife Resources Division (WRD), Georgia Forestry Commission (GFC), and EPD's Water Resources Management Branch and Water Protection Branch compiled the information to generate the plan. The United States Geologic Survery (USGS) and the EPD Geologic Survey Branch created the majority of the figures in this report using geographic information system technologies.

The draft plan was reviewed by governmental partners, the Flint River Basin Advisory Committee, and the public. Public meetings were held in Griffin and Albany in September, 1997

to solicit comments and recommendations regarding the river basin management plan. Following this review, appropriate modifications were made to the plan, and the final plan was submitted for review and acceptance by the Board of the Georgia Department of Natural Resources. Section 1.3 below provides more detailed description of the planning cycle for the Flint River Basin, including opportunities for involvement by interested agencies, organizations, citizens, and industry.

This plan is organized into the following sections:

Executive Summary: The executive summary provides a broad perspective on the condition of the basin and the management strategies recommended to protect and enhance the Flint River Basin's water resources.

1.0 Introduction: The introduction provides an explanation of the legal, programmatic, and ecological bases for a watershed protection approach in Georgia, a description of Georgia's River Basin Management Planning approach, and a presentation of the planning cycle for the Flint River Basin, including opportunities for stakeholder involvement.

2.0 River Basin Characteristics: A thorough description of the basin and its important characteristics is provided, including boundaries, climate, physiology and geology, geochemistry, soils, surface water resources, ground water resources, biological resources, population and land use, local government and jurisdictions, and water use classifications.

3.0 Water Quantity: Surface and ground water availability is described, and forecasts are made for future demand. This chapter also includes sections on historic, present and possible proposed permitting activities pertaining to water availability.

4.0 Environmental Stressors: A "stressor" is defined as any physical, chemical or biological factor that may impair water or habitat quality, or result in insufficient water supply to meet the needs of Georgia's citizens. Stressors to water and habitat quality in the basin are examined in detail with a listing of point sources (NPDES permitted discharges) as well as nonpoint sources resulting from land uses and atmospheric deposition.

5.0 Assessment: An assessment of water quality and quantity in the streams, lakes, estuaries, and groundwater is provided along with an assessment of the basin's biological integrity. The data sources and analysis techniques for these assessments are discussed.

6.0 Concerns and Priority Issues: Issues of concern identified through assessment are summarized and prioritized in this section.

7.0 Implementation Strategies: Strategies for addressing issues of concern are presented in the order that they appear on the priority list with a description of each issue, goals and objectives of management, overview of alternatives considered, and descriptions of recommended options for implementation.

8.0 Future Issues and Challenges: Due to limited resources (data, time, funding, etc.), some issues will be addressed in future iterations of each basin planning cycle. Long-range goals are discussed, to set the stage for further improvements in managing water resources and water quality.

Appendices: The appendices contain technical information for those interested in specific details involved in the planning process.

1.2 Georgia's Watershed Protection Approach

1.2.1 The Beginning of RBMP

Georgia's watershed protection approach, river basin management planning (RBMP), is an effort to facilitate the protection and enhancement of its rivers, streams, lakes, estuaries, and ground water aquifers. The water resources of these natural systems support aquatic and terrestrial life, as well as man's beneficial uses including drinking water, recreation, waste assimilation, and others. Increasing growth pressures in areas of Georgia and the accompanying demands on water resources, punctuated by recent droughts and floods, have highlighted the importance of water resources.

EPD is responsible for facilitating water resources management in the State, including water quality and water supply. Regulatory activities such as pollutant discharge permitting, water withdrawal permitting, water quality monitoring, drinking water and wastewater treatment facility compliance monitoring, and others are the responsibility of EPD. Historically, EPD has used a regulatory approach to address water resources management. Although this type of regulatory approach has been successful in managing water supply and improving the water quality of Georgia's surface waters, it will be less effective in resolving present and future water resources issues and management challenges that fall outside of EPD's authority or that require voluntary actions.

EPD initiated its first watershed planning efforts in the early 1970s in response to provisions in the Federal Water Pollution Control Act Amendments of 1972 and developed river basin plans for each major river basin in Georgia. The plans focused on water quality and pollution from inadequate wastewater treatment and strategies were developed for upgrading municipal an dindustrial wastewater treatment plants. The first edition of *Flint River Basin Water Quality Management Plan* was published in October 1974. The second edition of the plan was completed in 1978 and was updated in 1984. The information on wastewater treatment plant discharges was updated in the plan on an annual basis through 1993. In the mid-1980s attention was focused on water availability and use. EPD developed plans for each river basin and the report *Water Availability and Use — Flint River Basin* was published in 1985. The objectives of the plan were to summarize current use of water resources in the basin, to identify areas with current orprojected problems in meeting water supply needs and protect water resources. In the 1990s across the nation and in Georgia, comprehensive multi-disciplined, multi-jurisdictional, and integrated (i.e., regulatory and nonregulatory) water resources management approaches are gaining acceptance and implementation. This trend has encouraged many agencies and programs at the local, state, and federal levels to use geographic boundaries representing watersheds as the basis for coordinating and integrating water resources management. These are referred to as watershed protection approaches.

Watersheds provide a functional spatial unit for coordinating management efforts that integrate terrestrial, aquatic, geologic, and atmospheric processes. The aquatic portions of watersheds are directly affected by the surface and subsurface terrestrial environment, ground water, adjacent coastal environments, and overlying atmosphere; and are strongly influenced by hydrologic cycles and human interactions. The integrated nature of watersheds provides a framework

Georgia River Basin Planning Enabling Legislation

In 1992, the Georgia General Assembly passed a law (O.C.G.A. 12-5-520, see Appendix "A") which assigned to EPD the responsibility of developing river basin management plans. The law designated the Chattahoochee, Flint, Coosa, and Oconee Rivers as the first basins to be addressed. The legislation included several requirements for river basin planning as summarized below:

- Provide for the development of river basin management plans for certain rivers;
- Provide for the contents of river basin management plans;
- Provide for the appointment and duties of local advisory committees;
- Provide for notice and public hearing;
- Provide for submission of plans to the Board of Natural Resources for adoption;
- Provide that this Act shall not enlarge the powers of the Department of Natural Resources.

The law requires that each river basin management plan include a description of the basin or watershed, identification of local governments in each basin, land use inventory, and a description of plan goals which may include providing environmental education, improving water quality, reducing pollution at the source, improving aquatic habitat, reestablishing native species of fish, restoring and protecting wildlife habitat, and providing recreational benefits. A description of the strategies and measures necessary to accomplish the goals is also to be a part of each management plan. The law also requires a seven person local advisory committee be appointed to provide advice and council to EPD during the plan development.

In response to this law, EPD has adopted the RBMP approach to watershed protection. This approach meets, and in some ways exceeds, the requirements of the law. For example, under the scheduling provisions of the RBMP law it would take approximately 16 years to complete the plans for all fourteen river basins. The schedule proposed by EPD provides for the fourteen plans to be completed in approximately 11 years (see section 1.2.2.3 below). Also, the law does not require the river basin plans to be updated on a rotating basis as is currently planned by EPD. Finally, EPD has included water quantity issues in the planning process, which is not required by the law.

for supporting resource management. Such an approach can enhance decisions that balance restoration and long-term protection, and promote wise management of watershed resources.

The State of Georgia adopted RBMP in late 1992 (see sidebar). Per provisions of the legislation, local advisory committees for the Chattahoochee, Flint, Coosa, and Oconee River Basins were convened in 1993, consisting of a cross section of stakeholder interests including local governments, agriculture, industry, forestry, environmental groups, and landowners. The four basin committees met together in January, 1994, in a facilitated meeting and finalized the Mission statement and 11 of the 12 Goals presented in Figure 1-1. These statements establish the guiding principles, and convey the purpose of RBMP to stakeholders and staff. The Vision is the contemplated outcome of RBMP, while the Mission statement describes the type of program needed to make the Vision a reality. The Mission implies the nature of the program components, goals and objectives, and demonstrates commitment. The Goals describe what must be accomplished to support the Mission.

In order to develop a framework for implementing RBMP in Georgia, a workgroup was convened consisting of representatives of the Water Protection and Water Resources Branches of

VISION: CLEAN WATER
Water Clean to drink, Clean Water for aquatic life, and Clean Water for recreation, in adequte amounts to support all these uses, throughout the Flint River Basin.

MISSION:
To develop and implement a river basin planning program to protect, enhance, and restore the waters of the State of Georgia, that will provide for effective monitoring, allocation, use, regulation, and management of water resources.

GOALS:

1) To meet or exceed local, state, and federal laws, rules, and regulations. And be consisten with other applicable plans.
2) To identify existing and future water quality issues, emphasizing nonpoint sources of pollution.
3) To propose water quality improvement practices encouraging local involvement to reduce pollution, and monitor and protect water quality.
4) To involve all interested citizens and appropriate organizations in plan development and implementation.
5) To coordinate with other river plans and regional planning.
6) To facilitate local, State, and federal activities to monitor and protect water quality.
7) To identify existing and potential water availability problems and to coordinate development of alternatives.
8) To provide for education of the general public on matters involving the environment and ecological concerns specific to each river basin.
9) To provide for improving aquatic habitat and exploring the feasibility of re-establishing native species of fish.
10) To provide for restoring and protecting wildlife habitat.
11) To provide for recreational benefits.
12) To identify and protect flood prone areas within each river basin, and encourage local and State compliance with federal floodplain management guidelines.

Figure 1-1. Georgia River Basin Management Planning Vision, Mission, and Goals

EPD and WRD. The U. S. Environmental Protection Agency provided funding in 1994 for a consultant with experience in basinwide planning to act as a facilitator to this framework development workgroup. The workgroup developed core components of the framework including a basin planning cycle, basin plan outline, basin groupings, planning schedules, and activity guides. The workgroup also designed the basin team concept, outlining team responsibilities and how the team complements stakeholder forums such as local advisory committees and public meetings. The RBMP framework document produced by this workgroup describes the framework in more detail and provides the guidance to coordinate and integrate EPD and other partner activities within the RBMP framework. An overview of the RBMP framework components is provided in section 1.2.2.

The twelfth goal listed in Figure 1-1 was added by EPD framework development workgroup after further review and discussion. The framework development workgroup also refined a list of objectives (Figure 1-2) that represent activities necessary to achieve the RBMP Goals. Taken together, these Vision, Mission, Goals, and Objectives statements represent the foundation of the RBMP framework development and implementation. Figure 1-3 lists some of the laws related to water resources management that can be coordinated to achieve RBMP Goals and Objectives.

1) Provide Information on Key River Basin Characteristics

- Illustrate river basin and nested watershed boundaries.
- Describe river basin hydrology and hydrogeology.
- Describe water usage within the river basin, along with stream classifications
- Summarize important biological resources in the river basin, including threatened and endangeredspecies, sport fishing populations, and habitat.
- Describe local government jurisdictions, including key watershed protection provisions.
- Summarize land use / land cover within the river basin.
- Identify important water quality stressors, including causes and sources of impairment.

2) Assess Water Quality

- Compare existing water quality with standards and identify water quality issues related to use attainment.
- Identify other water quality issues not related to standards (i.e., biological integrity, habitat).
- Establish priorities among issues for protection, enhancement, or restoration of waters within the river basin.

3) Update Existing Water Usage and Available Supply Plans

- Identify water supply issues.

4) Identify Future Water Resource Demands

- Project point and nonpoint source pollution loadings to predict waste assimilation demands.
- Project water supply demands.
- Identify other key demands.

5) Develop and Implement Management Plans

- Establish pollutant loading allocations, as appropriate, for point and nonpoint sources.
- Identify methods and means for implementing elements of the river basin management plan, including EPD roles and responsibilities.
- Provide guidance to local governments and industries to reduce or limit nonpoint source loadings.
- Develop and implement public education programs to raise awareness of management needs and increase public involvement in river basin management plan implementation.
- Implement monitoring program using environmental indicators and program measures to track and evaluate the effectiveness of the river basin management plan.

Figure 1-2. Georgia River Basin Management Planning Objectives

To meet the stated goals and objectives for RBMP, numerous government programs will need to coordinate their efforts. Many of these programs operate under separate environmental laws. The key laws that apply to water resources management in the State are presented below. These laws represent some of the regulatory mechanisms and strategies to be used to achieve the goals of RBMP.

Federal Clean Water Act
Federal Rivers and Harbors Act
Federal Water Resources Planning Act
Federal Agriculture and Water Policy Coordination Act
Federal Watershed Protection and Flood Protection Act
Federal Flood Control Act
Federal Safe Drinking Water Act
Georgia Water Quality Control Act
Georgia Erosion and Sedimentation Control Act
Georgia Comprehensive Planning Act
Georgia Safe Drinking Water Act
Georgia Mountain and River Corridor Protection Act
Georgia Environmental Policy Act
Surface Mining Act
Ground Water Use Act
Water Well Standards Act
Metropolitan River Protection Act
River Basin Management Planning Act
Lake Water Quality Standards Act

Figure 1-3. Water Resources and Related Environmental Laws and Programs

Federal, state, and local governments and agencies play a major role in all water resource protection and enhancement programs across Georgia. Creating and supporting governmental partnerships will be another guiding principle of the river basin management planning program in Georgia. Initial efforts to foster partnerships culminated in a governmental partners meeting in January, 1995, hosted by EPD. Federal, state, and local government representatives participated in presentations of the national and Georgia watershed protection approaches and discussed ways to work together on RBMP in Georgia. It should be emphasized that the Georgia program will address both surface and ground water quality and supply issues. This comprehensive approach to water resource management and protection is a cornerstone of Georgia's program for RBMP.

1.2.2 RBMP Framework Elements

The RBMP framework consists of several elements working together to achieve the goals of the approach. These elements include the following and are discussed in further detail in the subsections below:

- River Basin Management Units

- RBMP Cycle
- River Basin Groups and Planning Schedule
- Forums for Involving Stakeholders in RBMP

1.2.2.1 River Basin Management Units

The State's major river basins will provide the geographical framework and focus for RBMP. Fourteen major river basins have been defined in the State of Georgia and are shown on Figure 1-4. These river basins are the Altamaha, Chattahoochee, Coosa, Flint, Ochlockonee, Ocmulgee, Oconee, Ogeechee, Saint Marys, Satilla, Savannah, Suwanee, Tallapoosa, and Tennessee. River basin management plans will be prepared for each of these major river basins. State regulatory programs and support activities, normally allocated statewide, will be focused in each major river basin on a rotating schedule to achieve the following objectives:

- Facilitate efficient use of limited financial and personnel resources for water resource activities.
- Provide opportunities for intergovernmental resource sharing.
- Improve spatial detail of water quality assessments resulting from increased monitoring coverage within river basins (a set of core trend monitoring sites will be maintained statewide).
- Improve basic knowledge of the watershed as well as cumulative impacts within a watershed.
- Provide a framework for centralized data management.
- Improve opportunities for management strategy implementation by increasing stakeholder involvement within the watershed.
- Provide consistent and integrated decision making for water resource issues.

1.2.2.2 RBMP Cycle

A RBMP cycle (Figure 1-5) has been developed to provide the process for the development and implementation of river basin management plans. The RBMP cycle consists of 12 steps organized into five phases designed to develop and implement RBMP over a five year period. The objectives of the individual cycle steps are described below.

1. Organize River Basin Advisory Committee. Public participation or stakeholder involvement is an important aspect of the program. The river basin management planning law requires the Director of EPD to appoint at least seven citizens and a chairman to a local advisory committee to provide advice and counsel to the Director during the development of the management plans.

In addition to the local advisory committee, basin stakeholders will be encouraged to participate in developing and implementing the river basin management plan. EPD will host meetings to familiarize the stakeholders with the progress of the individual basin plans and seek input on issues and actions at important points in the planning process.

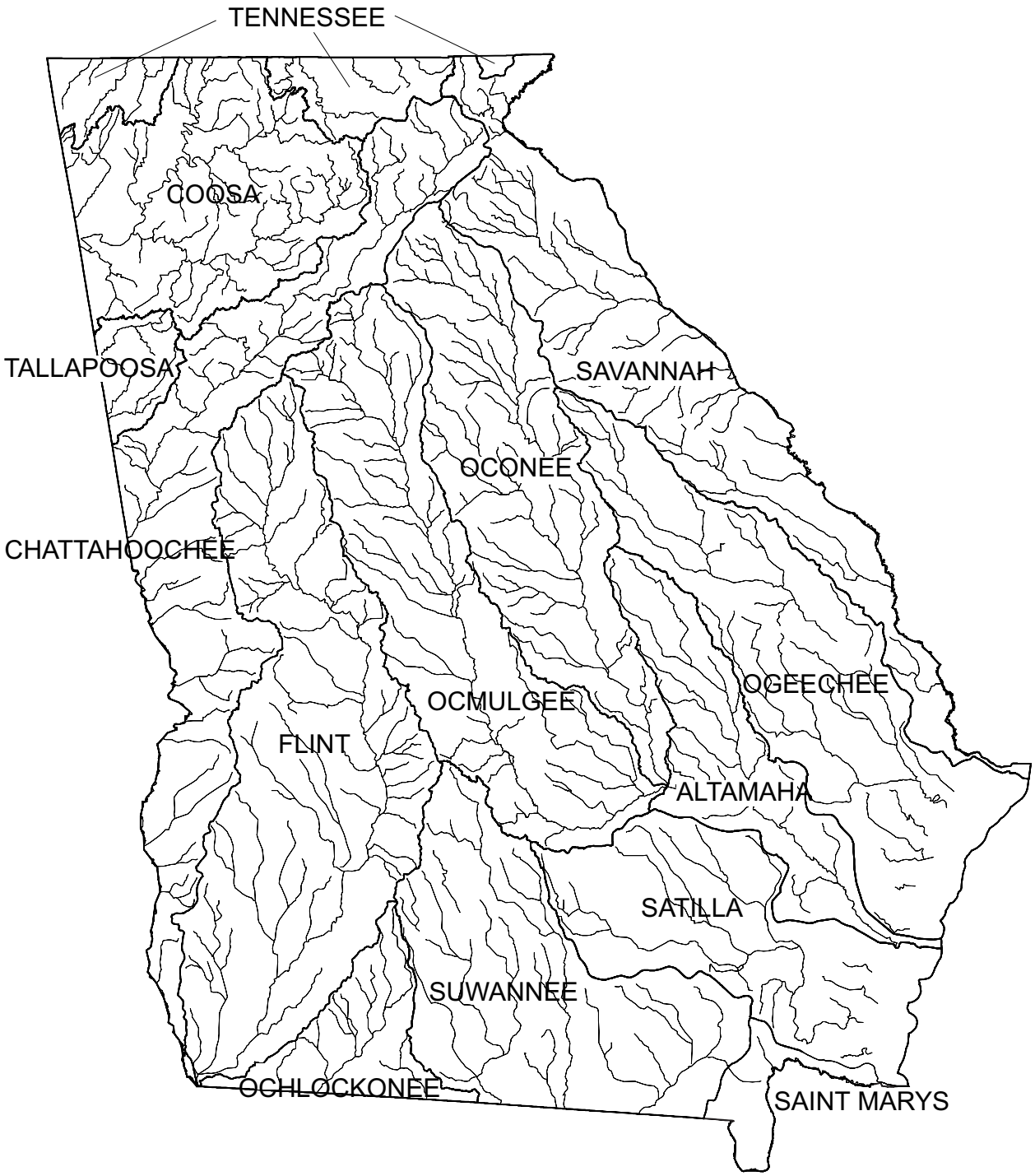

Figure 1-4. Major River Basins in the State of Georgia

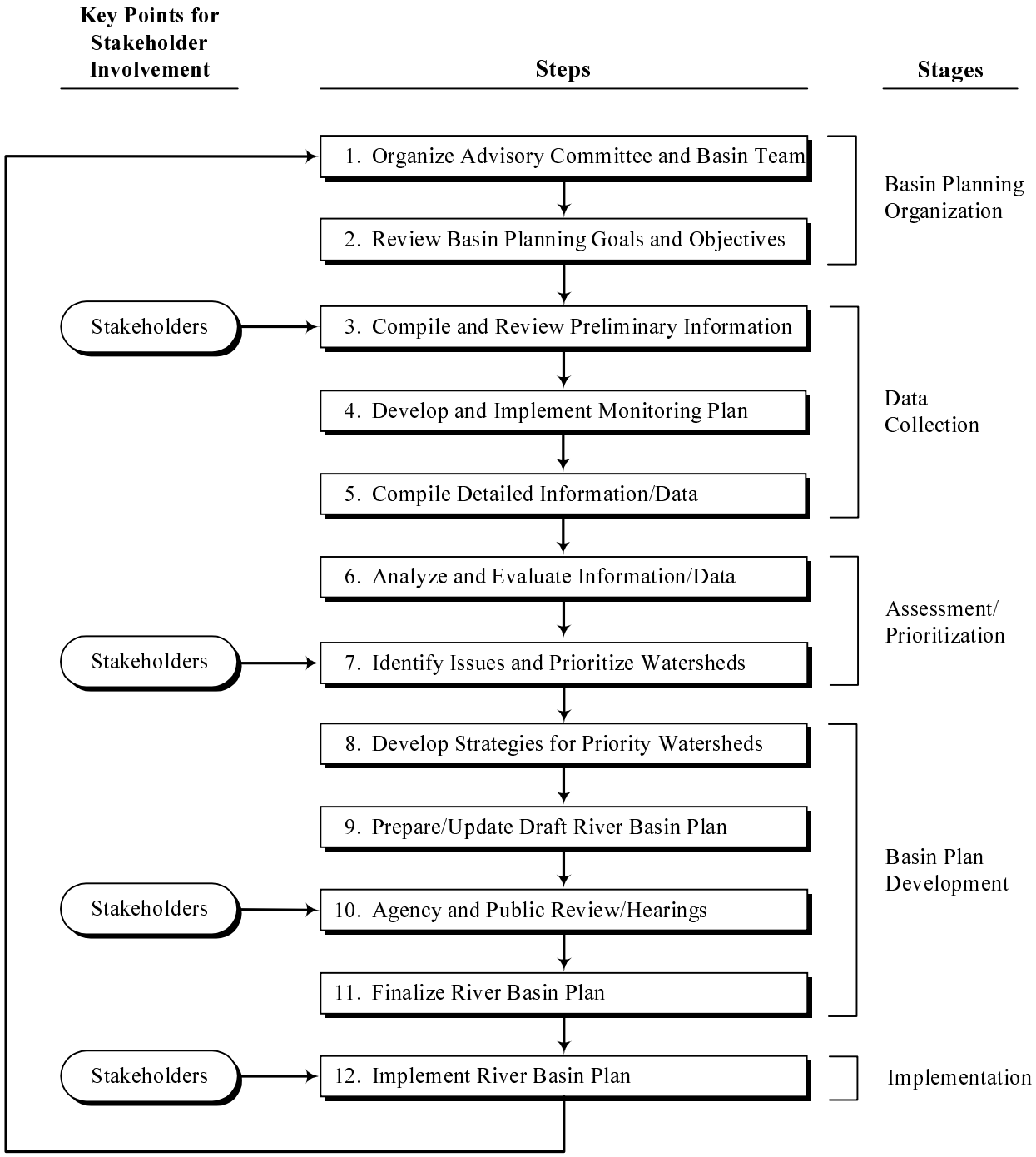

Figure 1-5. Georgia River Basin Management Planning Cycle

2. Review River Basin Management Goals and Objectives. The overall Mission, Goals, and Objectives for RBMP were drafted by EPD in 1993. In January, 1994, EPD hosted a combined meeting of the local advisory committees for the Chattahoochee, Flint, Coosa, and Oconee River basins for the purpose of reviewing and reaching consensus on the Mission, Goals, and Objectives. These goals and objectives will be reviewed in the initial steps of each basin planning cycle and goals and objectives specific to the individual basin may be added.

* *Stakeholder Involvement* will be encouraged at this point in the cycle to introduce RBMP and receive information and comments from all interested stakeholders, and to solicit input on water resource and monitoring issues in the river basin. The major objective of this initial stakeholder meeting is to encourage early involvement in the RBMP process.

3. Compile and Review Preliminary Information/Data. Readily available information and data will be compiled and analyzed to begin characterizing each river basin. This initial information and data review will help identify deficiencies in the available information, and provide input to the strategic monitoring plan and future RBMP activities.

4. Develop and Implement Monitoring Plan. A strategic monitoring plan will be implemented to collect data to characterize basin water quality and quality, and monitor the effectiveness of river basin management actions or implementation strategies. The monitoring plan will be developed based on watershed units, review of preliminary information / data, and stakeholder recommendations. The plan will describe the objectives and strategy including specific station locations, water quality parameters, and sampling frequency.

Some water resource issues may require detailed assessments to evaluate the magnitude and define causal relationships. Such detailed assessments or intensive surveys, may include water availability and use studies, assimilative capacity studies, Total Maximum Daily Load (TMDL) evaluations, or use attainment studies.

5. Compile Detailed Information/Data. Existing information and data of varying types will be available for each basin. EPD will use its information resources and databases, and request information from other agencies, organizations, and stakeholders where appropriate. Information and data will be sought for basin characterization (e.g., land use, hydrology, water availability, population and demographics, water supply demand, economics, water quality, resource management). Information and data collected for each river basin may be entered into databases and GIS coverages to facilitate its long-term management.

6. Analyze and Evaluate Information/Data. Analysis of basin wide monitoring data and stakeholder information will focus on issue identification and resource management strategies. Information and data limitations will be identified so that initial findings can be appropriately qualified. Some assessment and quantification of water availability and use requirements, loading estimates, and assimilative capacity may be performed to develop causal relationships.

7. Identify and Prioritize Issues. Water resource issues identified during the initial stakeholder involvement and those identified during the monitoring, information / data collection, and analysis will be prioritized according to need for additional action. Some priority issues identified during the RBMP process may require additional study to facilitate decision making. A variety of assessment tools including Clean Water Act Sections 305(b) and 303(d)-related procedures will be used to identify priorities.

* *Stakeholder Involvement* will be encouraged at this point in the RBMP cycle to receive input on the water resource issues and priorities.

8. Develop Strategies For Priority Issues. EPD will propose strategies to address the issues identified in the river basin. Potential strategies include water supply alternatives, point source and nonpoint source controls, best management practices, stormwater management, erosion and sediment control, and habitat restoration. Where applicable, strategies will be evaluated

for their effectiveness in achieving water resource goals using predictive modeling or other methods. Regulatory constraints and procedures will be considered and stakeholder cooperation will be encouraged where voluntary efforts are needed to meet water supply and water quality goals.

9. Prepare/Update Draft River Basin Plan. EPD will prepare a draft river basin management plan documenting the results of the planning process including a comprehensive basin characterization including information on data collected, analyses results and the methods used, issue identification and prioritization, water resource management goals, and management and implementation strategies. For successive river basin management plans, the existing plan will be updated to reflect plan progress and changing conditions in the river basin.

10. Agency and Public Review/Meetings. The draft river basin management plan will be distributed to the local advisory committee, the governmental partners, and made accessible to interested stakeholders. Stakeholder meetings will be conducted to explain the content of the river basin management plan and to solicit stakeholder comments and recommendations to the plan.

* *Stakeholder Involvement* will be encouraged at this point in the RBMP process to obtain comments and recommendations on the plan.

11. Finalize River Basin Plan. Appropriate modifications will be made to the draft river basin management plan based on the comments and recommendations received during the review process. The final plan will be reviewed and adopted by the Board of the Georgia Department of Natural Resources.

12. Implement River Basin Management Plan. The RBMP cycle concludes by initiating implementation of management strategies. Potential activities during this period will include National Pollutant Discharge Elimination System (NPDES) point source and stormwater permitting activities, surface water and groundwater withdrawal permitting, nonpoint source best management practices implementation, voluntary self-monitoring programs, adopt-a-stream programs, habitat protection or enhancement, compliance monitoring, and enforcement actions. EPD will consider implementation strategies that are both within its regulatory capacity, and those that will be voluntary.

* *Stakeholder Involvement* will be encouraged to support and implement the river basin management plan strategies. Some management strategies may be voluntary and their successful implementation can only be achieved by the appropriate stakeholders.

1.2.2.3 River Basin Groups and Planning Schedule

The major river basins previously described have been organized into five groups for RBMP. Grouping was necessary to accomplish the following:

- Complete river basin management plans for each major river basin in a timely manner.
- Repeat RBMP activities in each basin every five years.
- Coordinate NPDES permitting (including wasteload allocations) which has a five year renewal period.

The five river basin groups are shown in Figure 1-6 and are: Chattahoochee-Flint, Coosa-Tallapoosa-Tennessee, Oconee-Ocmulgee-Altamaha, Savannah-Ogeechee, and Suwanee-Satilla - Ochlockonee-Saint Marys. These river basin groups were determined based on river basin location, contributing drainage, physiographic features, and related water resource issues. The basin groups are critical to the scheduling of RBMP efforts.

A schedule (Figure 1-7) has been developed to complete plans for each major river basin and to establish a long-term basin planning process involving detailed reassessments of each river basin on a five year rotating basis. For instance, the initial Chattahoochee and Flint River Basin plans will be completed in 1997. These basins will be reassessed beginning in 1999 with the process culminating in updated plans in the year 2003. Similarly, plan implementation for each river basin will be based on a rotating schedule. This approach will provide needed long-term perspectives and a defined schedule. This is a key issue, since the long-term, defined schedule offers the opportunity for many governmental agencies and stakeholders to plan partnerships and participation in the planning and implementation processes.

The initial scheduling process was influenced by several issues. First, the State law requires plans for the Coosa and Oconee River basins, which are in different basin groups (as previously defined), be the second set of plans to be started. Second, there is a significant opportunity to coordinate Georgia's RBMP work with the ongoing Tri-State (Alabama, Florida, Georgia) / U. S. Army Corps of Engineers (USACE) Comprehensive Study of the Alabama-Coosa-Tallapoosa and Appalachicola - Chattahoochee - Flint (ACT-ACF) basins which involves the Chattahoochee, Flint, Coosa, and Tallapoosa River basins. Thus, the Tallapoosa River basin plan is scheduled with the Coosa and Oconee River basin plans. However, program resources are not adequate to develop plans for the Tennessee, Ocmulgee, and Altamaha River basins at the same time. Third, an additional objective is to coordinate planning work with South Carolina on the Savannah River basin. In addition, the USACE, in coordination with other Federal agencies, is proposing a Comprehensive Study of the Savannah River basin which would commence in 1997. Thus, the schedule places the Savannah and Ogeechee River basins in the rotation beginning in 1996. Scheduling Georgia's RBMP to coincide with these other basin initiatives provides opportunities for resource, data, and information sharing.

As shown in the schedule, the program will converge into a long term rotating schedule. The schedule also shows that in a few years RBMP will be ongoing in all the major river basins in Georgia.

1.2.2.4 Forums for Involving Stakeholders in RBMP

A major goal of RBMP is to involve interested citizens and organizations in plan development and implementation. This is intended to improve the identification and prioritization of water quality and quantity problems, maximize the efficient utilization of resources and expertise, create better and more cost-effective management strategies, and be responsive to stakeholder perceptions and needs. Figure 1-8 shows the interactions between various stakeholder bodies in the RBMP process. The following paragraphs discuss the opportunities for stakeholder involvement in river basin management planning.

A basin team will be assigned to each major river basin group (during step 1 of the basin cycle) and represents a core group of agencies and staff responsible for developing river basin management plans and implementing other components of RBMP. The Basin Team is directly responsible for carrying out the 12 steps of the basin planning cycle. Activities of the team are coordinated and facilitated by the two basin coordinator staff positions within EPD. Members of the basin team are selected from EPD programs and branches, Wildlife Resources Division

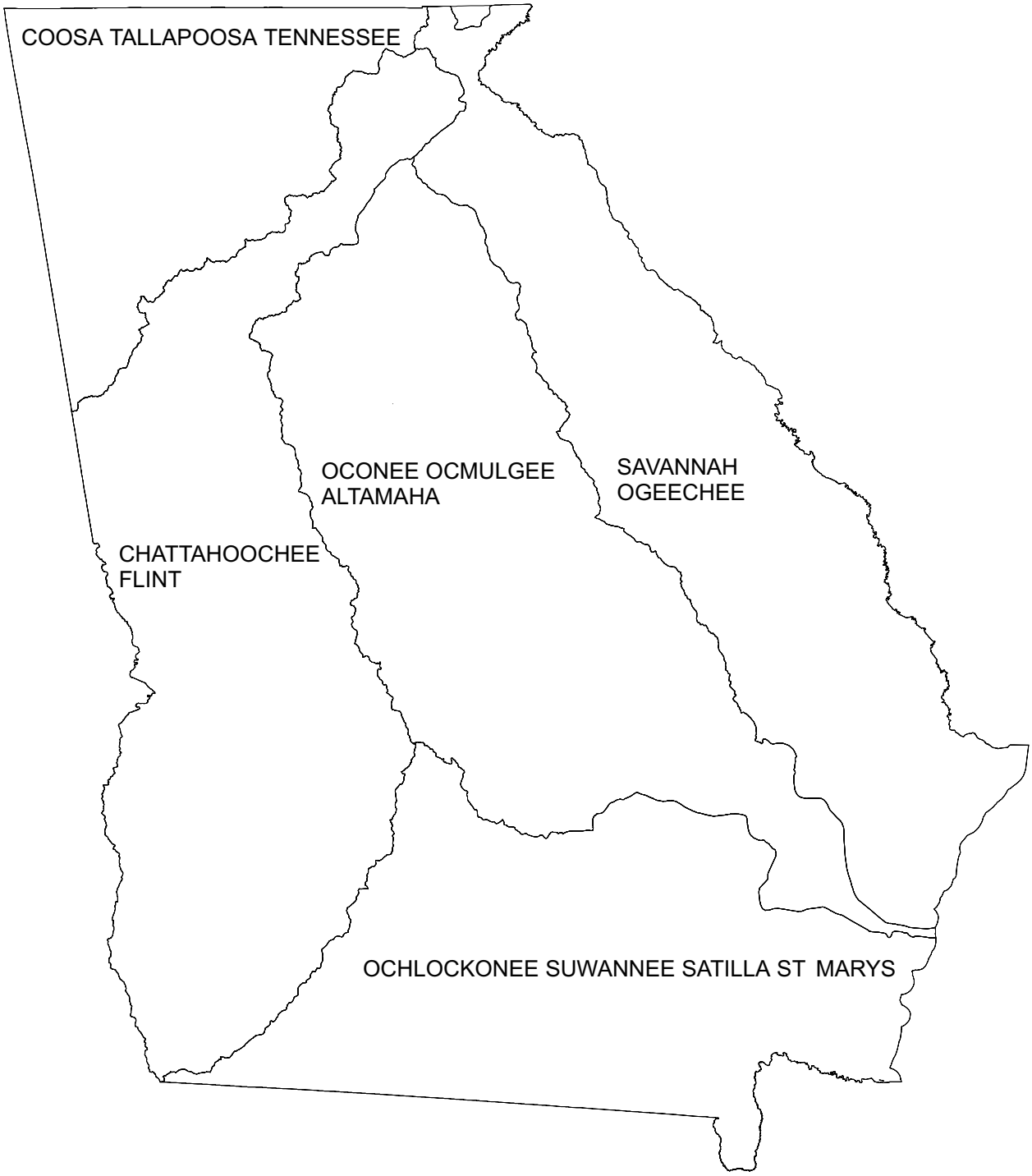

Figure 1-6. Major River Basin Groups for River Basin Management Planning in Georgia

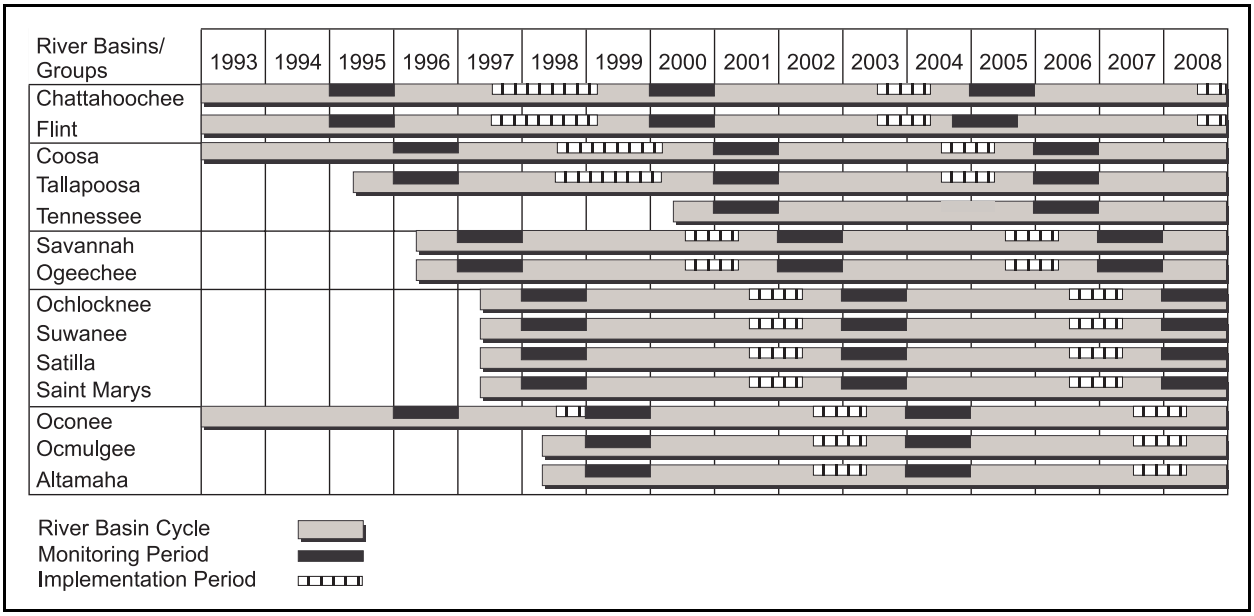

Figure 1-7. Georgia River Basin Management Planning Schedule

and other interested governmental partners (e.g., Georgia Soil and Water Conservation Commission, USDA Natural Resources Conservation Service, Georgia Forestry Commission, etc.). Emphasis is placed on technical knowledge, available resources, and potential implementation responsibilities. There is an opportunity for non-agency groups, such as Regional Development Centers, to become a part of basin teams. Other groups and agencies may act as partners in the RBMP process, contributing resources and expertise, while not being directly involved in Basin Team activities.

River Basin Advisory Committees, providing advice and counsel to EPD during river basin management plan development, represent a forum for involving local stakeholders. These local advisory committees form a link between EPD and the regulated community and local watershed interests. The committees consist of at least seven people representing a variety of stakeholder interests including local governments, agriculture, industry, forestry, environmental groups, land-owners, and citizens. The committees are appointed at the beginning (step 1) of each river basin planning cycle, meet periodically during the planning cycle, and provide advice and counsel to EPD in the creation of river basin management plans. Meetings are called at the discretion of the chairman of the local advisory committee, and all meetings are open to the public.

While River Basin Advisory Committees operate at the major basin level, there is an opportunity under RBMP for more localized stakeholder forums to play an important role in the creation and implementation of water resources management strategies. Some strategies, such as best management practices (BMPs) to control pollutant runoff from urban, agricultural or forestry areas, are best managed at the city, county, or sub-watershed level. These local forums might already exist in the form of conservation districts or watershed associations, or may be created as an outgrowth of RBMP.

Finally, the RBMP approach includes regularly-scheduled stakeholder meetings, which provide the opportunity for the general public to learn about the status of water-related issues and

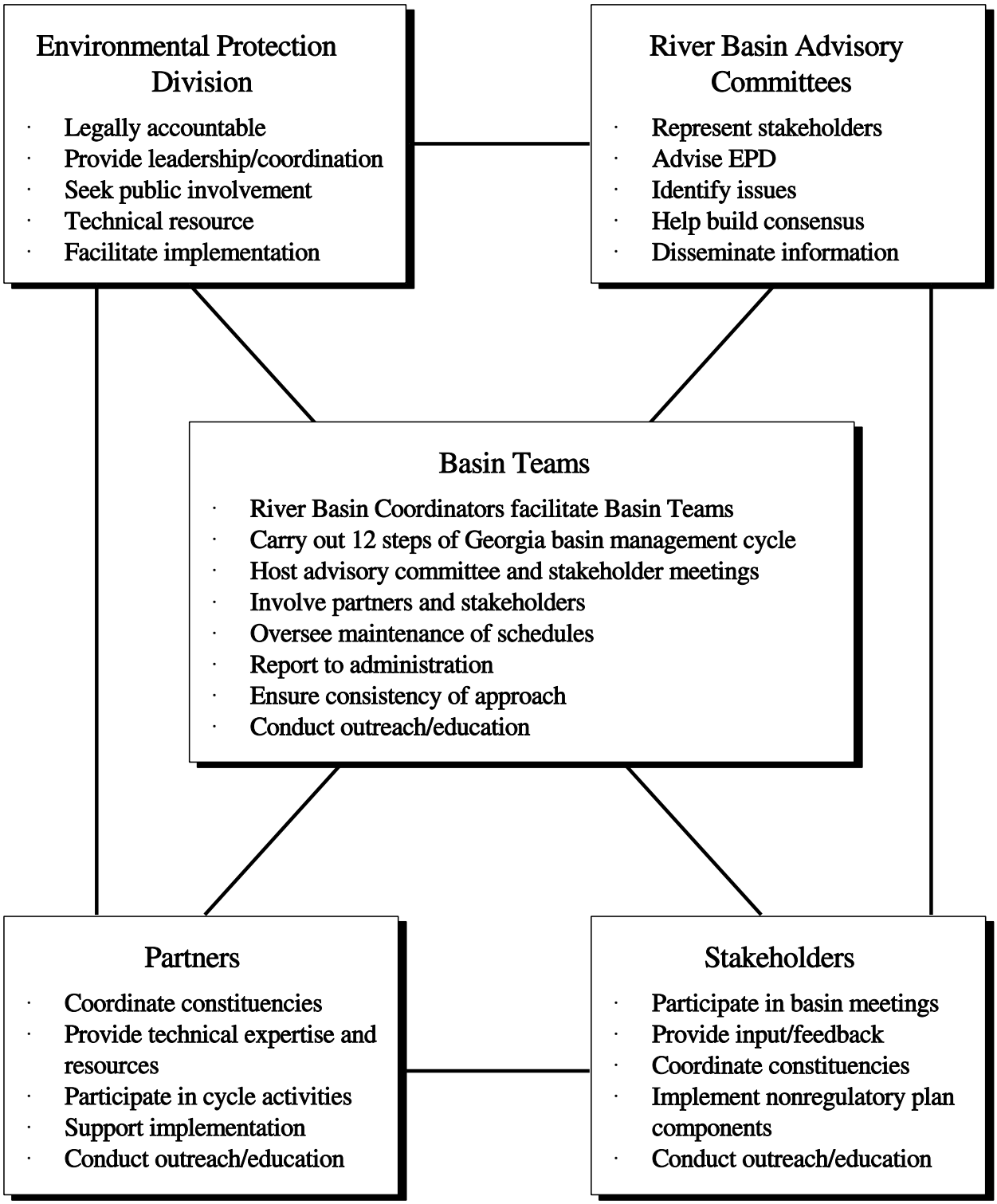

Figure 1-8. Stakeholder Relationships

management activities in their river basin, as well as contribute input that can influence basin management planning.

1.2.3 Key Benefits of RBMP

RBMP is designed to coordinate aquatic ecosystem management within river basins by integrating activities across regulatory and non-regulatory programs. The RBMP approach provides the framework for identifying, assessing, and prioritizing water resources issues, developing management strategies, and providing opportunities for targeted, cooperative actions to reduce pollution, enhance aquatic habitat, and provide a dependable water supply. RBMP will provide opportunities for stakeholders in the State's river basins to participate in the development of river basin management plans. These plans will benefit from the collective experience and combined resources of a variety of stakeholders. By adopting a watershed protection approach, Georgia will be changing the focus of its water resources management activities.

RBMP is not a new regulatory program, but rather a framework for improving the coordination and operation of existing regulatory and non regulatory programs for increased environmental benefit and more efficient use of water resources. This is being achieved through organizational changes as well as changes in the focus of staff activities. For example, the Water Protection Branch of EPD is modifying the implementation of its regulatory and non-regulatory activities according to RBMP. There will be a changing focus of staff activities from strictly site-based approaches (i.e., individual discharger, water body) and program-based approaches (i.e. permits, inspections), to more holistic and integrated approaches. RBMP will help to focus the activities of existing regulatory and non-regulatory programs on recognized priority issues within a river basin.

The RBMP program has several features that represent either improvements in the implementation of existing regulatory and non-regulatory programs or new methods for accomplishing water resources management goals. These include:

- *Focus on Watersheds*: A key feature of RBMP is the focus on watersheds to improve the efficiency of State water resources programs by consolidating activities such as monitoring programs, modeling studies, permit public notices, and public meetings within a river basin. Focusing on watersheds will encourage agencies to seek information on all significant issues, and recognize connections in their management roles and responsibilities.

- *Stakeholder Involvement*: RBMP will provide a framework for linking local, state, and federal water resources management efforts throughout the State. RBMP focuses on a watershed, goals, and approaches for the watershed. Successful management therefore depends on the participation of those involved in or affected by such management decisions. The RBMP approach uses cooperative forums (i.e., basin teams, local advisory committees, public meetings) to involve stakeholders, promoting awareness of water related issues and encouraging stakeholders to respond.

- *Environmental Objectives*: RBMP focuses on achieving environmental objectives such as water quality standards and ecological goals. Management success will be evaluated by the progress made toward protecting or restoring specific waters from threats to human health and aquatic life, rather than program activities such as the number of permits issued or samples collected. In other words, RBMP is resource-based rather than program-based.

- *Priority Issues*: RBMP places monitoring and assessment at the forefront of the management process to better identify priority issues within watershed. Geographic targeting methods will be used to provide an objective and rational approach to prioritizing issues and watersheds, as well as targeting resources cost-effectively to address priority issues.

- *Integrated Solutions*: RBMP provides the framework for the expertise and resources of multiple stakeholders to be combined and applied more effectively. RBMP leverages personnel and financial resources to achieve watershed management goals and objectives by connecting basin activities.

- *Resource Protection Options*: RBMP is comprehensive in considering the interacting sources of environmental stressors within a given watershed. Increasing the diversity of stakeholders involved in RBMP will increase the resources and management capabilities to address priority issues within a river basin.

- *Improved Decision Making*: RBMP improves decision making in a variety of ways. First, it improves the scientific basis for management decision-making through multi-disciplinary assessment of a broader base of scientific information. This capability will be enhanced as the use of improved technologies, including geographic information systems (GIS) and database management, become more prevalent. Second, focusing on watersheds will encourage agencies to seek information on all significant stressors. Combining the experience, resources, and data of multiple stakeholders will increase the amount and types of information and data available for the assessment and prioritization of issues and resource management decisions.

- *Continuity and Consistency*: RBMP helps to reduce the tendency of regulatory programs to operate in a reactive or crisis mode by focusing on the watershed goals to be achieved during basin planning cycles. RBMP's iterative structure provides for updating priorities and management strategies. Successive updates of management plans can build on preceding efforts, adding continuity to watershed management. Such continuity provides stakeholders with a stronger foundation for long-term planning, and greater incentive to get involved. Improved consistency is possible because pollution sources across a river basin are evaluated simultaneously and management actions are subject to broad scrutiny during the planning process. Finally, implementation of comprehensive management strategies throughout a river basin promotes consistency.

1.2.4 Making the Transition to RBMP

RBMP is being phased into the activities of EPD to allow time for the approach to mature. During the transition period in moving from a program-based to resource-based approach, technical and administrative procedures will be developed and refined as the coordinating framework becomes established. New information management needs and solutions will be encountered, and not all of the features of RBMP described in the framework document will be implemented immediately. Synchronizing activities within basin management cycles will be dependent on the evolution of administrative procedures that define operation under RBMP.

A great deal of time and effort will be needed to develop the RBMP infrastructure to support initial development of river basin management plans. As a result, initial plans may not be as detailed, and are unlikely to address every issue in all basins. Resource constraints will exist; however, the RBMP schedule will be maintained with the understanding that priorities not addressed in one cycle can be considered in the next cycle. The cyclic nature of RBMP is based

on the premise that basin management is a dynamic process and management plans will evolve over time providing for updated assessments, priorities, management plans, and implementation strategies every five years.

1.3 Flint Basin Planning Schedule and Opportunities for Stakeholder Involvement

1.3.1 RBMP Activities

Figures 1-9 and 1-10 show the Flint River Basin management planning schedule of activities for the first two cycles: i.e., 1993-1999 and 1999-2004. The Flint basin was one of the first four basins (along with the Chattahoochee, Oconee, and Coosa basins) to begin the RBMP cycle in 1993. As discussed in section 1.2.2.3, initial scheduling complications and the need to devote resources to development of RBMP infrastructure have caused the first basin cycle to be somewhat condensed. In the Flint basin, this has meant that there was not as much time available in the first cycle (1994-1999) to prioritize watersheds and develop management strategies (steps 7 and 8) as there will be once the program converges into a long-term rotating cycle (after 1999). Also, the implementation stage of the first cycle (step 12 in Figure 1-9) is prolonged in order to bring the basin cycle into phase with the long-term rotating cycle, which has the Flint basin planning cycle beginning in April of 1999 (and every five years thereafter). During the implementation phase the local advisory committee will meet periodically and work to expand and broaden participation by stakeholders in the implementation of action plan items.

This prolonged implementation phase provides an opportunity for the Flint River Basin team and local advisory committee to conduct further outreach activities in order to educate stakeholders about the changes and new opportunities under RBMP. Also, the local advisory committee may wish to use this time to involve stakeholders in a discussion of possible water resources management strategies and the development of infrastructure to support these strategies. For example, this might be a good time to organize small local stakeholder forums that will support the implementation of management strategies (like BMPs) in the next RBMP iteration. EPD considers stakeholder involvement as a continuous process, not limited to scheduled meetings, and encourages stakeholders to provide input and assistance at any time.

It is a basic premise of RBMP that river basin management is more efficient and effective when stakeholders—government agencies, local governments, farmers, industries, landowners, environmentalists, etc.—participate in the process, and share knowledge and resources. One purpose of this river basin management plan is to encourage involvement of interested stakeholders in the RBMP process. The following paragraphs describe ways in which individuals, organizations, or governmental bodies may become more involved in future river basin planning for the Flint Basin.

As shown in Figure 1-5, every basin planning cycle begins with the organization of the basin team. Figure 1-10 shows that the Flint River Basin team will be re-organizing itself in April to June of 1999. This is an opportunity to review basin team membership and recruit any new members that can contribute significant resources and expertise to the planning process.

The local advisory committee will also be re-organized during this same time period; if it is perceived that certain stakeholder interests have not been well-represented, this is an opportunity to adjust the membership of the committee. The current members of the Flint River Basin Advisory Committee, and the stakeholder interests they represent, are listed in Figure 1-11.

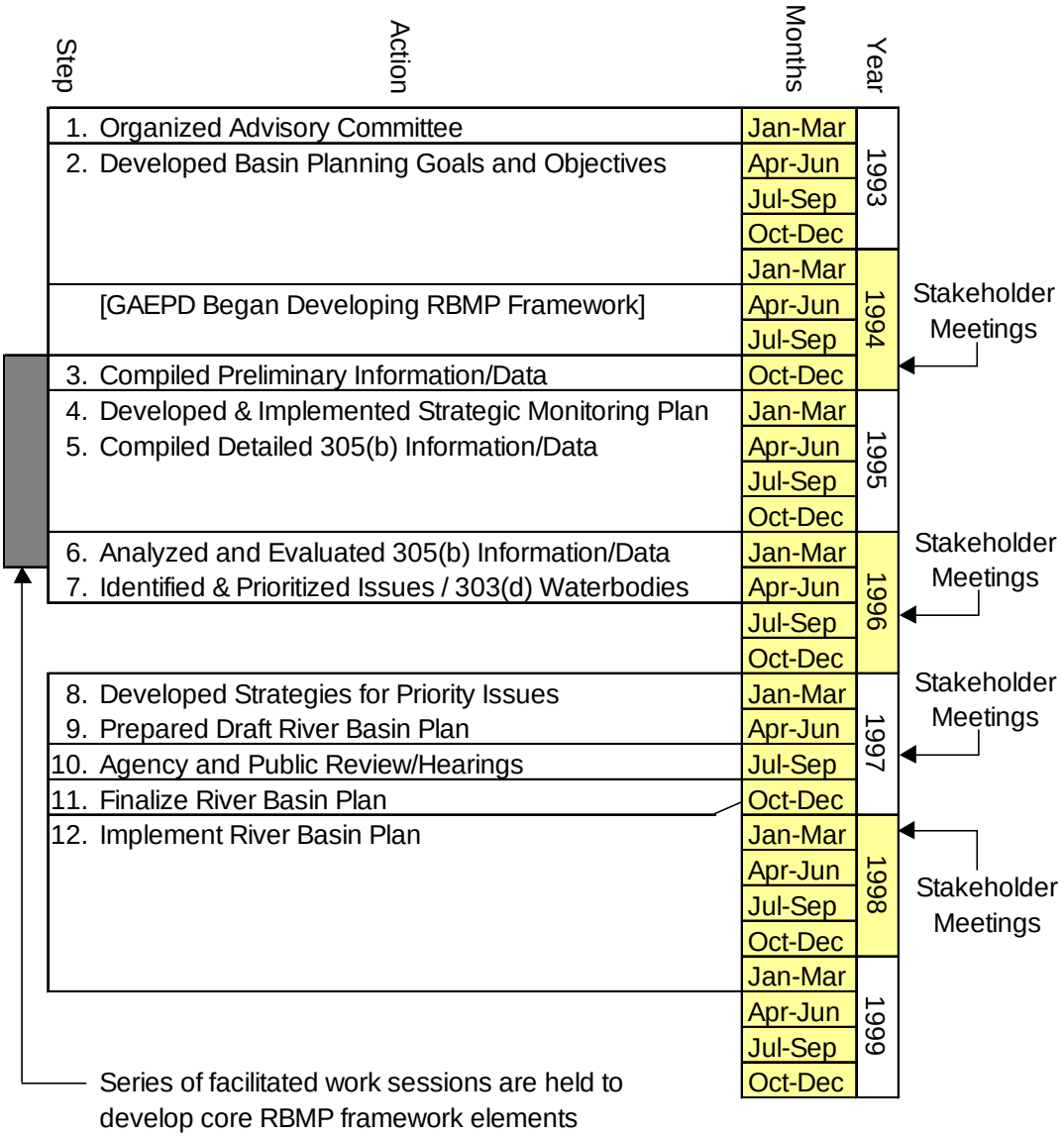

Figure 1-9. Flint River Basin Schedule, 1993-1999

Figures 1-9 and 1-10 show the timing of stakeholder meetings that have been and will be held as part of the Flint basin RBMP cycles. The specific purposes of each stakeholder meeting are described above in section 1.2.3.2, and indicated in Figure 1-5. The first two groups of stakeholder meetings have already been held for the current planning cycle. EPD hosted initial stakeholder meetings in Griffin and Albany in late 1994 to invite and encourage stakeholder input early in the planning process for the Flint River Basin. Second stakeholder meetings were held in Griffin and Albany in 1996 to discuss water quality assessment results, problem areas, and prioritization of actions to address problem areas. A third group of stakeholder meetings—to give stakeholders the opportunity to review this river basin management plan—were held in Griffin and Albany in September, 1997. A fourth group of meetings in 1998 will

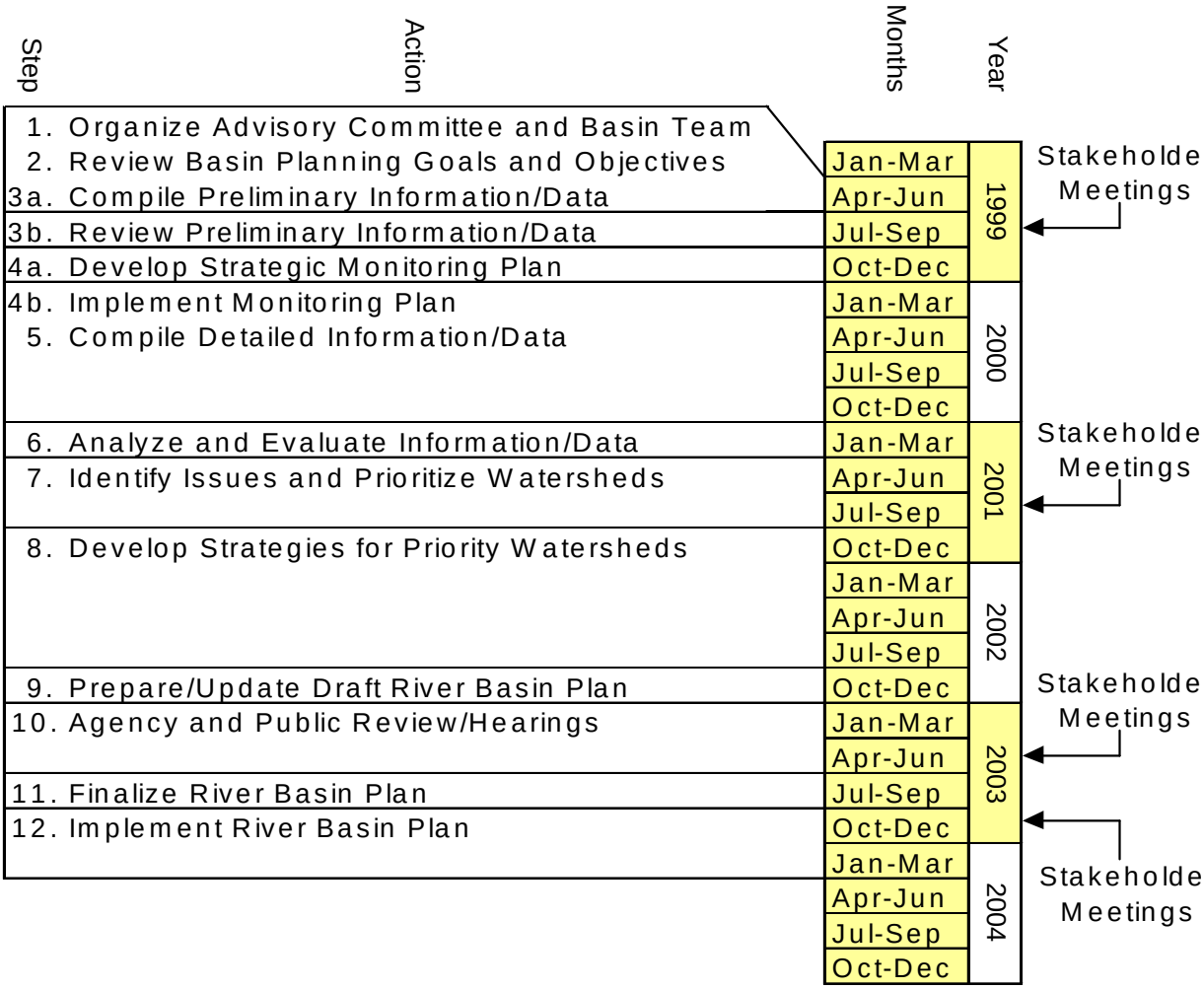

Figure 1-10. Flint River Basin Planning Schedule, 1999-2004

give stakeholders a chance to discuss implementation of management strategies. The next group of stakeholder meetings will be held in late 1999, providing stakeholders an opportunity to be involved in the planning for the next cycle of focused water quality monitoring in the Flint basin. The dates of ensuing stakeholder meetings are indicated in Figure 1-10.

1.3.2 ACF Comprehensive Study

In 1990 the State of Alabama, concerned about the availability of water for its future needs, filed suit in U.S. District Court to prevent the Corps of Engineers from reallocating water from Lakes Lanier, Carters, and Allatoona to increase the water supply for metropolitan Atlanta; Florida later joined this suit. Under a letter of agreement signed by the three states and the Corps, the

Mr. Dan Brewer
Proctor & Gamble
PO Box 1747
Albany, GA 31702-1747
912/888/8619

Mr. Les Brusse
Resource Manager
U.S. Army Corps of Engineers (Lake Seminole)
PO Box 96
Chattahoochee, FL 32324-0096
912/662/2201

Mr. Jim Durrett
Golder Associates
3730 Chamblee Tucker Road
Atlanta, GA 30341
404/496-1893

Mr. Bill Evans
Environmental Affairs
Georgia Power Company
333 Piedment Avenue
PO Box 4545
Atlanta, GA 30302
404/526-7031

Mr. Frank Green
Water Quality Coordinator
Georgia Foerstry Commission
PO Box 819
Macon, GA 31298-4599
912/751-3485

Mr. John Hightower
Corporate Environmental Manager
Thomaston Mills, Inc.
PO Box 311
Thomaston, GA 30286
705/647-7131

Mr. Ross King
ACCG
50 Hurt Plaza - Suite 1000
Atlanta, GA 30303
404/622/5022

Mr. David Lamb
Dundee Mills Incorporated
Drawer E
Griffin, GA 30224
404/227-6581

Mr. Tony Parrott
Fayette County Water System
245 McDonough Road
Fayetteville, GA 30214
404/461-1146

Mr. William Segars
Cooperative Extension Service
University of Georgia Cooperative Extension Service
Coppertive Extension Service
Athens, GA 30602
GST 241-9072

Mr. John Sperry
City of Albany
PO Box 447
Albany, GA 31703
912/883-6955

Mr. Russell Stevenson
Plant Environmental Manager
Proctor & Gamble Cellulose Company
PO Box 238
Oglethorpe, GA 31068
912/472-5518

Mr. Bill Thornton
Georgia Municipal Association
201 Pryor Street
Atlanta, GA 30303
404/688-0472

Mr. Marcus Waters
Crisp County Power Commission
PO Box 1218
Cordele, GA 31015-1218
912/273-3811

Mr. David Westmoreland
Georgia Forestry Commission
PO Box 819
Macon, GA 31298-4589
912/751-3485

Figure 1-11. Flint River Basin Local Advisory Committee Members

ACT/ACF (Alabama- Coosa-Tallapoosa/ Apalachicola-Chattahoochee-Flint) Comprehensive Study was initiated in 1991. During the spring of 1997 the three state legislatures approved separate Interstate Compacts which establish the legal and functional basis for future management of the ACT and ACF basins. Congress will consider these compacts in 1997.

Although neither Compact contains a specific allocation of water for the states, this will be the first consideration of the Commissions when they are established. In fact, there is a provision in the compacts which requires that allocations be developed before the end of 1998. Obviously the allocation for the ACF Basin will have a potentially significant effect on water resource planning in the Chattahoochee and Flint basins in Georgia. It is expected that the allocation will establish some form of a commitment for Georgia to allow certain quantities of water to pass downstream for use by Alabama and Florida. Such a commitment will not establish how the water must be used within Georgia; those decisions will remain the prerogative of Georgia's governments and citizens. However, it is possible that there may be limitations on quantities of water which will be available for various uses in the Flint Basin. Although this potential constraint is recognized, this initial Flint River Basin Plan can not consider any specific water allocation limitation. Frequent reference is made to the ACT/ACF Study throughout this Plan where data, Study results, or potential Compact constraints may apply.