

Georgia Environmental Protection Division  
Middle Chattahoochee Water Council  
**Management Practice Selection Technical Memorandum**

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## I. INTRODUCTION

The Middle Chattahoochee Water Planning Council considered the following as it selected management practices for the Water Development and Conservation Plan:

- 1) Existing plans and practices: The Council conducted a comprehensive review of existing local and regional water management plans and relevant related documents to frame the selection of management practices. When possible, successful management practices already planned for and/or in use in the Region formed the basis for the water management practices selected by the Council.
- 2) Gaps identified by the comparison of resource needs and resource capacities: See Section 5.
- 3) Council's Vision and Goals: See Section 1.
- 4) Results of a survey of Council members on management practices and criteria for evaluation: The survey asked council members to rate an extensive list of management practices and to rank criteria to guide management practice selection.
- 5) Public input: The Council implemented a Public Involvement Plan to inform stakeholders and local government officials about the planning process and to engage them in providing input to the Council as it developed its plan.

The process of selecting management practices was preceded by the following steps that formed the foundation for later planning:

- Development of vision and goals
- Review of water and wastewater demand forecasts
- Review of resource assessment results on resource capacity
- Review of existing plans, practices, and pending regulations
- Development of a comprehensive list of management practices

The comprehensive listing of management practices was developed in part by reviewing existing guidelines and documents including the following:

- Georgia's Water Conservation and Implementation Plan (EPD, March 2010)
- Manual for Erosion and Sediment Control in Georgia (GSWCC, 2000)
- Georgia's Best management Practices for Forestry (GFC, May 2009)

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- Best Management Practices for Georgia Agriculture (GSWCC, 2007)
- Georgia's Best Management Practices for Forestry (GFC, 2009)
- Georgia Stormwater Management Manual (Blue Book)
- Mining Association Best Management Practices
- Water Quality/Quantity Best management Practices for Florida Container Nurseries (April 2007)
- Water Supply and Water Conservation, Wastewater, and Watershed Management Plans (Metropolitan North Georgia Water Planning District, May 2009)
- State Energy Strategy for Georgia (GEFA, December 14, 2006)
- A Groundwater Management Plan for Georgia, Georgia's Comprehensive State Groundwater Protection Plan, (EPD, 1998)
- Georgia Water Stewardship Act (Georgia General Assembly, June 2010)

Management practice selection by the Council proceeded as follows:

- 1) Survey of council members on management practices and selection criteria
- 2) Creation of a Resource Assessment Committee to develop recommendations to the full council on management practices
- 3) Iterative development, review, and revision of Water Quality and Water Quantity "strawman" documents of management practice recommendations by the committee
- 4) Presentation of recommendations to the full council for consideration
- 5) Incorporation of Council comments
- 6) Incorporation of management practices into the plan

The Council's decision making process to adopt sets of recommendations was consensus-based, where possible, according to the Council's Operating Procedures and Rules for Meetings. In cases where consensus could not be reached, decisions were approved by voting. The presentation of management practices is consistent with the State-wide Comprehensive Water Management Plan and includes the following categories and subcategories:

Water Quantity Management Practices

- Demand Management
- Returns Management
- Supply Management

Instream Use Management Practices



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Water Quality Management Practices

- Enhanced Water Quality Standards & Monitoring
- Enhanced Pollution Management

In order to coordinate beyond the region, Council members met with representatives of neighboring councils to discuss shared resource issues on multiple occasions. In these meetings, the Council worked with its neighbors toward adoption of coordinated or complementary management practices and recommendations.

Within the region, the Council sought to coordinate with local governments and build support for this plan through implementation of the Council's Public Involvement Plan. As a part of this plan, the Council provided opportunities for input from local government officials and the public at each meeting and announced and documented meetings on the Council website. Additionally, Council members worked individually to inform their own communities about the regional plan.

The Council identified several uncertainties that could impact plan implementation, including:

- *Update of the Master Control Manual for the Apalachicola-Chattahoochee-Flint (ACF) River Basin by the U.S. Army Corps of Engineers:* This process is due to be complete in June 2012. More information on the process can be found at the following website: <http://www.sam.usace.army.mil/pa/acf-wcm/index.htm>
- *Consultation regarding the 2008 Biological Opinion:* Consultation provided to the U.S. Army Corps of Engineers by the U.S. Fish and Wildlife Service has been reinitiated pursuant to provisions of the Endangered Species Act as of September 20, 2010. The consultation will continue ongoing depth distribution data collection and analysis to determine if the minimum flow of 5,000 cubic feet per second required under the RIOP needs to be increased in order to protect listed species.
- *Implementation of recently adopted federal nutrient criteria for Florida's lakes and flowing waters:* These new water quality criteria have implications for water quality dischargers and other stakeholders in Georgia, because Georgia must meet the criteria at the state line. The effective date for the criteria is March 6, 2012. Implementation and compliance plans are in development, and the new criteria are currently subject to legal

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challenge. More information on the nutrient criteria is available on the following website: [http://water.epa.gov/lawsregs/rulesregs/florida\\_index.cfm](http://water.epa.gov/lawsregs/rulesregs/florida_index.cfm)

- *Potential state regulatory changes:* The Statewide Water Management Plan proposed several changes to water management regulations, including the dissolved oxygen water quality standard and rules for interbasin transfers. Proposed rule-making will be considered by the Board of Natural Resources and will be noticed on the following website: <http://www.gadnr.org/board>
- *Information needs to support improved water quality and quantity management:* Throughout the planning process, the limits of available information constrained planning decisions, and the Council identified numerous information needs to support improved future planning and management. For more detail on recommendations to address information needs, see Section 7.4.
- *On-going litigation over ACF Basin water management and allocation with neighboring states:* A 2009 ruling by a federal judge gave Alabama, Florida, and Georgia until July 2012 to resolve water-sharing disputes in the ACF or to revert to 1970's allocations for water withdrawals from Lake Lanier. The on-going litigation casts substantial uncertainty over future water resource management in the ACF and in this water planning region.
- *Alabama forecasted demands:* EPD was provided with consumptive use estimates for Chattahoochee River withdrawals for Alabama Department of Environmental Management (ADEM) permitted water users. This was furnished to EPD by the U.S. Army Corps of Engineers as a mediator. ADEM has not furnished projections for future water use in the Chattahoochee, which underestimates the overall basin water use and represents a discrepancy in the planning process.
- *Coordination needs with other councils:* Coordination needs, particularly the Upper Flint, Lower Flint-Ochlockonee, and the Metropolitan North Georgia Water Planning District require continuity beyond the timeframe allocated for this round of planning. This is particularly true where shared resources and neighboring uses may impact the resource availability gaps. Furthermore, new data, legislation, and an updated basin manual will likely impact the management practices selected and modeling constraints for the Chattahoochee and Flint Basins.

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Despite these uncertainties, the Council proceeded with plan development based on the best information currently available. The Council intends that future revisions of the plan will improve upon the current plan when possible, as conditions change and new information becomes available, in order to meeting the Council's vision and goals for the region.

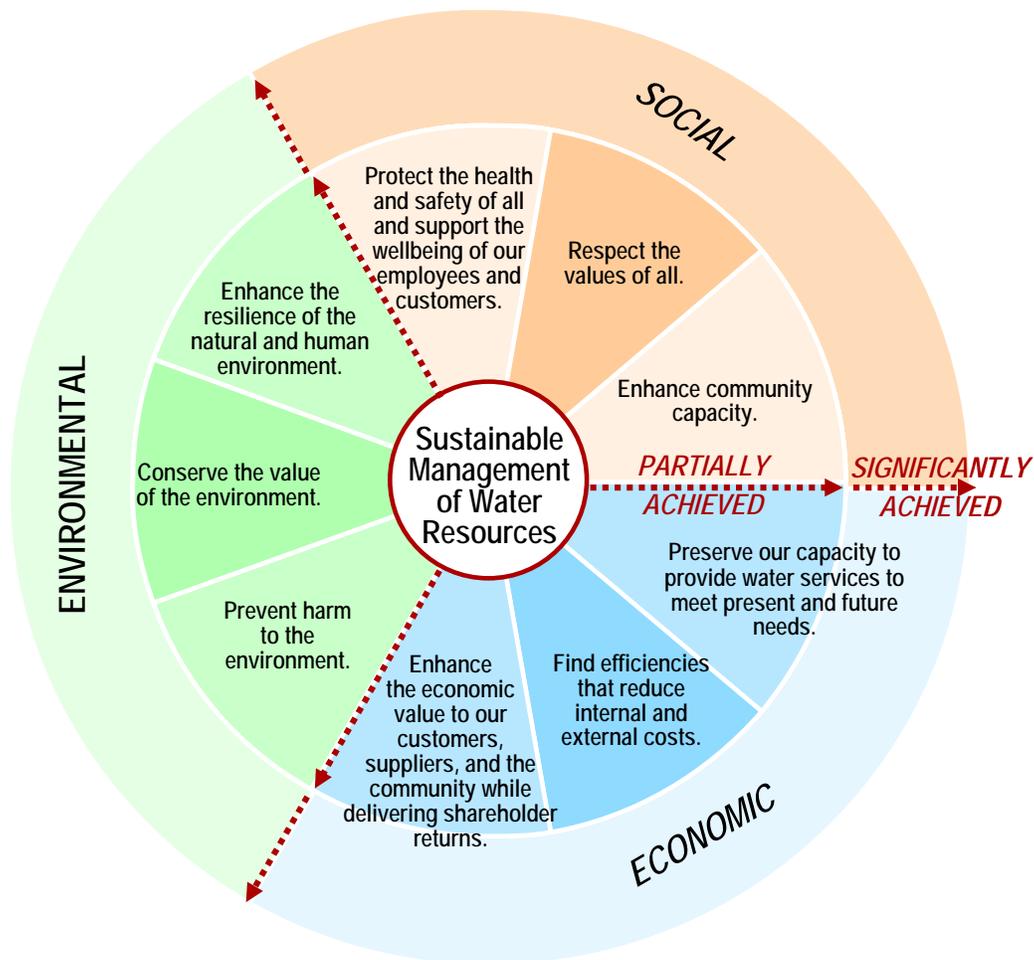
## **II. MANAGEMENT PRACTICE SELECTION PROCESS**

As outlined in the Georgia Comprehensive State-Wide Water Management Plan, the management practices accomplish the following:

- Help meet the water quality management objectives of the WDCP.
- Help meet water quantity management objectives of the WDCP.
- Provide for sustainable use of available water or practices that supplement water availability.
- Ensure sustainable use of assimilative capacity on a watershed basis.
- Restoration of impaired waters.
- Protection of waters that currently meet water quality standards.
- Address gaps identified in resource availability and assimilative capacity as identified through EPD modeling efforts.

Criteria were developed by the Council to ensure that these goals were met. The concept of sustainable planning was also integrated into the evaluation process by taking the "Triple Bottom Line" (TBL) approach to criteria development and grouping. As shown in Figure 1, the TBL criteria take into consideration the traditional economic component, but also incorporates the social and environmental impacts of the management practices. This provided a more complete evaluation and ensured that sustainability was considered in the planning and decision-making process.

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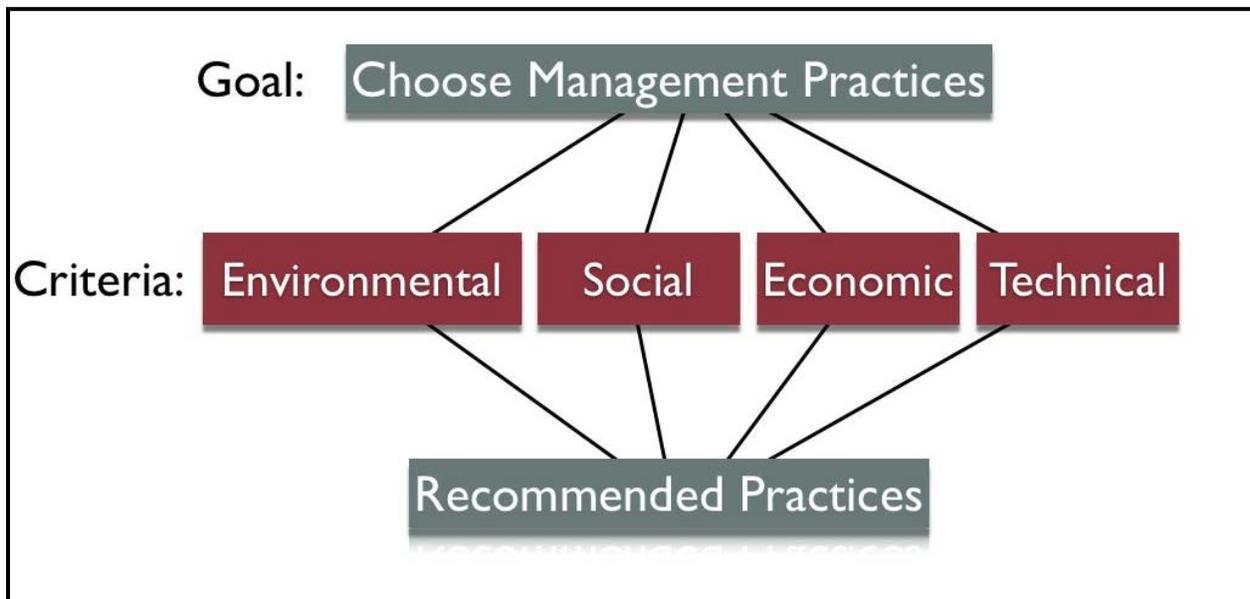


**Figure 1. Triple Bottom Line of Sustainable Planning**

A fourth category of technical criteria was also included. These four categories of social, economic, environmental, and technical, are referred to as the main criteria and are shown in Figure 2.

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**Figure 2. Main Category Hierarchy**

Sub-criteria were developed by the Council to define each of the four main criteria and included the following:

- Economic
  - Capital Cost
  - Operation and Maintenance Cost
  - Life Cycle Cost
- Social
  - Public Perception
  - Impact on Residents
- Environmental
  - Regulatory Compliance
  - Water Quality
  - Restoration of Impaired Waters
- Technical
  - Urgency
  - Reliability

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A percentage weighting was assigned to each of the main criteria by the Council based on the relative importance of the criteria. For example, a weighting of 0 to 100% was placed on each, with the total of all percentages equaling 100%. Each sub-criteria was then weighted inside the main criteria grouping, with the same percentage weighting convention applied. A Council-wide survey was conducted to rate an extensive list of management practices and to rank criteria to guide management practice selection. See Table 1 for results of the survey.

| <b>Table 1. Results of Council Member Survey on Management Practices</b>                                                                                                                                                                                                                                                    |                                                                                                                                                                                  |                                                                                                                                                                                                     |                                                                                                                                                                                                                       |                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Management Practices Most Highly Rated by Council Members</b>                                                                                                                                                                                                                                                            |                                                                                                                                                                                  |                                                                                                                                                                                                     |                                                                                                                                                                                                                       |                                                                                                                                                                   |
| <b>Water Demand Management Practices</b>                                                                                                                                                                                                                                                                                    | <b>Water Return Management Practices</b>                                                                                                                                         | <b>Water Supply Management Practices</b>                                                                                                                                                            | <b>Enhanced WQ Standards and Monitoring Practices</b>                                                                                                                                                                 | <b>Enhanced Pollution Management Practices</b>                                                                                                                    |
| <ul style="list-style-type: none"> <li>• Drought Planning and Response</li> <li>• Measurement and Water Use Assessment Practices</li> <li>• Practices to Reduce Water Waste and Loss</li> </ul>                                                                                                                             | <ul style="list-style-type: none"> <li>• Direct Potable Reuse</li> <li>• Increase water returns by decreasing use of septic systems</li> <li>• Indirect Potable Reuse</li> </ul> | <ul style="list-style-type: none"> <li>• New Surface Water Storage Reservoirs</li> <li>• Increase Existing Surface Water Storage Reservoirs</li> <li>• Interconnection of Supply Systems</li> </ul> | <ul style="list-style-type: none"> <li>• Actions to protect/manage source water quality and quantity</li> <li>• Source Water Supply Protection</li> <li>• New Development Storm water Management Standards</li> </ul> | <ul style="list-style-type: none"> <li>• Pollution Prevention Programs</li> <li>• Protect Sensitive Land</li> <li>• Coordinated Environmental Planning</li> </ul> |
| <b>Evaluation Criteria Ranking</b>                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                  |                                                                                                                                                                                                     |                                                                                                                                                                                                                       |                                                                                                                                                                   |
| <ol style="list-style-type: none"> <li>1. Technical (Efficiency, Reliability)</li> <li>2. Economic/Financial (Capital Cost, Operation and Maintenance Cost, Life Cycle Costs)</li> <li>3. Social (Public Perception, Impact on Public)</li> <li>4. Environmental (Water Quality, Restoration of Impaired Waters)</li> </ol> |                                                                                                                                                                                  |                                                                                                                                                                                                     |                                                                                                                                                                                                                       |                                                                                                                                                                   |

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The results of the survey were utilized by a Council designated committee to develop a set of water quantity and water quality “strawman” documents. The committee met with Planning Contractors and EPD on multiple occasions to draft the language and contents which would become the Council’s list of management practices. Furthermore, joint meetings with neighboring councils were held to coordinate on shared resources and discuss shared resource availability gaps.

These draft documents were vetted to the Council on September 14, 2010 at Council Meeting number 7 in Franklin, Georgia. Subsequent Committee and Council Meetings were used to further refine management practices based upon new data received from EPD, Council members, regional stakeholders, and public input. The management practices presented and discussed in detail in Sections 6 through 8 of the Middle Chattahoochee Water Development and Conservation Plan represent the final Council recommended management practices which reflect the Council’s intent to meet the requirements of the State-wide Water Plan and are aligned with the Regional Vision and Goals for the Middle Chattahoochee region.