



# UPPER LITTLE TALLAPOOSA RIVER WATERSHED

## SOURCE WATER ISSUES REPORT

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# TABLE OF CONTENTS

INTRODUCTION .....	2
SUMMARY OF FINDINGS .....	3
I.    The Watershed .....	3
The Local Economy	
Land and People	
II.   Threats to Drinking Water .....	4
III.  Strategies for Addressing Threats .....	6
Growth Management	
Protecting Forests, Wetlands and Floodplains	
Farmland Protection and Buffer Restoration	
IV.  Paying for Protection Strategies .....	8
Land Acquisition	
Restoration and Stewardship	
APPENDICES .....	
A. Land Conservation, Restoration, and Stormwater Management Priorities for the Upper Little Tallapoosa River, Georgia	
B. Land Conservation Funding Options	
C. Restoration/Stewardship Fact Sheets	

## Introduction

This Source Water Issues Report presents the analysis and observations of the project partners based on feedback from our initial meeting, technical research, discussions with members of the local committee, and review of the documents identified below.

Specifically, its purpose is to:

1. Provide background and context on the watershed and the jurisdictions within it for the Stewardship Exchange Team's visit in January,
2. Outline the primary drinking water protection issues faced by the source water area,
3. Identify how growth management, land protection, and restoration can be used to address those issues,
4. Identify the most viable funding sources for both protection and restoration, and
5. Present draft maps that identify priority areas for protection and restoration.

The Issues Report is a draft document, designed as a tool to guide discussion at the October Source Water Analysis Workshop. During the workshop, the report will be reviewed and revised with the local committee. Our goal is to develop a final report that presents a realistic and agreed-upon analysis of source water issues and recommendations that can be used by the community and the Exchange Team to develop specific implementation strategies for land protection and restoration in the Upper Little Tallapoosa River Watershed.

*Please read this document carefully and come to the October meeting prepared to discuss: (1) whether the information provided is correct, (2) if it addresses the most critical issues and (3) if you agree with the strategies and analysis presented.*

The analysis in this report is based on information from the following sources:

- Carroll County Community Capacity Assessment, prepared by Market Street Services, Inc, for Carroll County, October 13, 1999.
- Carroll County Needs, Issues and Opportunities Report, prepared by Freilich, Leitner and Carlisle and Planning Works, LLC, for the Carroll County, Comprehensive Plan Steering Committee, 2002.
- Farmland Protection Strategy Focus Groups, conducted by the Chattahoochee-Flint Regional Development Center
- Regional Greenspace Needs Survey, conducted by the Chattahoochee-Flint Regional Development Center
- Quality of Life Questionnaire, conducted by Carroll County
- Water Quality Assessment, conducted by the Center for Water Resources at the State University of West Georgia,
- Surveys, conducted by TPL with representatives from City of Carrollton, Carroll County, City of Villa Rica and Chattahoochee-Flint RDC,
- Funding Analysis, conducted by TPL's Conservation Finance Department
- Summary notes from the Source Water Stewardship Project Kick-off Meeting
- Watershed modeling conducted by the University of Massachusetts

# Summary of Findings

The major challenge in the Upper Little Tallapoosa River watershed is to balance the demands of a fast-growing area with the desire to maintain and improve quality of life and water quality. The work already completed in the watershed, including Carroll County’s Comprehensive Plan, the “greenprint” strategy, watershed monitoring, and the Source Water Assessment Plan, have created public-private partnerships, high quality data, and momentum which has the potential to provide a strong foundation for creating viable strategies for protecting water resources.

## I. The Watershed

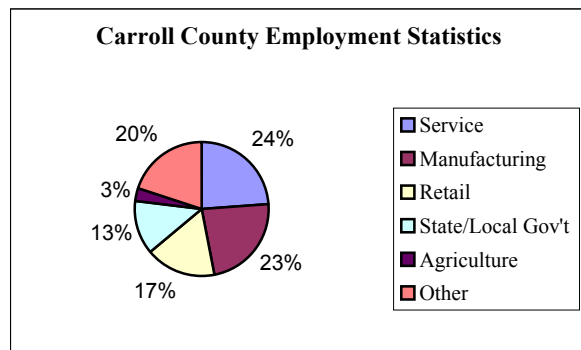
The Upper Little Tallapoosa watershed encompasses 95 square miles and lies almost entirely within the boundaries of Carroll County. The Upper Little Tallapoosa River flows from the headwater areas north of the Towns of Villa Rica and Temple, southwest through the City of Carrollton, then across the Georgia border into Alabama. As the Atlanta metropolitan area has grown and the regional economy has changed, development pressure has reached the Upper Little Tallapoosa watershed.

In general, the watershed has areas of rolling hills and flat terrain interspersed with wetlands, streams, lakes, and ponds. Although the area remains largely rural, centuries of land use have already altered the quantity, quality, and timing of water flow. Poorly planned residential, commercial, and industrial development could accelerate unfavorable changes in the watershed and lead to a wide range of interconnected environmental impacts. One of the most significant and costly consequences of losing farms and forests will be in relation to drinking water supplies and aquatic ecosystems.

Because changes in land and resource use are incremental, it is often difficult to appreciate the net effect of unplanned development on source water quality, public health, and quality of life. The patterns and trends described in this report should communicate a sense of urgency around the need for source water protection. They should also project a sense of optimism about the expected benefits and results of proactive watershed management and land conservation. “The glass is (still) at least half full.”

### The Local Economy

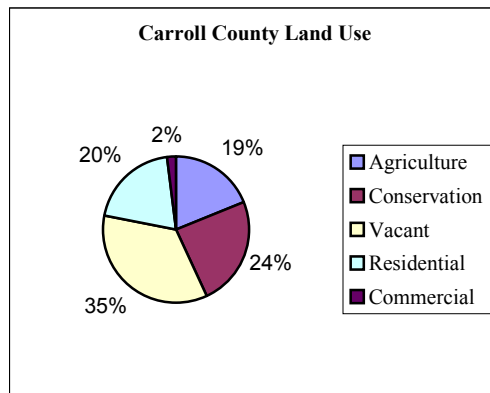
Employment in the county is fairly diverse, with most jobs in the following sectors: service (growing), manufacturing (declining), retail, and state and local government (growing). Farm employment and agricultural services only account for 3% of local jobs; however, two-fifths of farmers work significant hours in non-agricultural pursuits, contributing to the part time workforce.



Although not a job generator, agriculture is key to the local economy, contributing approximately \$40,000,000 annually. The total market value of agricultural products in 1997 was \$90,272,000, with 96% of the value being generated by livestock and poultry operations – Carroll County ranked #1 in beef production in the state. While agricultural land uses do not contribute significantly to tax revenues per acre, they consume low levels of public services. Studies throughout the state and nation reveal that agricultural land uses are net contributors to county fiscal stability, while low density residential development is a net drain.<sup>1</sup>

## Land and People

Carroll County and the Little Tallapoosa Watershed are predominantly rural and agricultural. It is precisely this rural character that is attracting new residents and leading to the transformation of the landscape from rural to suburban. Currently, 19 percent of county land is in agriculture, 24 percent is in conservation (primarily 10 year conservation easements) and 35 percent is considered vacant. Although only 20 percent of the land is currently residential, much of the vacant land is zoned and platted for residential use and will likely be developed over the next five to ten years. Agricultural land is also being converted rapidly to residential use.<sup>2</sup>



During the 1990's, the County's population grew 22 percent, after growing 27 percent in the 1980s. Eighty-five percent of new residents settled outside of incorporated cities, around Carrollton and between Temple and Villa Rica on two to four acre lots. If high growth rates and the trend toward low density rural development continues, by 2020 residential development will occupy 42% of the County land area - 133,235 acres. If future development is more dense (4 units per acre) and clustered around existing towns, the conversion of rural land would be 16 times less - 8,327 acres.<sup>3</sup>

Because development has been widely dispersed throughout the county, it has not been cost-effective for the county or towns to provide sewer services. As a result, there has been a proliferation of individual septic systems and small, on-site sewer systems. These systems threaten ground and surface water quality and contribute to high fecal coliform levels. Provision of sewer services would be more cost effective if development were clustered around existing towns.

## II. Threats to Drinking Water

The following analysis of primary threats was drawn from the Water Quality Assessment, conducted by the Center for Water Resources at the State University of West Georgia as part of

<sup>1</sup> Carroll County Draft Needs, Issues and Opportunities Report, p. 70-71.

<sup>2</sup> Carroll County Draft Needs, Issues and Opportunities Report, p. 96.

<sup>3</sup> Carroll County Draft Needs, Issues and Opportunities Report, p. 27, 74.

the state's Source Water Assessment. Fecal coliform levels were found to be above Georgia EPD water quality standards and sediment (measured as turbidity, for which there is no standard) was found to be very high throughout much of the watershed. Nutrients are causing eutrophication and algae problems in Lake Buckhorn, but are not a major concern in other parts of the watershed.

The primary threat to water quality in the Little Tallapoosa is animal and human waste, measured by high fecal coliform levels. These wastes are washed off pastureland when it rains, are discharged by wastewater treatment plants and seep into the groundwater, and eventually into streams, from failing septic systems. High fecal coliform levels are also an indicator of possible contamination by pathogens, such as *Cryptosporidium*, *E. coli* and giardia. In 1987, the Little Tallapoosa had one of the first major outbreaks of *Cryptosporidium* in the nation, sickening 13,000 of the 65,000 residents in the county.

Sediment is another contaminant of concern in the Little Tallapoosa. Sediment is washed into streams from land that has been cleared of vegetation, such as construction sites, forest clear cuts, or other soil disturbance areas, such as stream banks trampled by cattle or tilled cropland. Sediment often carries pathogens, pesticides, nutrients and organic debris, which makes water treatment more difficult and expensive and threatens human health.<sup>4</sup>

Protecting the quality and quantity of water resources will require:

1. Identifying areas in the watershed where development can occur with the least impact on groundwater recharge and stream hydrology, and where pollutants are less likely to reach the stream network. This will likely involve clustering development around existing towns and cities and providing centralized wastewater treatment systems to prevent proliferation of individual septic systems and on-site wastewater treatment.
2. Protecting existing forests, wetlands, and natural land to protect groundwater infiltration, watershed hydrology and water quality. Forests currently cover 58 percent of the land and contribute significantly to maintaining water quality.
3. Protecting farmland and creating buffers on pasture lands to provide natural filtration to keep animal wastes from entering the stream network. A watershed management approach that simultaneously conserves existing forests *and* restores riparian buffers will improve source water quality. However, doing one without the other is likely to generate little, if any, net benefit.
4. Identifying and prioritizing areas where urban stormwater runoff comprises the greatest threat to water quality. For example, the potential influence of development from the City of Carrollton may outweigh the effect of stormwater flowing from the headwaters. In Villa Rica, however, the fact that the reservoir and intake is downstream from the community provides the best incentive for source water protection.

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<sup>4</sup> "Water Quality Assessment," Center for Water Resources, Department of Geosciences, State University of West Georgia, August 2002.

### III. Strategies for Addressing Threats

#### Growth Management

In order to protect the local water supply, Carroll County and its municipalities must examine the underlying reasons for current development patterns, find ways to protect critical watershed land, and create incentives for development around existing towns and in areas that will have minimal impact on water resources.

In order to do this, regulatory strategies must be consistent and effective, provide equal protection for source waters throughout the watershed, decrease the proliferation of low-density development and of septic and on-site wastewater treatment systems, and decrease ad-hoc rezoning of individual properties.

1. Developing consistent and effective regulatory strategies for managing growth requires inter-jurisdictional analysis and planning. Local governments should look closely at all zoning, tax laws and infrastructure investments (roads, sewers, etc) to understand how they contribute to current development patterns and implement consistent regulatory strategies in all jurisdictions that will better direct development and protect rural land.
2. Watershed ordinances with consistent regulatory protection would offer communities equal protection of their drinking water and make monitoring and enforcement more effective. Carroll County and the cities of Carrollton, Mt. Zion, Temple and Villa Rica have developed water quality protection ordinances. Although this was a step forward in the coordination of water resource protection, the creation of multiple ordinances for different rivers with a separate overlay district set by the county complicates monitoring and enforcement efforts and makes it difficult for individual jurisdictions to protect their source areas, which often lie outside of their jurisdiction.
3. Identifying strategies to encourage the clustering of development around existing towns and cities, including providing centralized wastewater treatment systems, will limit the number of individual septic systems and on-site wastewater treatment systems and will protect natural lands from development. Low-density development patterns and the lack of public sewer systems in many areas of the county have led to a proliferation of wastewater treatment and septic systems in the watershed, which are not sufficiently monitored and threaten water quality.
4. Ad-hoc rezoning of properties (“spot” rezoning) has led to an inappropriate mix of land uses throughout the county and an increase in legal challenges to Board of Commissioner (BOC) decisions. The county is currently working on a new comprehensive plan intended to increase the consistency of BOC decisions and decrease the number of spot rezoning applications submitted. Similar efforts could also be made to improve the consistency and efficacy of zoning laws in the jurisdictions within Carroll County.
5. The lack of government infrastructure, small planning staff, and limited technological capabilities in Carroll County and the towns within its jurisdiction inhibit the ability to monitor and enforce existing regulatory tools and identify and implement creative growth

management strategies. The county, in particular, has a staffing challenge, as it enforces regulations not only for the county, but also for five communities within it. Working with local institutions, consultants and NGOs will help to fill the staffing gap for analysis and planning and more consistent land use regulations will simplify staff challenges with monitoring and enforcement.

## **Protecting Forests, Wetlands and Floodplains**

Protecting forests, wetlands and floodplains is critical to maintaining water quality and quantity. Slowing stormwater runoff and increasing infiltration reduces the amount of pollutants that reach the drinking water source and maintains stream flows during droughts. In a greenspace survey implemented by Chattahoochee Flint RDC, respondents indicated that the protection of water supplies was one of the greatest priorities for protecting local greenspace.

In addition to protecting water supplies, protecting natural lands contributes significantly to local quality of life, making Carroll County an attractive place to live and work. A Quality of Life questionnaire implemented by the county showed that residents clearly value the protection of forests and natural lands and would like to have additional public parks and recreation areas. Around 74 percent of respondents indicated that they highly value Carroll County's natural surroundings, trees and forests, and about 78 percent indicated that the creation of additional public parks and recreation areas would enhance quality of life. Additionally, 77 percent of respondents said they would support using a portion of the S.P.L.O.S.T. for the protection of land.

Land protection strategies can provide multiple benefits to communities. Carroll County should begin to examine ways that land conservation can simultaneously protect water supplies, increase recreational opportunities and protect the rural character and beauty of the community.

1. In order to protect water supplies with limited resources, parcels where protection and restoration will have the greatest benefit for water quality and quantity must be identified. The University of Massachusetts as part of this project is completing this process.
2. Maps of critical watershed lands should be overlapped with maps that identify areas that have the greatest potential as public parks and recreation areas. This should include an analysis of what areas are most accessible to the greatest number of residents and have the potential to provide a range of recreational opportunities.
3. Protecting the local character, history and beauty of the county will require identifying key historical sites, important viewsheds and areas with special significance to local residents. Much of this work will be completed through Carroll County's greenprinting process, which is being facilitated by Trust for Public Land.

## **Farmland Protection and Buffer Restoration**

According to Carroll County's Comprehensive Plan, "Farming, forestry and animal husbandry activities are vital land uses, which should not be viewed as mere holding zones for future urbanization or suburban development . . . The environmental and aesthetic benefits of agriculture and forestry land are difficult to quantify in monetary terms, yet are known economic development



assets and contribute to community quality of life.”<sup>5</sup> The protection of farms and rural landscapes is important for the local economy, local food supplies, protecting quality of life for local residents and protecting the historic character of the community. The challenge is in finding ways to reduce pollutant loads from farms while maintaining or enhancing them economically and protecting them from inappropriate development.

1. Many farmers are struggling to keep their farms economically viable. Innovative strategies to improve the profitability of local farms, maintain affordable property taxes, and reduce run-off could include alternative crops and cropping systems, new markets and marketing strategies for farm products, cost-share programs and technical assistance to landowners.
2. Some farmers rely on the sale of their land to pay for retirement and health costs, or as an eventual inheritance for their children. A mix of market and regulatory strategies to prevent the development of agricultural lands, such as down-zoning or conservation easements, are important for keeping property taxes lower and for preventing inappropriate development. Regulatory strategies, which can decrease property values - in many cases a farmer’s greatest asset - that are balanced with voluntary strategies will create financial incentives for farmers to protect their land.
3. Improper management of pasture and farmland can contribute fecal coliform, pathogens, nutrients and sediment to local water supplies. In order to protect water supplies while protecting farmland, financial incentives and technical support are needed for farmers to implement best management practices, such as buffers, that reduce pollutant loads and protect stream hydrology, and to permanently protect the land from development.
4. In order for a farmland protection strategy to be successful, extensive outreach to the agricultural community is critical. Landowners need information on cost-effective ways to implement best management practices, the financial benefits of conservation and assistance with estate planning.

## **IV. Paying for Protection Strategies**

### **Land Acquisition**

If the effort to protect land within the Little Tallapoosa Watershed is to be successful, it is essential to move beyond assessing priorities to actually protecting land. The following options have been identified as feasible for consideration in a “funding quilt” that will sustain land acquisition in the near term and over the long term. The specific recommendations listed here draw upon a combination of local, state and federal funding to protect land in the Little Tallapoosa.

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<sup>5</sup> Carroll County Draft Needs, Issues and Opportunities Report, p. 71.

## Local Funding

**SPLOST:** With the SPLOST (one percent sales tax) anticipated to expire in 2003, a renewal is likely to be considered by the County commissioners. The SPLOST could be considered the leading conservation finance option for Carroll County, with some significant portion of the proceeds targeted for land conservation, including watershed protection in the Little Tallapoosa. The SPLOST has been used successfully by a number of counties in Georgia to fund land conservation, including Gwinnett and Athens-Clarke Counties. Among the steps that should be considered in order to craft a winning SPLOST measure are feasibility research and a public opinion survey to determine how to design a ballot question that will be compelling to voters.

**General Obligation Bond or Mill Levy:** Although the SPLOST is the preferred way to create local conservation funding, a number of local governments have sought to finance land conservation by passing a general obligation bond. Carroll County has ample room under its debt limit. A mill levy is another possibility, although one that may prove a more difficult sell to voters, given its infrequent use.

## State Funding

**Georgia Greenspace Program:** Carroll County received \$230,000 in 2001 and will receive roughly \$279,000 in 2002 through the Georgia Greenspace Grant Program. Some portion of these funds should be considered for funding watershed land acquisition in the Little Tallapoosa, and future grants should be sought from the state as well. However, since the Greenspace Program is subject to annual legislative appropriation, there is no guarantee of future funding. Advocates of funding for land conservation in the Little Tallapoosa might want to determine how they can work with the Governor and legislative leaders to ensure the permanence of the Greenspace Fund or a comparable dedicated land conservation fund.

## Federal Funding

**Farmland Protection Program:** With the significant increase in funding available under the newly signed Farm Bill, Carroll County may apply for an FPP grant, possibly in conjunction with the Carroll County Farmland & Rural Preservation Partnership. Since these grants are competitive and require a 50 percent match, Carroll County might utilize Greenspace Grant funds in the near term, coupled with future local funding if it becomes available.

**Forest Legacy Program:** The recently completed FLP Assessment of Need (AON) includes a Mountain Forest Legacy Area (one of six areas in the state) that borders, but does not include, Carroll County. The Forest Legacy Program permits changes to the boundaries of an FLP area, which should be explored, to determine if Carroll County may be included in the future.

**EPA 319:** Although there have been no EPA 319 grants for land effort should not be mounted. The scientific analysis and mapping to demonstrate the link between land conservation and nonpoint pollution reduction that is being acquisition awarded in Georgia, there is no reason that another conducted as part of the Little Tallapoosa watershed project should help mitigate problems that have previously cited by EPA officials as obstacles to making these grants

## Restoration and Stewardship

Among other sources for funding, the 2002 Federal Farm Bill will increase current baseline spending for USDA conservation programs by 80 percent. Existing programs are being expanded and some new ones have been created, that in partnership with states, will create the bulk of opportunity for funding restoration and stewardship. The Farm Bill provides greater access to the programs by making more farmers and ranchers eligible for participation. The most significant programs are listed below, with more details to be found in the appendix. These programs, not unlike the land acquisition funding programs cited above, can also be threaded together in a 'funding quilt.' The Natural Resources Conservation Service (NRCS), with state and local offices across the country, including in Carroll County, administers the following programs and can provide assistance to landowners seeking funding:

**Environmental Quality Incentives Program (EQIP):** EQIP is a voluntary conservation program for farmers and ranchers to treat identified soil, water and related natural resource concerns on eligible land with technical and financial assistance. Reauthorizes the program through 2007 with greater funding resources. Provides an overall payment limitation of \$450,000 per producer. Sixty percent is available for animal operators. Non-industrial foresters are now eligible for funding with a heavy focus on water quality protection. Federal funding must be matched in a 75%-25% formula, but allows up to 90% cost-share for beginning or limited resource farmers and ranchers.

**Conservation Security Program (CSP):** A new national incentive payment program for fiscal years 2003 through 2007 to reward stewardship and provide an incentive for addressing resource concerns on farm and ranch properties, estimated at \$2 billion over ten years.

**Conservation Reserve Program (CRP):** Provides funding for long-term conservation easements at a funding level of \$1.5 billion over ten years. States must enroll in the program and landowners apply for funding through states. State funding support, in addition to federal, can transition "term" easements to permanent.

**Wildlife Habitat Incentives Program (WHIP):** WHIP is a voluntary program that encourages protection of wildlife habitats. Provides for up to 15 percent of annual WHIP funds for increased cost-share payments to producers to protect and restore essential plant and animal habitat using agreements with a duration of at least 15 years. States administer this program with a ranking system and there is typically less competition for funding here than in the EQIP program.

**Wetlands Reserve Program (WRP):** Reauthorizes the program through 2007 while increasing acreage cap for project eligibility. This program provides technical and financial assistance to eligible landowners to restore, enhance, and protect wetlands. Landowners have the option of enrolling eligible lands through permanent easements, 30-years easements or restoration cost-share agreements.

Also through the USDA, two forestry programs provide limited funding for stewardship. These programs are offered in partnership between the U.S. Forest Service and the State Forester:

**Forest Stewardship Program (FSP):** Provides professional natural resource management expertise to non-industrial private forest landowners to help them develop a management plan for their forested land. Brings the expertise of State service foresters, biologists, and private consultants to private landowners. Generally, FSP participants own less than 1,000 acres. There is no maximum acreage restriction, but some States do establish a minimum acreage. Participation is open to individuals and non-commercial landowners who agree to maintain the land as outlined in their management plan for at least 10 years. FSP is not a cost-share program. Instead, it provides technical and planning guidance.

**Forest Land Enhancement Program (FLEP):** Authorized in the 2002 Farm Bill, FLEP will provide \$20 million per year over the next 5 years. Through FLEP, State forestry agencies can provide incentives to achieve a wide array of objectives including forest stewardship plan preparation, afforestation and reforestation, forest stand improvement, agroforestry implementation, water quality improvement and watershed protection, fish and wildlife protection, forest health and protection, invasive species control, and wildlife related practices. Currently, guidelines are being prepared for implementation of this program, with initial start up in early 2003.