

# THE TMDL PROCESS... WHAT HAPPENS NEXT?

## THE PRACTICAL EXPERIENCE OF IMPLEMENTING TMDL PLANS IN THE SUWANNEE BASIN BY THE SGRDC

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**Abstract.** After the TMDL Implementation Plans were completed for the Suwannee Basin, the next step was to begin implementing programs stated in the plans. Since the December 2002 deadline, the SGRDC has assisted with the implementation of environmental ordinances, education outreach program, workshops, and grant writing assistance. Today, there are a number of activities and programs flourishing in South Georgia that may not have occurred if the State of Georgia had not been sued and the TMDL Implementation Plans were not required to be completed.

### INTRODUCTION

There are a number of opinions about how the State of Georgia addresses Total Maximum Daily Load (TMDL) Implementation Plans. Some feel the plans are just an obligation under the Clean Water Act<sup>1</sup> and others see the plans as a stepping stone in addressing water quality. Naturally, a negative association surrounds the plans because a lawsuit brought them to the forefront. To the South Georgia Regional Development Center (SGRDC)<sup>2</sup>, these plans opened a door that had never been truly opened or thought about.

**Background.** Water, our most precious resource, tends to be the last resource we protect. Until recently, most actions that occurred were minimal and easily overlooked. In 2002, the SGRDC entered into a contract with the Georgia Department of Natural Resources Environmental Protection Division (EPD)<sup>3</sup> to complete 35 Total Maximum Daily Load (TMDL) Implementation Plans within the Suwannee Basin. The two main water quality impairments were low dissolved oxygen and elevated fecal coliform bacteria levels. Like many other RDCs, the SGRDC was faced with the challenge to either designate a current staff member or hire a full-time environmental planner to complete the 35 TMDL Implementation Plans. With the impaired stream segments spread across 15 counties throughout South Georgia and only four months to complete all 35 plans,

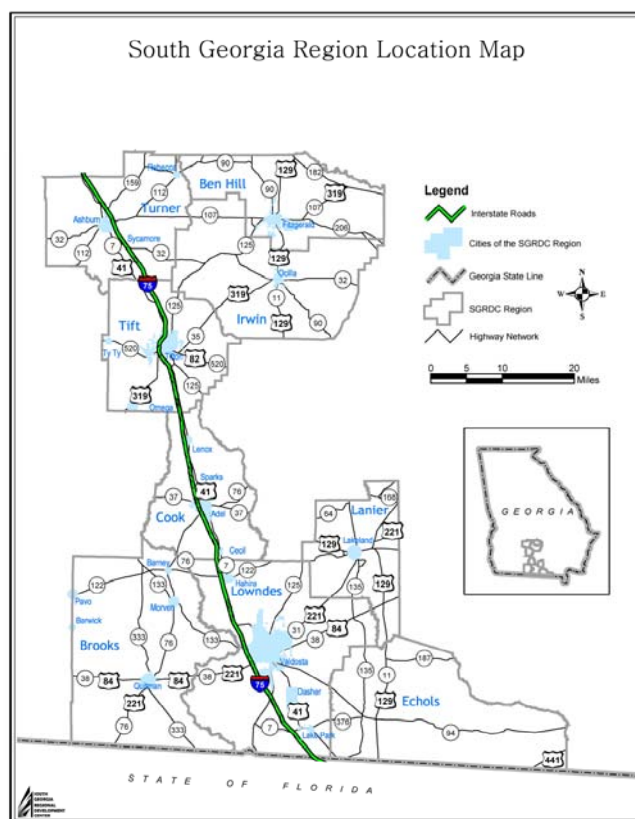


Figure 1. SGRDC region

the SGRDC decided to hire a full-time environmental planner.

Since the TMDL Implementation Plan process was fairly new to the RDCs in South Georgia, many questions were raised and there were few experts to converse with at the local level. Fortunately for the SGRDC, GA EPD staff such as Regina Campbell, Ted Mikelson, Vickie Yarbrough, and Vince Williams, extended themselves in such an informative and helpful manner that they should all be commended. As for addressing this issue at the local level, several steps were made to educate and gather as much information as possible in a short amount of time.

## STAKEHOLDERS

## ACTIVITIES

**Local Government.** First, letters were mailed to all local governments that had an impaired stream segment listed in their jurisdiction to make them aware of the impaired streams and what information would be needed by the SGRDC. From that point, the SGRDC inventoried the ordinances that each community currently had in place. Basic information such as current ordinances was needed to establish a foundation for where efforts should be focused considering some communities did not have building codes, manufactured home park standards, and/or land subdivision and zoning ordinances.

**Agricultural Community.** Next, the agricultural community was approached through the assistance of the University of Georgia's Cooperative Extension Service<sup>4</sup> offices in each county and the District Conservationist with the United States Department of Agriculture – Natural Resource Conservation Service (USDA-NRCS)<sup>5</sup>. Without their assistance, there would not have been nearly as many stakeholders involved. The agricultural community was a wonderful resource considering they know the land better than anyone.

**Additional Resources.** While working with the agricultural community, partnerships were established with additional groups such as the UGA Department of Biological & Agricultural Engineering (Tifton Campus)<sup>6</sup>, the National Environmentally Sound Production Agriculture Laboratory (NESPAL)<sup>7</sup>, the Upper Suwannee River Watershed Initiative (USRWI)<sup>8</sup>, the Seven Rivers Resource Conservation & Development Council (RC&D)<sup>9</sup>, USDA – Agricultural Research Service<sup>10</sup>, and many others. These partnerships presented additional contacts and watershed research that had been gathered for over 30 years. It was also the agricultural community that suggested developing a survey that asked basic questions regarding water quality, quantity, and sources of pollution. This survey was extremely useful for the extension agents and provided stakeholders the option of being anonymous.

The SGRDC also assisted in agricultural workshops and field days to provide education on water quality issues. As trust was established, stakeholders began providing more information on potential sources of pollution. The SGRDC focused on encouraging stakeholders to participate so their voices could be heard throughout the TMDL Implementation Plans. This also helped to promote the positive activities occurring in the Suwannee Basin. As interests in water quality continued to grow, the contract between the SGRDC and EPD was extended for the SGRDC to begin implementing activities outlined in the Suwannee Basin TMDL plans.

**Ordinances.** In cooperation with a U.S. Department of Commerce, Economic Development Administration project for pre-disaster mitigation planning, the SGRDC assisted local governments with the development and adoption of environmental ordinances. The requirements for these environmental ordinances, also known as the “Environmental Planning Criteria” or “Part 5 Criteria”<sup>11</sup>, were developed by the Department of Natural Resources and are designed to protect mountains, protected river corridors, water supply watersheds, groundwater recharge areas, and wetlands. In the Suwannee Basin, only three of the five apply: groundwater recharge areas, wetlands, and protected river corridors. By adopting these ordinances, the local governments not only initiated steps to protect their natural resource, but they also retained their “Qualified Local Government” status. The SGRDC also provided each community that adopted the ordinances with digital GIS data of these resources for their use.

**Education.** One of the education outreach programs the SGRDC developed was a Storm Drain Awareness Program. This program consisted of the SGRDC purchasing 100 DAS<sup>®12</sup> curb markers to permanently place on storm drain inlets. These markers read, “No Dumping... Drains to Stream.” There were also 1,000 door hangers purchased that displayed the “No Dumping” emblem and explained what the curb markers were, their purpose, and contact information. The SGRDC met with mayors, city managers, public works directors, and local 4-H Club members to promote and solicit interest in this program. They all agreed to participate and one even continued the program as a component of their Phase II stormwater regulations<sup>13</sup>.

Other activities included a series of workshops, promotion of existing activities, grant writing assistance, and the development of an “Environmental Planning” link to the SGRDC website.

**Workshops.** The SGRDC partnered with local governments and GA DCA to hold a series of two workshops entitled, “Planning Your Community.” These workshops covered topics such as solid waste management, land use alternatives (i.e. planned developments), and water conservation. The SGRDC also partnered with UGA and several others on a series of four agricultural water conservation workshops entitled “Agricultural Water Conservation: A Look at Water Metering, Pollution Prevention, Irrigation and Water Saving Methods.”

**Existing Activities.** The programs that were promoted as a way to become locally involved included Georgia Adopt-A-Stream<sup>14</sup>, Rivers Alive<sup>15</sup>, and the Willacoochee River Watershed 319 project. Georgia Adopt-A-Stream is the state's volunteer water quality monitoring program.

This program encourages participants to become more acquainted with their watershed through visual, biological, and chemical monitoring.

The Rivers Alive program is an annual cleanup that occurs in the month of October. This statewide cleanup consists of volunteers removing trash and other materials from Georgia's waterways. In the Suwannee Basin, this program has grown from 3 registered cleanups in 2002 to 10 registered cleanups in 2004.

The Willacoochee River Watershed project was a U.S. EPA Section 319(h) funded project that covered five counties. This project consisted of two years of water quality sampling, implementation of 17 best management practices (BMPs), and development of a Watershed Restoration Action Strategy (WRAS) by the SGRDC. The WRAS compiled all project information, provides goals and actions to address sources of pollution, and outlines funding information. These are three strong programs that give citizens ownership of their community.

**Grant Writing Assistance.** Grant assistance was provided to communities for funding sources such as the *EPD Local Environmental Enforcement & Education* grant. This grant provides funding to communities that are experiencing illegal dumping of scrap tires and solid waste. As the SGRDC visually inventoried the streams of the communities interested in this grant it was easy to find where refuse was accumulating in the waterways. However, in 2003 no new programs in Georgia were funded and only existing programs were able to receive funding.

To assist local governments with the issue of illegal dumping and roadside trash as a result of no new programs being funded, in 2004 the SGRDC requested two brochures from the Department of Community Affairs (DCA) to be distributed in county tag offices and tax assessors' offices. This was one way to provide citizens information and educate them on the importance of securing the trash in their vehicles.

Another grant opportunity the SGRDC assisted with was the *U.S. EPA Section 319(h)* grants<sup>16</sup>. This program is a funding source that local governments, sewer and water authorities, RDCs, state agencies, and state colleges and universities can apply for to address non-point source pollution. Grant projects included a detention pond for a community in Turner County that was experiencing drainage problems as a result of stormwater and a streambank restoration project for a stream in Lowndes County.

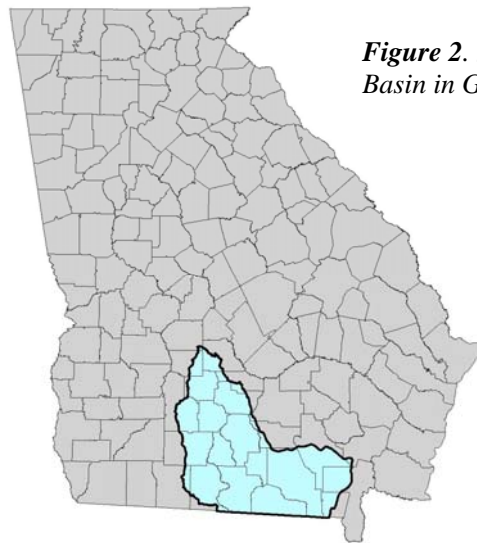
**Environmental Planning Website.** The SGRDC designed a basic and easy to use "Environmental Planning" website<sup>17</sup> to link people to the projects the SGRDC was working on. This website includes previous and current projects as well as links to the websites of

numerous cooperating agencies the SGRDC works with in the Suwannee Basin.

**Current Projects.** Today, the SGRDC is involved in several projects. The first is a 319 project in the Alapahoochee River Watershed. The Seven Rivers RC&D Council received funding for this project and contracted the project coordinator position to the SGRDC. This project will include one year of aquatic and water quality sampling, implementation of at least five BMPs, and development of a WRAS.

The second is a United States Department of Agriculture (USDA) Cooperative State Research, Education, and Extension Service (CSREES) project with the University of Georgia, Tifton Campus. This 3-year project will be conducted in the Georgia portion of the Suwannee Basin and has 2 major components:

- *Research* – conduct hypothesis driven research on dissolved oxygen (DO) issues
- *Education, Extension, & Outreach* – educate science teachers and students in K-12 programs, undergraduate and graduate college students, county extension agents, local elected officials, and volunteer watershed organizations about important regional water quality issues, TMDLs, DO, and how they as individuals or their organizations can make a difference.



**Figure 2.** Suwannee Basin in Georgia

The third and most recent project that has developed involving the SGRDC is the Upper Suwannee River Basin Partnership. This program is funded by GA EPD with the purpose of voluntarily reducing nutrient loading in surface waters of the Upper Suwannee River Basin. Water quality data provided by Suwannee River Water Management District (SRWMD) indicated that no violations of water quality standards currently exist in

Georgia waters at the Georgia-Florida state line. However, both Georgia and Florida have informally agreed that preventive actions to maintain water quality in Georgia should focus on voluntary agricultural nutrient reductions in the Withlacoochee, Alapaha and Little River watersheds. The SRWMD established Florida's very successful Suwannee River Partnership<sup>18</sup> approximately seven years ago to address nutrient increases they were experiencing as a result of agricultural practices. This program is supported by agencies such as U.S. EPA Region IV<sup>19</sup> and USDA and will hopefully bring the many disconnected resources together in Georgia and provide a central location for information to be accessed. This will also allow Georgia and Florida to address water quality on a basin approach instead of stopping at the state line.

Each of the activities discussed demonstrate the importance of education. By providing education, even at the simplest form, attitudes, opinions, and lifestyles can be changed to better the environment. In many cases, people did not realize that their actions, such as washing cars in the driveway, over fertilizing yards, placing leaves or yard waste along the street gutters were affecting the overall water quality of surface waters. This is why it is imperative to provide education to all age groups and encourage the community to be involved so that they can make the investment in their community. By allowing them to have an active role in improving their community, this will smooth the way for actions such as additional ordinances or increases in stormwater utility fees because the citizens will see where their investment is being used and its importance.

## SUMMARY

As a result of the TMDL Implementation Plans for the Suwannee Basin, the SGRDC was able to expand its resources and services in not only the 9 counties the SGRDC serves, but throughout the Suwannee Basin in Georgia. Because of the assistance and vision shared by GA EPD staff early on, the SGRDC was able to branch out to the many organizations and individuals that shared an interest in the protection and improvement of Georgia's water resources. Today, there are several new or expanded programs, organizations, and resources in South Georgia that allow the SGRDC to continue connecting people at the local, state, and federal level.

<sup>1</sup> U.S. Environmental Protection Agency. (2003). *Clean Water Act*. Retrieved February 2, 2005, from <http://www.epa.gov/region5/water/cwa.htm>

<sup>2</sup> South Georgia Regional Development Center. (2005). Retrieved February 9, 2005, from <http://www.sgrdc.com/>

<sup>3</sup> Department of Natural Resources. (2005). *Georgia Environmental Protection Division*. Retrieved February 2, 2005, from <http://www.dnr.state.ga.us/dnr/environ/>

<sup>4</sup> The University of Georgia College of Agricultural and Environmental Sciences. (2004). *Cooperative Extension Service*. Retrieved February 7, 2005, from <http://extension.caes.uga.edu/>

<sup>5</sup> United States Department of Agriculture Natural Resource Conservation Service. *Georgia*. Retrieved February 5, 2005, from <http://www.ga.nrcs.usda.gov/>

<sup>6</sup> The University of Georgia College of Agricultural and Environmental Sciences, Tifton Campus. (2005). *Research Departments - Biological & Agricultural Engineering*. Retrieved February 7, 2005, from [http://www.cpes.peachnet.edu/tiftoncampus/depts\\_units/bioageng.htm](http://www.cpes.peachnet.edu/tiftoncampus/depts_units/bioageng.htm)

<sup>7</sup> The University of Georgia College of Agricultural and Environmental Sciences Coastal Plain Experiment Station, Tifton, GA, USA. *National Environmentally Sound Production Agriculture Laboratory*. Retrieved February 6, 2005, from <http://nespal.cpes.peachnet.edu/>

<sup>8</sup> Upper Suwannee River Watershed Initiative. Retrieved February 9, 2005, from <http://nespal.cpes.peachnet.edu/usrw/>

<sup>9</sup> United States Department of Agriculture Natural Resource Conservation Service. *Seven Rivers Resource Conservation & Development Council, Inc.* Retrieved February 5, 2005, from <http://www.ga.nrcs.usda.gov/programs/RCD/7Rivers/default.html>

<sup>10</sup> USDA-ARS Southeast Watershed Research Laboratory. Retrieved February 9, 2005, from <http://www.cpes.peachnet.edu/sewrl/>

<sup>11</sup> Georgia Department of Community Affairs. (2000). *Environmental Planning Criteria Q&A*. Retrieved February 3, 2005, from <http://www.dca.state.ga.us/planning/enviroquestion.html>

<sup>12</sup> DAS Manufacturing, Inc. (2001). *DAS Curb Markers*. Retrieved February 4, 2005, from <http://www.dasmanufacturing.com/>

<sup>13</sup> Georgia Department of Natural Resources. (2000). *Phase II Storm Water Permitting Strategy – State of Georgia*. Retrieved February 9, 2005, from [http://www.ganet.org/dnr/environ/techguide\\_files/wpb/phase2strategy.pdf](http://www.ganet.org/dnr/environ/techguide_files/wpb/phase2strategy.pdf)

<sup>14</sup> Georgia Department of Natural Resources – Environmental Protection Division. *Georgia Adopt-A-Stream*. Retrieved February 7, 2005, from <http://www.riversalive.org/aas.htm>

<sup>15</sup> Georgia Department of Natural Resources – Environmental Protection Division. *Rivers Alive*. Retrieved February 7, 2005, from <http://www.riversalive.org/>

<sup>16</sup> U.S. Environmental Protection Agency. (2004). *Clean Water Act Section 319*. Retrieved February 5, 2005, from <http://www.epa.gov/owow/nps/cwact.html>

<sup>17</sup> South Georgia Regional Development Center. (2005). *Environmental Planning*. Retrieved February 9, 2005, [www.sgrdc.com/EnvironmentalPlanning.htm](http://www.sgrdc.com/EnvironmentalPlanning.htm)

<sup>18</sup> Suwannee River Water Management District. *Suwannee River Partnership*. Retrieved February 8, 2005, from <http://www.srwmd.state.fl.us/features/suwannee+river+partnership/default1.htm>

<sup>19</sup> U.S. Environmental Protection Agency. (2005). *Region IV: Southeast*. Retrieved February 2, 2005, from <http://www.epa.gov/region4/>