

STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
WATERSHED APPROACH
SAVANNAH RIVER BASIN

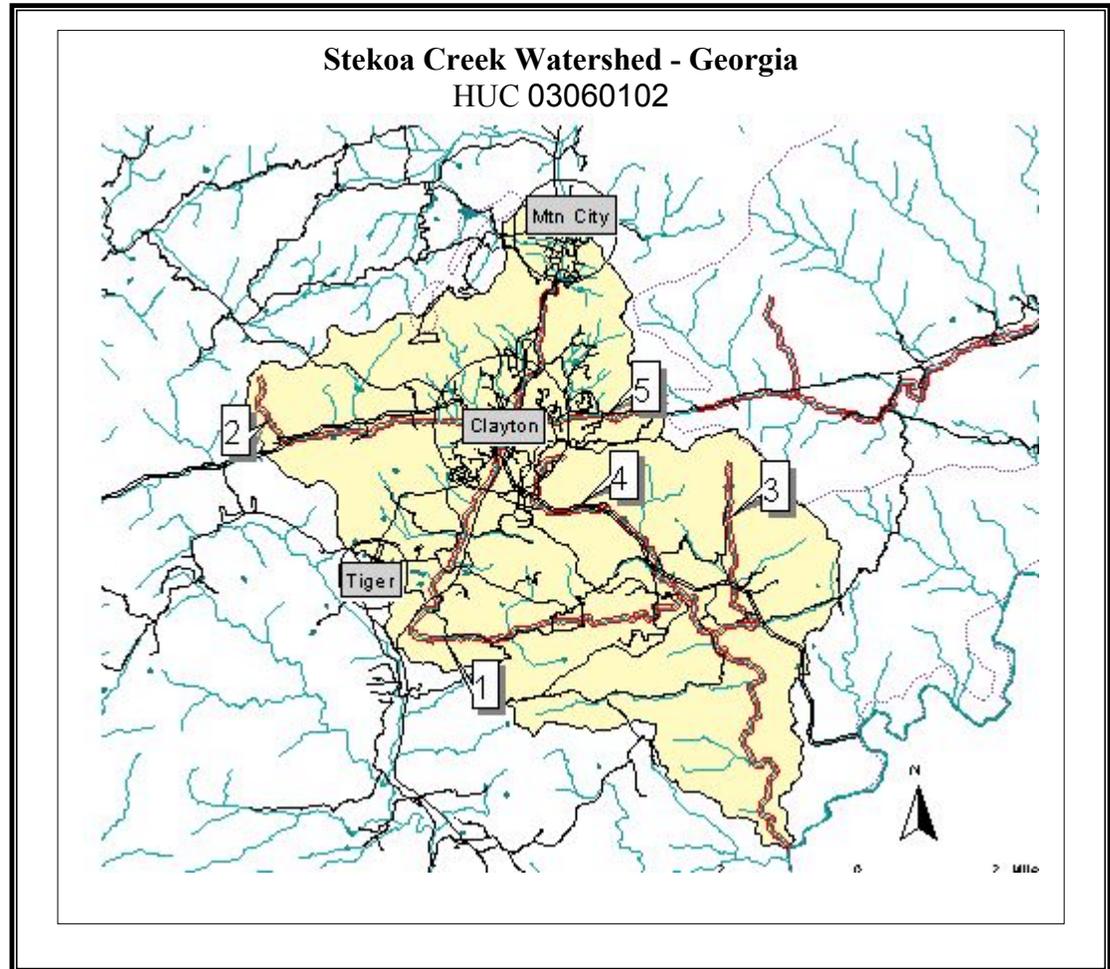
Stekoa Creek Watershed - FCB
HUC 03060102

Local Watershed Governments

- Georgia Mountains RDC
- Rabun County
- City of Clayton
- City of Mountain City
- Town of Tiger

TMDL Implementation Plans are platforms for establishing a course of actions to restore the quality of impaired water bodies in a watershed. They are intended as a continuing process that may be revised as new conditions and information warrant. Procedures will be developed to track and evaluate the implementation of the management practices and activities identified in the plans. Once restored, appropriate management practices and activities will be continued to maintain the water bodies. **With input from appropriate stakeholder groups, this TMDL Implementation Plan has been developed for a cluster of impaired streams and the corresponding pollutants.** The impaired streams are located in the same sub-basin identified by a HUC10 code (Figure 1).

This Implementation Plan addresses an action plan, education/outreach activities, stakeholders, pollutant sources, and potential funding sources affecting the sub-basin. In addition, the Plan describes (a) regulatory and voluntary practices/control actions (*management measures*) to reduce target pollutants, (b) milestone schedules to show the development of the management measures (*measurable milestones*), (c) a monitoring plan to determine the efficiency of the management measures and measurable milestones, and (d) criteria to determine whether substantial progress is being made towards reducing pollutants in impaired waterbodies. The overall goal of the Plan is to define a set of actions that will help achieve water quality standards in the state of Georgia. Following this section is information regarding individual streams.



| Impaired Stream Location | Pollutant |
|--------------------------|--|
| Stekoa Creek | Mtn City to Clayton to Chattooga River |
| | Fecal Coliform Bacteria (FCB) |

Action Plan for Stekoa Creek Watershed - FCB

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| POLLUTANT: | SOURCE: | EFFECT: | WHAT CAN I DO? | |
|---|---|--|--|--|
| | | | At Home: Community, School | At Work: Business, Government |
| <input type="checkbox"/> Dissolved Oxygen (DO) <input checked="" type="checkbox"/> Fecal Coliform (FC) <input type="checkbox"/> Sediment <input type="checkbox"/> Metals <input type="checkbox"/> Fish Consumption Guidelines (FCG) <input type="checkbox"/> Other (Please List) | <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Urban <input checked="" type="checkbox"/> Agriculture <input type="checkbox"/> Forestry <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other (Please List) | <input type="checkbox"/> Habitat <input checked="" type="checkbox"/> Recreation <input type="checkbox"/> Drinking Water <input type="checkbox"/> Aesthetics <input type="checkbox"/> Other (Please List) | <p>Help the county and cities meet this TMDL (by <u>reducing fecal coliform bacteria</u> entering the creek and by <u>reducing the velocity</u> of the stream flow during and after rain storms) by doing the following:</p> <ul style="list-style-type: none"> • Inspect and/or fix your septic tank every 5 years • Inspect and/or fix sewage system connections to your property • Plant shrubs and water-loving trees next to your creeksides and streambanks so that stormwater runoff slows down and thus pollution gets filtered out naturally before entering stream • Refrain from cutting grass too short along streambanks • Start or help fund an Adopt-A-Stream club in your neighborhood • Write a comprehensive nutrient management plan (CNMP) for your home | <p>Help the county and cities meet this TMDL (by <u>reducing fecal coliform bacteria</u> entering the creek and by <u>reducing the velocity</u> of the stream flow during and after rain storms) by doing the following:</p> <ul style="list-style-type: none"> • Inspect and/or fix your septic tank every 5 years • Inspect and/or fix sewage system connections to your property • Plant shrubs and water-loving trees next to your creeksides and streambanks so that stormwater runoff slows down and thus pollution gets filtered out naturally before entering stream • Refrain from cutting grass too short along streambanks • Start or help fund an Adopt-A-Stream club at your business • Write a comprehensive nutrient management plan (CNMP) for your business • Gov't can make water and wastewater systems more efficient • Gov't can enforce ordinances already in place • Gov't can review current ordinances and make adjustments if necessary |

INFORMATION/EDUCATION/OUTREACH ACTIVITIES

An education/outreach component will be used to enhance public understanding of and participation in implementing the TMDL Implementation Plan. List of all previous and planned information/education/outreach activities.

| Responsible Organization Or Entity | Description | Target Audience | Anticipated Dates (MM/YY) |
|---|--|--|----------------------------------|
| Stekoa Creek Group | Partnership of local private and public stakeholders organized to help improve and protect Stekoa Creek | Gov't officials and Rabun Co citizens in the Stekoa Creek watershed | 04/01 |
| GMRDC | Contracted with GA EPD to provide TMDL Implementation Planning | GMRDC region (northeast GA) | Continuous |
| Chattooga Conservancy | Grassroots conservation organization dedicated to protecting the Chattooga River Watershed | Citizens and environmental activists in the entire Chattooga watershed | Continuous |
| Chattooga Land Trust | Local land trust organization that seeks land to protect for watershed protection | Gov't and environmentalists | Continuous |
| Georgia Forestry Commission | Conduct forestry Best Management Practices educational training at Master Timber Harvester and continuing logger education programs, civic programs, and landowner meetings. | Foresters, timber buyers and loggers, site preparation contractors, landowners | Continuous |
| UGA – Agriculture and Applied Economics | Obtained a 319 grant to establish a database of landowners who would be willing to work with NRCS to protect streamside areas | Private landowners | 05/02 – 09/95 |
| USDA – Farm Service Center | Blairsville office of farming tech assistance | Agriculture community | Continuous |
| USDA – NRCS | The NRCS provides money and assistance to private landowners who wish to help conserve soil and water The NRCS is currently undergoing a survey to identify all private landowners in the watershed | Private landowners | Continuous |

STAKEHOLDERS

EPD encourages public involvement and the active participation of stakeholders in the process of improving water quality. Stakeholders can provide valuable information and data regarding their community and the impaired water bodies and can provide insight and/or implement management measures.

List of local governments, agricultural organizations or significant landholders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

| Name/Organization | Address | City | State | Zip | Phone | E-Mail |
|--------------------------|-------------------------------|-------------|--------------|------------|----------------|--|
| Rabun County Commission | 25 Courthouse Square, Ste 201 | Clayton | GA | 30525 | (706) 782-5271 | jbleckley@alltel.net |
| City of Clayton | 99 North Church St | Clayton | GA | 30525 | (706) 782-4512 | |
| Stekoa Creek Group | 396 Highway 441 S | Clayton | GA | 30525 | (706) 782-4231 | jduvall@rabun.net |

| Name/Organization | Address | City | State | Zip | Phone | E-Mail |
|----------------------------------|-----------------------------------|---------------|--------------|------------|----------------|--|
| Georgia Forestry Commission | P.O. Box 819 | Macon | GA | 31202 | 478-751-3485 | |
| Georgia Forestry Association | 500 Pinnacle Court, Ste. 505 | Norcross | GA | 30071 | 770-416-7621 | |
| American Forest & Paper Assoc. | | | | | | |
| Southeastern Wood Producers | P.O. Box 9 | Hilliard | FL | 32046 | 904-845-7133 | |
| Barbara and Bob Westbrook | 2368 Pinnacle Drive | Clayton | GA | 30525 | (706) 782-3007 | mosemt@rabun.net |
| Chattooga Conservancy | 2368 Pinnacle Drive | Clayton | GA | 30525 | (706) 782-6097 | crwc@rabun.net |
| Bill White | P.O. Box 8024 | Athens | GA | 30603 | (706) 542-3065 | bwhite@gaswcc.org |
| Dennis Martin | 3005 Atlanta HWY | Gainesville | GA | 30507 | (770) 531-6048 | dmartin@gfc.state.ga.us |
| Hon. Carol Jackson (Sen) | P.O. Box 2246 | Cleveland | GA | 30528 | (706) 219-2419 | senatorjackson@alltel.net |
| Hon. Ralph Twiggs (Rep) | P.O. Box 432 | Hiawassee | GA | 30546 | (706) 896-2574 | |
| Jack Wise | P.O. Box 309 | Long Creek | SC | 29658 | (864) 647-5361 | wise@nuvox.net |
| Jeff Aaron | 41 Library Circle | Clayton | GA | 30525 | (706) 782-3113 | jdaaron@uga.edu |
| Jimmy Bramblet (UGA) | 315 B Conner Hall | Athens | GA | 30602 | (706) 542-0750 | jbramblet@agecon.uga.edu |
| Julie Owens (EDP) | 4220 International Prkwy, Ste 101 | Atlanta | GA | 30354 | (404) 675-1651 | julie_owens@mail.dnr.state.ga.us |
| Kyle Burrell | 303 Swanson Drive | Lawrenceville | GA | 30043 | (770) 962-1387 | kbema@bellsouth.net |
| Michelle Huffman (EPD 319) | 4220 International Prkwy, Ste 101 | Atlanta | GA | 30354 | (404) 675-1651 | Michelle_Huffman@dnr.state.ga.us |
| Randy Fowler | 809 Highway 441 South | Clayton | GA | 30525 | (706) 782-3320 | dlfowler@fs.fed.us |
| Grady Nichols | 6740 Persimmon Rd | Clayton | GA | 30525 | (706) 782-485 | |
| Susan Varlamoff | 315 B Conner Hall | Athens | GA | 30602 | (706) 542-2151 | varlamof@arches.uga.edu |
| Rabun County Chamber of Commerce | 232 Highway 441 | Clayton | GA | 30525 | (706) 782-4812 | chamber@rabun.net |
| Rabun County Board of Education | P.O. Box 468 | Clayton | GA | 30525 | (706) 746-5376 | cprince@rabun.k12.ga.us |
| Chattooga Land Trust | P.O. Box 927 | Clayton | GA | 30528 | (706) 782-8898 | clt@rabun.net |

WATER BODIES/STREAMS COVERED IN THIS PLAN

These impaired streams are located in the same sub-basin identified by a HUC10 code. Most of the information contained in this section comes from the 303(d) list and has been completed by employees of the EPD Water Protection Branch.

| Waterbody Name | Location | Miles/Area Impacted | Use Classification | Partially Supporting/ Not Supporting (PS/NS) |
|-----------------------|--------------------------------|----------------------------|---------------------------------|---|
| Stekoa Creek | Clayton | 14 | Fishing | NS |
| Primary County | Secondary County | Second RDC | Source (Point/ Nonpoint) | |
| Rabun County | | | Nonpoint | |
| Pollutants | Water Quality Standards | Required Reduction | TMDL ID | Date TMDL Established |
| Fecal Coliform | Fecal Coliform | 76% | | 3/7/2000 |

POLLUTANT SOURCES

It is important to recognize the potential source(s) causing water quality impairment. Each source must be controlled to comply with target TMDL/Load Allocations for each pollutant. Included is a description of how the sources contribute to the impairment and the waterbody that is impaired.

List of major nonpoint source categories and sub-categories or individual sources (Urban Runoff, Agriculture, Forestry, Municipal Sewage Treatment Plant)

| Pollutant | Sources of Pollutants | Description of Contribution To Impairment |
|------------------|---|---|
| FCB | City sewer system | Leaking pipes, exposed pipes, illicit connections, bad connections to sewer system |
| | - Leaking pipes adjacent to perennial streams | - Sewage entering stream may be a primary contributor |
| | - Leaking pipes not adjacent to perennial streams | - Sewage indirectly entering streams may be a secondary contributor |
| | - Illicit connections | - Illicit (illegal) sewage directly entering streams may be a primary contributor |
| | - Bad connections to system | - Sewage entering streams due to bad connections may be a secondary contributor |
| FCB | Cattle farms | Cattle farms that produce waste |
| | - Farms adjacent to perennial stream | - Runoff directly into streams may be a primary contributor |
| | - Farms not adjacent to perennial stream | - Runoff directly into streams may be a secondary contributor |
| | - Farms with more than 25 heads | - Runoff associated with large population of cattle may be a primary contributor |
| | - Farms with less than 25 heads | - Runoff associated with small population of cattle may be a secondary contributor |
| FCB | Chicken farms | Poultry waste |
| | - Farms adjacent to perennial stream | - Runoff directly into streams may be a primary contributor |
| | - Farms not adjacent to perennial stream | - Runoff directly into streams may be a secondary contributor |
| | - Farms with more than 3 chicken houses | - Runoff associated with large population of chicken may be a primary contributor |
| | - Farms with less than 3 chicken houses | - Runoff associated with small population of chicken may be a secondary contributor |
| FCB | Background natural bacteria | Wildlife, natural bacteria |
| FCB | Failing septic tanks | Failing septic tanks discharge waste without treating it |

MANAGEMENT MEASURES, MEASURABLE MILESTONES AND SCHEDULE

(i.e. Local codes and ordinances, Erosion and Sedimentation Control, Storm Water Management, Local water resource monitoring)

The following table lists management measures that have been or will be implemented to achieve water quality standards and the load reductions established in the TMDL. The management measures, including regulatory or voluntary actions or other controls by governments or individuals, specifically apply to the pollutant and the waterbody for which the TMDL was written. A description is provided of how these management measures are/will be accomplished through reliable and effective delivery mechanisms, and how these management measures are/will help achieve the target TMDL. Included is the source of the pollutant, anticipated/past effectiveness of the management measure (very effective, somewhat effective, not effective), the current status (i.e. enforced, in-progress, planning), and measurable milestones and schedule. Milestones are used to measure progress in attaining water quality standards and to determine whether management measures are being implemented.

| Regulation/Ordinance or Management Measure | Responsible Government, Organization or Entity | Description | Enacted/ Projected Date | Status | Regulatory/ Voluntary |
|--|--|---|-------------------------|--------------------|-----------------------|
| Sewage Disposal Rules and Regulations | Rabun County Health Department | Septic tank permit has to be obtained from the county health department pursuant to the department's sewage disposal rules and regulations. A copy of such septic tank permit shall be furnished to the county building inspection department prior to the issuance of the building permit. | On-going | Currently enforced | Regulatory |

| Pollutant(s) Affected | Sources of Pollutant(s) | Anticipated or Past Effectiveness |
|---|-------------------------|-----------------------------------|
| Fecal Coliform Bacteria Phosphorus Nitrogen | Septic sewage | |

| Measurable Milestones | Schedule | | Comments |
|---|----------|----------|--|
| | Start | End | |
| Interview County Health Dept about septic tanks; | 01/01/03 | 03/01/03 | Health Dept probably has a rough list of tanks in the county, but they do not have them organized by the watershed, geographically, so a good analysis of the current septic tank population may be helpful. |
| Survey the watershed for failing septic tanks; | 03/02/03 | 03/01/04 | |
| List failing septic tanks in watershed; Update the failing tanks | 06/02/04 | 12/02/04 | |

| Regulation/Ordinance or Management Measure | Responsible Government, Organization or Entity | Description | Enacted/ Projected Date | Status | Regulatory/ Voluntary |
|--|--|---|-------------------------|--------------------|-----------------------|
| NPDES Municipal Wastewater Program | GA DNR, City of Clayton | Clayton's sewer system has to be in compliance with EPD so that their NPDES permit remains active | On-going | Currently enforced | Reg |

| Pollutant(s) Affected | Sources of Pollutant(s) | Anticipated or Past Effectiveness |
|-----------------------|-------------------------|-----------------------------------|
| FCB | Wastewater system pipes | |

| Measurable Milestones | Schedule | | Comments |
|-----------------------|----------|----------|--|
| | Start | End | |
| EPDs consent order | 06/15/02 | 05/15/03 | Many items will be addressed per EPD's consent order (call GA EPD at) |

| Regulation/Ordinance or Management Measure | Responsible Government, Organization or Entity | Description | Enacted/ Projected Date | Status | Regulatory/ Voluntary |
|---|--|--|-------------------------|--------|-----------------------|
| Comprehensive Nutrient Management Planning | GA DNR, Ga Dept of Agriculture | BMPs planning documentation and loading allocation for chicken waste | | | |

| Pollutant(s) Affected | Sources of Pollutant(s) | Anticipated or Past Effectiveness |
|-----------------------|-------------------------|-----------------------------------|
| FCB | Poultry waste | |

| Measurable Milestones | Schedule | | Comments |
|--|----------|-----|----------|
| | Start | End | |
| Not regulatory, but has been strongly suggested Regulatory only for larger farms or wet waste | 12/15/02 | | On-going |

POTENTIAL FUNDING SOURCES

The identification and discussion of dedicated funding is important in determining the economic feasibility of the above-mentioned management measures.

| Funding Source | Responsible Authority | Status | Anticipated Funding Amount |
|--|--|--|-----------------------------------|
| Section 319 Nonpoint Source Pollution | US EPA, GA DNR | On going | \$116,801 |
| PL-566 (Watershed Plan Environ Assessment) | USDA | After 319 program | \$500,000 |
| GEFA | GEFA | Proposed | \$930,000 |
| State Wetlands Grant Program | US EPA | Could be used for riparian | \$250,000 |
| Mitigation Banking Credits | US ACE (Army Corps of Engineers) | Could be started by the Stekoa Creek Group | \$10,000 – \$100,000 |
| State Revolving Loan Fund | Georgia Environmental Facilities Authority | Could be used to update stormwater systems | \$100,000s |
| NRCS Restoration Programs | USDA NRCS | Proposed as a pollution credit trade | \$50,000 – \$100,000 |

MONITORING PLAN

The purpose of this monitoring plan is to determine the effectiveness of the target TMDL and the management measures being implemented to meet water quality standards. List of previous, current or planned/proposed sampling activities or other surveys. (Monitoring data that placed stream on 303(d) list will be provided if requested.)

| Name Of Regulation / Ordinance Or Management Measure | Organization | Pollutants | Purpose/Description | Time Frame | | Status (Previous, Current, Proposed) |
|---|-------------------------|-------------------|---|-------------------|------------|---|
| | | | | Start | End | |
| Forest Water Quality Program | GFC | Biota | BMP Education | | | Current |
| | GFC | | Complaint Investigation | | | Current |
| | GFC | | BMP Monitoring monthly Assurance Exams | | | Proposed |
| NPDES Monitoring Program | GA DNR, City of Clayton | FCB | Monitoring wastewater system | | | Current |
| GA Water Quality Reports (305) | GA DNR | FCB | 305 reports to the US Congress on state's water quality | 01/01/02 | 12/31/02 | Current |
| EPA's TMDL Monitoring Program | US EPA | FCB | Used to develop TMDL (Van Lear report) | | | Previous |

CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEING MADE

The following set of criteria will be used to determine whether any substantial progress is being made towards reducing pollutants in impaired waterbodies and attaining water quality standards. Discussion on each criteria is recorded in the space provided. Additional relevant criteria are presented in comments.

Percent of concentration or load change (monitoring program) _____

If monitoring results show that it is unlikely that the TMDL will be adequate to meet water quality standards, revision of the TMDL may be necessary.

- Categorical change in classification of the stream (delisting the stream is the goal) _____

- Regulatory controls or activities installed (ordinances, laws) _____

- Best management practices installed (agricultural, forestry, urban) _____

COMMENTS

Stekoa Creek Watershed-FCB
HUC 03060102

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**Environmental Protection Division of the Department of Natural Resources,
State of Georgia.**

TOGETHER WE CAN MAKE A DIFFERENCE!