

**STATE OF GEORGIA
TMDL IMPLEMENTATION PLAN
FOR BRASSTOWN CREEK, CORN CREEK AND YEWELL
TOWNS COUNTY/YOUNG HARRIS, GEORGIA**

Background

Brasstown Creek, Corn Creek and Yewell Branch have a beneficial water use classification of fishing and are currently listed as impaired water bodies. The degree of impairment is classified as not supporting use, and the TMDL for Brasstown Creek, Corn Creek and Yewell Branch is set at a target level of 150 cfu/100 ml of water, a level that will allow the water body to achieve water quality standards necessary for the beneficial use classification of fishing.

A Total Maximum Daily Load (TMDL) is a calculation of the maximum amount of a pollutant, from both point and non-point sources, that a waterbody can receive and still meet water quality standards. The Clean Water Act, section 303, establishes the water quality standards and the TMDL programs. TMDLs are simply the implementation of rules included in Section 303(d) of the Clean Water Act of 1972. The resulting inventory of impaired streams and water bodies – called the 303(d) list – provides a basis for decisions related to restoring water quality. Although some TMDLs are aimed at managing all sources of pollution which affect beneficial uses of water, the focus of the implementation plan discussed here relates primarily to nonpoint water sources including contamination from diffuse sources such as agricultural and urban runoff.

Methods of measuring pathogens directly are costly and time-consuming. In most cases, indicator organisms are used instead of analyzing the pathogens themselves. These indicator organisms are bacteria that also occur in human and animal waste, but generally are not pathogens themselves. In contrast to pathogens, the coliforms are easy to collect and count, and often provide at least an indication of whether or not fecal matter has entered the water body. The downside of using indicator organisms like coliforms is that coliform tests are generally nonspecific; they do not distinguish between human and other animal coliform. However, at present, this is our best source of indication. Loads are expressed in terms of colonies per 100 ml of water.

The purpose of this plan is to reduce or eliminate the pollutants contained in the runoff or leachate into the three streams.

Existing TMDL and Monitoring Data

Two sources of data are currently available to assist in determining the existing levels of fecal coliform present in the river. The sources include the TMDL monitoring data from 1993 and effluent sample data from the Young Harris WPCP taken in 1992 and 1993

The first source of data is the TMDL document. The levels indicated in the TMDL document are based on a model run for 1987 and 1988 critical time periods using the “calibrated” fecal and flow parameters. The representative critical summer time period used was May through October 1987 and the representative critical winter time period was November 1987 through April 1988. This model run resulted in a summer fecal coliform 30 day geometric mean of 354 cfu/100 ml for Brasstown Creek, 355 cfu/100 ml for Corn Creek and 216 cfu/100 ml for Yewell Branch. This ranges from 66 cfu/100 ml to 204 cfu/100 ml above the target level of 150 cfu/100 ml.

The second set of data come from the Young Harris WPCP where five samples were taken between October 1992 and June 1993. Fecal coliform concentrations ranged from 790 mpn/100ml to 35,000 mpn/100ml with a geometric mean of approximately 8,000 mpn/100ml.

Other monitoring data that may be helpful could probably come from the Hiawassee River Watershed Coalition, the TVA Watershed Group, and from the Tennessee Valley Authority (TVA). The HRWC and the Watershed Group are local citizens organizations that are involved in baseline biological sampling activities. TVA has been performing biological and chemical sampling throughout the Tennessee River basin for decades.

Land Use

The Brasstown Creek drainage basin is approximately 23,077 acres of mixed land use development. The majority of the watershed is considered to be rural made up of forest and agricultural lands. The only urban area is around the City of Young Harris, which is slightly more than 360 acres.

Possible causes of increased levels of fecal coliform into the creeks include: human waste from sewage leaks or septic tank leaks, development activities, logging activities, domestic animals, urban wildlife, livestock, or rural wildlife. Monitoring and analysis of data collected as a part of the implementation plan will be necessary to determine the actual source of the fecal coliform bacteria.

Existing Regulatory or Voluntary Actions

One of the pollutant control tools that exists in Towns County and in the City of Young Harris is the Erosion Control and Sedimentation Ordinance. Both of these local governments adopted the State of Georgia model ordinance that established stream protection measures for certain construction sites. The City of Young Harris administers a tree protection ordinance and a zoning ordinance. Young Harris also has a water and sewer ordinance that requires the use of public sewer within its jurisdiction, prohibits illicit discharges and requires industry to pre-treat waste loads. The city has implemented a smoke detection program to discover leaks in the sewage collection system. Both local governments have floodplain ordinances and mountain protection ordinances. The floodplain ordinance prohibits development activity within the floodplain. The mountain protection ordinance protects land above 2,200 feet elevation by limiting lot sizes and density of land uses. Also included in this ordinance is that no more that fifty percent of a lot can be cleared or timbered. Towns County administers the subdivision regulations for both local governments as well.

The Towns County Health Department, through rules and regulations established the Georgia Department of Human Resources administers the review and placement of septic systems for residential, commercial and industrial land uses.

Georgia is in the process of implementing a watershed approach to water resource management through Tennessee River Basin Management Planning. River basin planning is the foundation for implementation of water protection strategies in Georgia. This approach provides the framework and schedule for actions to address the waters on the Georgia 303(d) list. The basin planning program is based on legislation in 1992 (O.C.G.A. 12-5-520) by the Georgia Assembly, which calls for EPD to develop river basin management plans for each of the major river basins in Georgia. The Tennessee River Basin Management Plan is scheduled to be completed in 2002.

Other activities taking place in the watershed involves stream bank protection through the Chestatee-Chattahoochee Resource, Conservation and Development Council, and with the USDA Natural Resource Conservation Service. Georgia Mountains Regional Development Center (GMRDC) has developed a regional plan for its 13 county region. Within the plan is a work program that addresses water resource and water quality issues.

Recommended Regulatory or Voluntary Actions

A wetlands environmental protection ordinance is scheduled for implementation in both Towns County and Young Harris by July of 2002. The Wetlands Protection Ordinance protects wetlands alterations that will significantly affect or reduce their primary functions for water quality control, floodplain and erosion control, groundwater recharge, aesthetic nature, and wildlife habitat. This protection is achieved through land use controls on lands surrounding wetlands. The floodplain control measures contained in the ordinance also serve to indirectly control fecal coliform bacteria levels because of the direct correlation between fecal coliform bacteria levels and flow rates. Less unnatural flooding and water diversion means lower flow rates, and therefore, lower fecal coliform levels.

Implementation of measures to address the TMDL involves the cooperation of all landowners and land users in the watershed; therefore, broad awareness and involvement are very important to the success of the implementation plan. Through careful land use planning and the use of improved management practices, impacts of erosion and stormwater runoff can be minimized. Stormwater runoff can be improved through methods like erosion control and the establishment of green spaces, park lands, and stream buffers. For effective TMDL compliance, all landowners and land users in the drainage basin must be educated about water quality and the steps necessary to minimize the impacts of stormwater runoff.

The Towns County Health Department should conduct a septic tank survey to identify those locations with septic tanks maintenance problems. Once the location of the septic tanks are determined, and if they are within or in close proximity to a municipal waste treatment system, a "Septic to Sewer" incentive program should be implemented to encourage conversion from the use of a septic tank to the use of the city sewer systems. An educational program teaching citizens about the importance of septic tank repair and maintenance could help reduce leaks from septic tanks.

The development of a program and system to treat stormwater runoff before it enters any streams should be adopted by the county and city. This treatment may be in the form of physical structures like ponds or devices installed in the storm water traps to facilitate the fallout of pollution before it enters into the creeks. The use of any chemicals that may be harmful to wildlife in the area should be avoided.

The City of Young Harris Sewer Department should improve its plan to develop proactive measures to ensure that leaks and spills from the sanitary sewer system are prevented.

The City and County should work together to perform a Watershed Assessment. This activity is now permit driven by Georgia DNR, EPD. The assessment would include a study and effort to promote water quality and biological data, pollutant runoff and loading estimates, water quality modeling and watershed management strategies.

Towns County should work with the State of Georgia Department of Agriculture through the county extension service and with the USDA Natural Resource Conservation Service to develop an education program as well as a demonstration and cost share program for agricultural uses.

Schedule for Implementing Management Measures

In order to establish an effective TMDL implementation plan, an implementation schedule must be carefully adhered to. A stakeholder group for the Brasstown Creek drainage basin should be established. This group will be instrumental in the identification of potential sources of fecal coliform in the area and in the development of potential measures to reduce or eliminate the excessive levels of fecal coliform present in the creek. A stakeholder group of land owners, business owners, government officials, elected officials, and environmental activists has been formed to help identify the problem and to help implement identified solutions. The list of Stakeholders is attached in Attachment A.

During the first year, this group of stakeholders must actively work together to continue to identify remedial measures and potential funding sources necessary to implement these remedial measures. Initial management controls and best management practices must be established and initial implementation must begin in the first year. Educational programs in the schools and throughout the community must be implemented as soon as possible during the first year of the plan. Monitoring and status reports of any improvement or worsening of the fecal coliform levels must be implemented within the first year. Any illicit discharges must be detected and eliminated as soon as possible.

By the second year of the implementation plan, data from the summer season and winter season will be available and preliminary sources of the fecal coliform should be identified and analyzed. Management programs, best management practices, monitoring and evaluation of data, and periodic status reports must continue throughout the five-year implementation plan. If the fecal coliform levels remain above the targeted level of 150cfu/100ml during the fifth year of the plan, the process to develop a more stringent Phase II plan should begin during year five. This second phase should include the watershed assessment. The projected attainment date is ten years from the acceptance of this implementation plan by EPA.

Monitoring Plan

Water quality monitoring is a critical component in determining the success of the implementation plan. Monitoring helps determine compliance with regulations, major sources of loadings, and the effect of the regulatory and voluntary measures implemented in the drainage basin. No two watersheds are alike. Therefore, the monitoring of the particular watershed, rather than relying on computer model data, is critical to determine the fecal coliform levels actually present in the impaired water body.

Levels of fecal coliform in these streams will be monitored by standard periodic grab sampling to calculate an instream 30 day geometric mean fecal coliform. Sampling should be scheduled, at a minimum, biannually. Samples should be obtained during the summer season (May through October) and during the winter season (November through April) to provide a complete inventory of the conditions in the creek basin. In addition, sampling should represent periods of dry weather and post-rainfall monitoring. Levels of fecal coliform have been recorded at higher levels directly after rainfall, so this monitoring is key in identification of sources of fecal coliform bacteria. If a source of the fecal coliform bacteria has not been determined after periodic monitoring, the smaller tributaries to river should be monitored to help identify the source.

Funding

There are currently several funding sources available for the county to engage in a stable monitoring schedule. Grant funding from Section 319(h) of the Clean Water Act, Nonpoint Source Implementation Grants, may be used for the installation of best management practices (BMPs) for animal waste and landowner education programs. Capitalization Grants for Clean Water State Revolving Funds is a potential source of funding used to aid in urban runoff control, stormwater overflows, riparian buffers, and other water protection activities. Watershed Assistance Grants are also available through the EPA to aid in the development of partnerships to address water quality issues. Other matching grants may be available through the Environmental Protection Agency's Office of Water for both non-point source mitigation and water quality testing.

There has been some discussion about the possibility of the Department of Natural Resources, Environmental Protection Division contributing to the cost of monitoring these impaired water bodies. Further research into possible funding sources should be continually conducted over the five-year implementation period.

Criteria to Determine Progress

Progress on the implementation plan will be determined through analysis of water quality sampling results. Periodic monitoring will show the trends of fecal coliform levels throughout the five-year period. The number of regulatory controls or best management practices implemented in the Brasstown Creek drainage basin will also serve as a measure of progress. The implementation plan will be ultimately deemed successful if, at the end of the five-year implementation period, the fecal coliform levels in streams are below the 150 cfu/100 ml recommended in the TMDL document and the stream is removed from the 303(d) list.

Conclusion

The establishment of an effective TMDL implementation plan is essential to the environmental and economic health of Towns County and the City of Young Harris. In order for areas to continue to grow, any drainage basin that has been determined to have excessive levels of fecal coliform must establish a TMDL implementation plan and make a good faith effort to meet the requirements set forth in the plan. As stated in the Clean Water Act, if the implementation plan is not efficiently executed, the county and cities could face difficulties in such development as expansion of wastewater treatment facilities and certain industries that could contribute to increased levels of fecal coliform.

The implementation of regulatory and voluntary management measures, coupled with the regular monitoring of the streams, should reduce the levels of fecal coliform bacteria present in the water bodies. The plan has a five-year horizon for the restoration of acceptable levels of bacteria. If the fecal coliform levels in the streams are not at an acceptable level by the end of the fourth year of the plan, a second phase of the implementation plan will be developed.

STATE OF GEORGIA

TMDL IMPLEMENTATION PLAN: Brasstown Creek, Little Bald cove to Yewell Branch (STREAM) Fecal coliform (PARAMETER) BASIN: Tennessee PLAN DATE: 3-5-01

Prepared by: <u>Larry Sparks</u>		Or Updated By: Tiffannie Chee Hill P.O. Box 1720 Gainesville, GA 30503 Zip: 30503 e-mail: thill@gmrdc.org Date Submitted to EPD: 10-22-03					
<u>Georgia Mountains</u> Regional Development Center Address: <u>P. O. Box 1720</u> City: <u>Gainesville</u> State: <u>GA</u> Zip: <u>30503</u> e-mail: <u>lsparks@gmrdc.org</u> Date Submitted to EPD: <u>3-30-01</u>		Significant Stakeholders Identify local governments, agricultural organizations or significant land holders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups with a major interest in this water body.					
General Information		Significant Stakeholders					
Obtain this information from the TMDL document or other information. When completed, this document will be a self-contained report independent of the TMDL document.		Identify local governments, agricultural organizations or significant land holders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups with a major interest in this water body.					
TMDL ID (to be entered by EPD)		Name/Organization	See Attachment A				
Water body name	Brasstown Creek, Little Bald Cove to Yewel Branch	Address					
HUC basin name	Tennessee River	City		State		Zip	
HUC number	060200020401	Phone				e-mail	
Primary county	Towns	Name/Organization					
Secondary county	Union	Address					
Primary RDC	Georgia Mountains	City		State		Zip	
Secondary RDC		Phone				e-mail	
Water body location	Towns County, Georgia	Name/Organization					
		Address					
Miles or area impacted	4	City		State		Zip	
Parameter addressed in plan	Fecal coliform	Phone				e-mail	
Water use classification	Fishing	Name/Organization					
Degree of impairment	Partially supporting use <input checked="" type="checkbox"/>	Address					
	Not supporting use <input type="checkbox"/>	City		State		Zip	
Date TMDL approved by EPA	FEB 1998	Phone				e-mail	
Impairment due to	Point sources <input type="checkbox"/>	Name/Organization					
	Nonpoint sources <input checked="" type="checkbox"/>	Address					
	Both <input type="checkbox"/>	City		State		Zip	

FORM B

SUMMARY OF ALLOCATION MODEL RESULTS FROM TMDL DOCUMENT (existing load, target TMDL, and needed reduction)

EXISTING LOAD	TARGET TMDL	NEEDED REDUCTION
354 cfu/100 ml	150 cfu/100 ml	204 cfu/100 ml

I. IDENTIFY **NONPOINT SOURCE** CATEGORIES AND SUBCATEGORIES OR INDIVIDUAL SOURCES WHICH MUST BE CONTROLLED TO IMPLEMENT LOAD ALLOCATIONS:

List major nonpoint sources contributing to impairment including those identified in TMDL document.

SOURCE	DESCRIPTION OF CONTRIBUTION TO IMPAIRMENT	RECOMMENDED LOAD REDUCTION (FROM TMDL)
Base flow	General logging activities and background wildlife	70% reduction in base flow from urban impervious land uses.
Urban runoff	Intense urban land uses with impervious surfaces; illicit discharges; leaking sanitary sewer lines; failing septic systems; wildlife	10% reduction in loading from urban impervious land uses.
	Gravel parking areas, gravel roads, cleared road right-of-ways, recreation fields	10 % reduction in Loading from urban pervious land uses.
Agriculture	Diffuse runoff of animal waste associated with erosion; runoff from concentrated animal operations; spreading of animal waste or municipal sludge on fields; failing septic systems	0% reduction in loading from agriculture or pasture land uses.

II. DESCRIBE ANY REGULATORY OR VOLUNTARY ACTIONS INCLUDING MANAGEMENT MEASURES OR OTHER CONTROLS BY GOVERNMENTS OR INDIVIDUALS THAT SPECIFICALLY APPLY TO THE POLLUTANT AND THE WATERBODY FOR WHICH THE TMDL WAS WRITTEN, THAT WILL BE ACCOMPLISHED THROUGH RELIABLE AND EFFECTIVE DELIVERY MECHANISMS, AND THAT WILL HELP ACHIEVE THE LOAD ALLOCATIONS IN THE TMDL:

See the attachment for more instructions.

Existing or required regulatory actions

RESPONSIBLE GOVERNMENT, ORGANIZATION OR ENTITY	NAME OF REGULATION/ORDINANCE	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Towns County, City of Young Harris	Erosion & Sediment Control Ordinance	Establishes stream protection measures for construction sites.	1990	Currently enforced
City of Young Harris	Tree Ordinance	Tree preservation, replacement and location standards and review	1997	Currently enforced
City of Young Harris	Zoning Ordinance	Designates land uses, density and building requirements within the city.	1991	Currently enforced
City of Young Harris	Water & Sewer Ordinance	Use of public sewer required; industry must pre-treat waste load prior to system entry; prohibits illicit discharges.	1986	Currently enforced
Towns County	Subdivision Regulations	Established procedures for subdivision of land and development of roads.	1984	Currently enforced
City of Young Harris, Towns County	Floodplain Ordinance	Permit review and prevention of development within floodplains	1988, 1992	Currently enforced
Town County, City of Young Harris	Mountain Protection Ordinance	Development standards for all sites above 2,200 feet elevation. Minimum lot sizes and limits to clearing.	1998	Currently enforced
Georgia DNR,EPD	Tennessee River Basin Management Plan	Plan/program to protect, enhance and restore the waters of the Chattahoochee River Basin.	2001	To be completed 2002
Georgia DHR, Towns County Health Department	Septic Tank Regulation	Permit review for placement of septic systems for residential and commercial uses.		Currently enforced

Existing voluntary actions

RESPONSIBLE ORGANIZATION OR ENTITY	NAME OF ACTION	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Chestatee-Chattahoochee Resource, Conservation and Development Council	Stream Bank Protection	Section 319(h) grant funding demonstration stream bank protection project in the Brasstown Creek Watershed	2000	Ongoing
Natural Resource and Conservation Service (Blairsville field office)	Stream Bank Protection	NRCS and WHIP funding to assist local farmers for various BMPs including fencing control of livestock	1999	Ongoing
City of Young Harris	Sewage System Monitoring Activity	City program using smoke detection to discover leaks in the sewage collection system lines.	1999 to present	Ongoing
Hiwassee River Watershed Coalition	Brasstown Creek Watershed Restoration through Ag BMP Demonstration	Section 319(h) FY 00 grant funding demonstration stream bank protection project on Brasstown Creek (inside Georgia and outside Georgia)	March, 2002 - June, 2007	Ongoing

Additional recommended regulatory or other measures which should be implemented to reduce the loads of the TMDL parameter

ENTITY/ORGANIZATION RESPONSIBLE	NAME OF PROPOSED REGULATION/ORDINANCE/ OTHER	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Towns County, City of Young Harris	Storm Water Ordinance	Adoption of Storm Water manual to include water quality improvements.	TBA	TBA
County, City	Wetland Protection Ordinance	Establishes protections measures for wetlands.	TBA	TBA
County, City	Subdivision Regulations	Amend existing subdivision requirements for roads, curbs/ gutter to allow reductions in impervious area, reduce amounts of road right-of-way..	TBA	TBA
County, City	Erosion & Sedimentation Control Ordinance	Erosion and sedimentation control for all sites of land disturbance and construction. Improve manual.	TBA	TBA

Towns County, City Young Harris, City of Hiawassee	Watershed Assessment Management and Implementation Plan	A study and effort to promote water quality and biological data, pollutant runoff and loading estimates, water quality modeling and watershed management strategies.	TBA	TBA
Towns County		Develop agricultural education/demonstration program	TBA	TBA
Towns County		Develop agricultural cost/share program.	TBA	TBA
Towns County	Septic Tank Survey and Education	Develop and use survey to educate homeowners on septic system maintenance.	TBA	TBA
City of Young Harris	Sanitary Sewer Maintenance/Upgrades	Development of proactive measures and plans to prevent leaks and spills from the sanitary sewer system.	TBA	TBA
County, City	Public Outreach Program	Implement an effective public education/outreach program to promote water quality awareness	TBA	TBA

III. SCHEDULE FOR IMPLEMENTING MANAGEMENT MEASURES OR OTHER CONTROL ACTIONS:

These must be implemented as expeditiously as practicable within five years of when the implementation plan is accepted by EPA.

IMPLEMENTATION ACTION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Form stakeholders group	X				
Organize implementation work with stakeholders and local officials to identify remedial measures and potential funding sources	X	X			
Identify sources of TMDL parameter		X	X		
Develop management programs to control runoff including identification and implementation of BMPs (Phase I):					
Agriculture	X	X	X	X	X
Forestry					
Urban	X	X	X	X	X
Mining					
Organize and implement education and outreach programs	X	X	X		
Detect and eliminate illicit discharges		X	X	X	X
Evaluate additional management controls needed			X	X	X
Monitor and evaluate results			X	X	X
Reassess TMDL allocations				X	X
Provide periodic status reports on implementation of remedial activities	X	X	X	X	X
If needed, begin process for Phase II (next 5 years) and subsequent phases					X

IV. PROJECTED ATTAINMENT DATE AND BASIS FOR THAT PROJECTION:

The projected attainment date is 10 years from acceptance of the implementation plan by EPA.

V. MEASURABLE MILESTONES:

- Number of management controls and activities already implemented ___ 13 ___
- Number of management controls and activities proposed in five-year work program ___ 10 ___
- Number of management controls and activities actually implemented in five-year work period _____ (to be completed after 5 years)
- Stream sampled to identify areas of concern **See Mickey Cummings**
- Other _____ _____
- Other _____ _____

VI. MONITORING PLAN:

Monitoring data that placed stream on 303(d) list will be provided if requested.

Describe previous or current sampling activities or other surveys to detect sources or to measure effectiveness of management measures or other controls.

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
Hiawasse River Watershed Coalition (Town County)	2001	Lake assessment study for Lake Chatuge and Lake Nottley (Towns and Union Counties) looking at lake uses and water quality.	Lake Assessment Study	Funded, has not begun
TVA Watershed Group	1995 to present	Local citizen organization performing baseline biological	Sampling Activities	Ongoing

		sampling on Brasstown Creek and other streams in the Tennessee River Basin.		
Tennessee Valley Authority (TVA)	Several decades to present	Biological and chemical sampling program throughout the Tennessee River Basin including Brasstown Creek Watershed.	Stream Monitoring Program	Ongoing
City of Young Harris	1997 to present	Stream monitoring as part of discharge permit into Brasstown Creek.	Monitoring Activities	Ongoing
UGA Agricultural Extension Service -- Mickey Cummings	Monitoring Activities	Biological and chemical sampling to determine if FCB is background/wildlife or human.	8/20/02 to present	Ongoing

Describe any planned or proposed sampling activities or other surveys. (Scheduled EPD sampling can be found in the Basin Planning document.)

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
EPD	2006		basin planning	planned
Watershed Assessment for Towns County, The City of Young Harris and the City of Hiwassee	TBA	Fecal, TSS, DO, metals, biota, nutrients macroinvertebrates, fish, etc.	TMDL Implementation, Surface withdrawal permit	
City of Young Harris	TBA	Fecal coliform	Part of maintenance and prevention plan for water and sewer.	

VII. CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEING MADE:

- % concentration or load change (monitoring program)
- 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)

AG --- HRWC and the NRCS Field Office in Blairsville have been working hard to install as many Ag BMPs and restore as many miles of impaired stream segments as possible. See list of voluntary actions.

FORESTRY -- N/A

URBAN -- NONE

STATE OF GEORGIA

TMDL IMPLEMENTATION PLAN: Brasstown Creek, Yewell Branch to Stateline (STREAM) Fecal coliform (PARAMETER) BASIN: Tennessee PLAN DATE: 3-5-01

Prepared by: <u>Larry Sparks</u>		Or Updated By: Tiffannie Chee Hill P.O. Box 1720 Gainesville, GA 30503 Zip: <u>30503</u> e-mail: <u>thill@gmrdc.org</u> Date Submitted to EPD: <u>10-22-03</u>					
<u>Georgia Mountains</u> Regional Development Center Address: <u>P. O. Box 1720</u> City: <u>Gainesville</u> State: <u>GA</u> Zip: <u>30503</u> e-mail: <u>lsparks@gmrdc.org</u> Date Submitted to EPD: <u>3-30-01</u>		Significant Stakeholders Identify local governments, agricultural organizations or significant land holders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups with a major interest in this water body.					
General Information		Significant Stakeholders					
Obtain this information from the TMDL document or other information. When completed, this document will be a self-contained report independent of the TMDL document.		Identify local governments, agricultural organizations or significant land holders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups with a major interest in this water body.					
TMDL ID (to be entered by EPD)		Name/Organization	See Attachment A				
Water body name	Brasstown Creek, Yewell Branch to Stateline	Address					
HUC basin name	Tennessee River	City		State		Zip	
HUC number	060200020401 060200020402	Phone			e-mail		
Primary county	Towns	Name/Organization					
Secondary county	Union	Address					
Primary RDC	Georgia Mountains	City		State		Zip	
Secondary RDC		Phone			e-mail		
Water body location	Towns County, Georgia	Name/Organization					
		Address					
Miles or area impacted	7	City		State		Zip	
Parameter addressed in plan	Fecal coliform	Phone			e-mail		
Water use classification	Fishing	Name/Organization					
Degree of impairment	Partially supporting use <input checked="" type="checkbox"/>	Address					
	Not supporting use <input type="checkbox"/>	City		State		Zip	
Date TMDL approved by EPA	FEB 1998	Phone			e-mail		
Impairment due to	Point sources	Name/Organization					
	Nonpoint sources <input checked="" type="checkbox"/>	Address					
	Both <input type="checkbox"/>	City		State		Zip	

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Towns County	Subdivision Regulations	Established procedures for subdivision of land and development of roads.	1984	Currently enforced
City of Young Harris, Towns County	Floodplain Ordinance	Permit review and prevention of development within floodplains	1988, 1992	Currently enforced
Town County, City of Young Harris	Mountain Protection Ordinance	Development standards for all sites above 2,200 feet elevation. Minimum lot sizes and limits to clearing.	1998	Currently enforced
Georgia DNR,EPD	Tennessee River Basin Management Plan	Plan/program to protect, enhance and restore the waters of the Chattahoochee River Basin.	2001	To be completed 2002
Georgia DHR, Towns County Health Department	Septic Tank Regulation	Permit review for placement of septic systems for residential and commercial uses.		Currently enforced

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Natural Resource and Conservation Service (Blairsville field office)	Stream Bank Protection	NRCS and WHIP funding to assist local farmers for various BMPs including fencing control of livestock	1999	Ongoing
City of Young Harris	Sewage System Monitoring Activity	City program using smoke detection to discover leaks in the sewage collection system lines.	1999 to present	Ongoing
Hiwassee River Watershed Coalition	Brasstown Creek Watershed Restoration through Ag BMP Demonstration	Section 319(h) FY 00 grant funding demonstration stream bank protection project on Brasstown Creek (inside Georgia and outside Georgia)	March, 2002 - June, 2007	Ongoing

Additional recommended regulatory or other measures which should be implemented to reduce the loads of the TMDL parameter

ENTITY/ORGANIZATION RESPONSIBLE	NAME OF PROPOSED REGULATION/ORDINANCE/ OTHER	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Towns County, City of Young Harris	Storm Water Ordinance	Adoption of Storm Water manual to include water quality improvements.	TBA	TBA
County, City	Wetland Protection Ordinance	Establishes protections measures for wetlands.	TBA	TBA
County, City	Subdivision Regulations	Amend existing subdivision requirements for roads, curbs/ gutter to allow reductions in impervious area, reduce amounts of road right-of-way..	TBA	TBA
County, City	Erosion & Sedimentation Control Ordinance	Erosion and sedimentation control for all sites of land disturbance and construction. Improve manual.	TBA	TBA

Towns County, City Young Harris, City of Hiawassee	Watershed Assessment Management and Implementation Plan	A study and effort to promote water quality and biological data, pollutant runoff and loading estimates, water quality modeling and watershed management strategies.	TBA	TBA
Towns County		Develop agricultural education/demonstration program	TBA	TBA
Towns County		Develop agricultural cost/share program.	TBA	TBA
Towns County	Septic Tank Survey and Education	Develop and use survey to educate homeowners on septic system maintenance.	TBA	TBA
City of Young Harris	Sanitary Sewer Maintenance/Upgrades	Development of proactive measures and plans to prevent leaks and spills from the sanitary sewer system.	TBA	TBA
County, City	Public Outreach Program	Implement an effective public education/outreach program to promote water quality awareness	TBA	TBA

III. SCHEDULE FOR IMPLEMENTING MANAGEMENT MEASURES OR OTHER CONTROL ACTIONS:

These must be implemented as expeditiously as practicable within five years of when the implementation plan is accepted by EPA.

IMPLEMENTATION ACTION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Form stakeholders group	X				
Organize implementation work with stakeholders and local officials to identify remedial measures and potential funding sources	X	X			
Identify sources of TMDL parameter		X	X		
Develop management programs to control runoff including identification and implementation of BMPs (Phase I):					
Agriculture	X	X	X	X	X
Forestry					
Urban	X	X	X	X	X
Mining					
Organize and implement education and outreach programs	X	X	X		
Detect and eliminate illicit discharges		X	X	X	X
Evaluate additional management controls needed			X	X	X
Monitor and evaluate results			X	X	X
Reassess TMDL allocations				X	X
Provide periodic status reports on implementation of remedial activities	X	X	X	X	X
If needed, begin process for Phase II (next 5 years) and subsequent phases					X

IV. PROJECTED ATTAINMENT DATE AND BASIS FOR THAT PROJECTION:

The projected attainment date is 10 years from acceptance of the implementation plan by EPA.

V. MEASURABLE MILESTONES:

- Number of management controls and activities already implemented ___ 13 ___
- Number of management controls and activities proposed in five-year work program ___ 10 ___
- Number of management controls and activities actually implemented in five-year work period _____ (to be completed after 5 years)
- Stream sampled to identify areas of concern See monitoring plan
- Other _____ _____
- Other _____ _____

VI. MONITORING PLAN:

Monitoring data that placed stream on 303(d) list will be provided if requested.

Describe previous or current sampling activities or other surveys to detect sources or to measure effectiveness of management measures or other controls.

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
Hiawassee River Watershed Coalition (Town County)	2001	Lake assessment study for Lake Chatuge and Lake Nottley (Towns and Union Counties) looking at lake uses and water quality.	Lake Assessment Study	Funded, has not begun
TVA Watershed Group	1995 to present	Local citizen organization performing	Sampling Activities	Ongoing

		baseline biological sampling on Brasstown Creek and other streams in the Tennessee River Basin.		
Tennessee Valley Authority (TVA)	Several decades to present	Biological and chemical sampling program throughout the Tennessee River Basin including Brasstown Creek Watershed.	Stream Monitoring Program	Ongoing
City of Young Harris	1997 to present	Stream monitoring as part of discharge permit into Brasstown Creek.	Monitoring Activities	Ongoing

Describe any planned or proposed sampling activities or other surveys. (Scheduled EPD sampling can be found in the Basin Planning document.)

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
EPD	2006		basin planning	planned
Watershed Assessment for Towns County, The City of Young Harris and the City of Hiawassee	TBA	Fecal, TSS, DO, metals, biota, nutrients macro invertebrates , fish, etc.	TMDL Implementation, Surface withdrawal permit	
City of Young Harris	TBA	Fecal coliform	Part of maintenance and prevention plan for water and sewer.	

VII. CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEING MADE:

- % concentration or load change (monitoring program)
- 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)

AG --- HRWC and the NRCS Field Office in Blairsville have been working hard to install as many Ag BMPs and restore as many miles of impaired stream segments as possible. See list of voluntary actions.

FORESTRY -- N/A

URBAN -- NONE

STATE OF GEORGIA

TMDL IMPLEMENTATION PLAN: Corn Creek
(STREAM)

Fecal coliform BASIN: Tennessee
(PARAMETER) PLAN DATE: 3-5-01

Prepared by: <u>Larry Sparks</u>		Or Updated By: Tiffannie Chee Hill P.O. Box 1720 Gainesville, GA 30503 Zip: 30503 e-mail: thill@gmrdc.org Date Submitted to EPD: 10-22-03					
<u>Georgia Mountains</u> Regional Development Center Address: <u>P. O. Box 1720</u> City: <u>Gainesville</u> State: <u>GA</u> Zip: <u>30503</u> e-mail: <u>lsparks@gmrdc.org</u> Date Submitted to EPD: <u>3-30-01</u>		General Information Obtain this information from the TMDL document or other information. When completed, this document will be a self-contained report independent of the TMDL document.					
TMDL ID (to be entered by EPD)		Name/Organization See Attachment A					
Water body name	Corn Creek	Address					
HUC basin name	Tennessee River	City	State		Zip		
HUC number	060200020401	Phone			e-mail		
Primary county	Towns	Name/Organization					
Secondary county		Address					
Primary RDC	Georgia Mountains	City	State		Zip		
Secondary RDC		Phone			e-mail		
Water body location	Towns County, Georgia	Name/Organization					
		Address					
Miles or area impacted	2	City	State		Zip		
Parameter addressed in plan	Fecal coliform	Phone			e-mail		
Water use classification	Fishing	Name/Organization					
Degree of impairment	Partially supporting use <input checked="" type="checkbox"/>	Address					
	Not supporting use <input type="checkbox"/>	City	State		Zip		
Date TMDL approved by EPA	FEB 1998	Phone			e-mail		
Impairment due to	Point sources	Name/Organization					
	Nonpoint sources <input checked="" type="checkbox"/>	Address					
	Both <input type="checkbox"/>	City	State		Zip		

FORM B

SUMMARY OF ALLOCATION MODEL RESULTS FROM TMDL DOCUMENT (existing load, target TMDL, and needed reduction)

EXISTING LOAD	TARGET TMDL	NEEDED REDUCTION
355 cfu/100 ml	150 cfu/100 ml	205 cfu/100 ml

I. IDENTIFY **NONPOINT SOURCE** CATEGORIES AND SUBCATEGORIES OR INDIVIDUAL SOURCES WHICH MUST BE CONTROLLED TO IMPLEMENT LOAD ALLOCATIONS:

List major nonpoint sources contributing to impairment including those identified in TMDL document.

SOURCE	DESCRIPTION OF CONTRIBUTION TO IMPAIRMENT	RECOMMENDED LOAD REDUCTION (FROM TMDL)
Base flow	General logging activities and background wildlife	90% reduction in base flow from urban impervious land uses.
		10% reduction in base flow from agriculture land uses.
Urban runoff	Intense urban land uses with impervious surfaces; illicit discharges; leaking sanitary sewer lines; failing septic systems; wildlife	10% reduction in loading from urban impervious land uses.
	Gravel parking areas, gravel roads, cleared road right-of-ways, recreation fields	10 % reduction in Loading from urban pervious land uses.
Agriculture	Diffuse runoff of animal waste associated with erosion; runoff from concentrated animal operations; spreading of animal waste or municipal sludge on fields; failing septic systems	0% reduction in loading from agriculture or pasture land uses.

II. DESCRIBE ANY REGULATORY OR VOLUNTARY ACTIONS INCLUDING MANAGEMENT MEASURES OR OTHER CONTROLS BY GOVERNMENTS OR INDIVIDUALS THAT SPECIFICALLY APPLY TO THE POLLUTANT AND THE WATERBODY FOR WHICH THE TMDL WAS WRITTEN, THAT WILL BE ACCOMPLISHED THROUGH RELIABLE AND EFFECTIVE DELIVERY MECHANISMS, AND THAT WILL HELP ACHIEVE THE LOAD ALLOCATIONS IN THE TMDL:

See the attachment for more instructions.

Existing or required regulatory actions

RESPONSIBLE GOVERNMENT, ORGANIZATION OR ENTITY	NAME OF REGULATION/ORDINANCE	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Towns County, City of Young Harris	Erosion & Sediment Control Ordinance	Establishes stream protection measures for construction sites.	1990	Currently enforced
City of Young Harris	Tree Ordinance	Tree preservation, replacement and location standards and review	1997	Currently enforced
City of Young Harris	Zoning Ordinance	Designates land uses, density and building requirements within the city.	1991	Currently enforced
City of Young Harris	Water & Sewer Ordinance	Use of public sewer required; industry must pre-treat waste load prior to system entry; prohibits illicit discharges.	1986	Currently enforced
Towns County	Subdivision Regulations	Established procedures for subdivision of land and development of roads.	1984	Currently enforced
City of Young Harris, Towns County	Floodplain Ordinance	Permit review and prevention of development within floodplains	1988, 1992	Currently enforced
Town County, City of Young Harris	Mountain Protection Ordinance	Development standards for all sites above 2,200 feet elevation. Minimum lot sizes and limits to clearing.	1998	Currently enforced
Georgia DNR,EPD	Tennessee River Basin Management Plan	Plan/program to protect, enhance and restore the waters of the Chattahoochee River Basin.	2001	To be completed 2002
Georgia DHR, Towns County Health Department	Septic Tank Regulation	Permit review for placement of septic systems for residential and commercial uses.		Currently enforced

Existing voluntary actions

RESPONSIBLE ORGANIZATION OR ENTITY	NAME OF ACTION	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Chestatee-Chattahoochee Resource, Conservation and Development Council	Stream Bank Protection	Section 319(h) grant funding demonstration stream bank protection project in the Brasstown Creek Watershed	2000	Ongoing
Natural Resource and Conservation Service (Blairsville field office)	Stream Bank Protection	NRCS and WHIP funding to assist local farmers for various BMPs including fencing control of livestock	1999	Ongoing
City of Young Harris	Sewage System Monitoring Activity	City program using smoke detection to discover leaks in the sewage collection system lines.	1999 to present	Ongoing
Hiwassee River Watershed Coalition	Brasstown Creek Watershed Restoration through Ag BMP Demonstration	Section 319(h) FY 00 grant funding demonstration stream bank protection project on Brasstown Creek (inside Georgia and outside Georgia)	March, 2002 - June, 2007	Ongoing

Additional recommended regulatory or other measures which should be implemented to reduce the loads of the TMDL parameter

ENTITY/ORGANIZATION RESPONSIBLE	NAME OF PROPOSED REGULATION/ORDINANCE/ OTHER	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Towns County, City of Young Harris	Storm Water Ordinance	Adoption of Storm Water manual to include water quality improvements.	TBA	TBA
County, City	Wetland Protection Ordinance	Establishes protections measures for wetlands.	TBA	TBA
County, City	Subdivision Regulations	Amend existing subdivision requirements for roads, curbs/ gutter to allow reductions in impervious area, reduce amounts of road right-of-way..	TBA	TBA
County, City	Erosion & Sedimentation Control Ordinance	Erosion and sedimentation control for all sites of land disturbance and construction. Improve manual.	TBA	TBA

Towns County, City Young Harris, City of Hiawassee	Watershed Assessment Management and Implementation Plan	A study and effort to promote water quality and biological data, pollutant runoff and loading estimates, water quality modeling and watershed management strategies.	TBA	TBA
Towns County		Develop agricultural education/demonstration program	TBA	TBA
Towns County		Develop agricultural cost/share program.	TBA	TBA
Towns County	Septic Tank Survey and Education	Develop and use survey to educate homeowners on septic system maintenance.	TBA	TBA
City of Young Harris	Sanitary Sewer Maintenance/Upgrades	Development of proactive measures and plans to prevent leaks and spills from the sanitary sewer system.	TBA	TBA
County, City	Public Outreach Program	Implement an effective public education/outreach program to promote water quality awareness	TBA	TBA

III. SCHEDULE FOR IMPLEMENTING MANAGEMENT MEASURES OR OTHER CONTROL ACTIONS:

These must be implemented as expeditiously as practicable within five years of when the implementation plan is accepted by EPA.

IMPLEMENTATION ACTION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Form stakeholders group	X				
Organize implementation work with stakeholders and local officials to identify remedial measures and potential funding sources	X	X			
Identify sources of TMDL parameter		X	X		
Develop management programs to control runoff including identification and implementation of BMPs (Phase I):					
Agriculture	X	X	X	X	X
Forestry					
Urban	X	X	X	X	X
Mining					
Organize and implement education and outreach programs	X	X	X		
Detect and eliminate illicit discharges		X	X	X	X
Evaluate additional management controls needed			X	X	X
Monitor and evaluate results			X	X	X
Reassess TMDL allocations				X	X
Provide periodic status reports on implementation of remedial activities	X	X	X	X	X
If needed, begin process for Phase II (next 5 years) and subsequent phases					X

IV. PROJECTED ATTAINMENT DATE AND BASIS FOR THAT PROJECTION:

The projected attainment date is 10 years from acceptance of the implementation plan by EPA.

V. MEASURABLE MILESTONES:

- Number of management controls and activities already implemented ___ 13 ___
- Number of management controls and activities proposed in five-year work program ___ 10 ___
- Number of management controls and activities actually implemented in five-year work period _____ (to be completed after 5 years)
- Stream sampled to identify areas of concern **See HRWA**
- Other _____ _____
- Other _____ _____

VI. MONITORING PLAN:

Monitoring data that placed stream on 303(d) list will be provided if requested.

Describe previous or current sampling activities or other surveys to detect sources or to measure effectiveness of management measures or other controls.

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
Hiawassee River Watershed Coalition (HRWA)	2001	Lake assessment study for Lake Chatuge and Lake Nottely (Towns and Union Counties) looking at lake uses and water quality.	Lake Assessment Study	Funded, has not begun
TVA Watershed Group	1995 to present	Local citizen organization performing	Sampling Activities	Ongoing

		baseline biological sampling on Brasstown Creek and other streams in the Tennessee River Basin.		
Tennessee Valley Authority (TVA)	Several decades to present	Biological and chemical sampling program throughout the Tennessee River Basin including Brasstown Creek Watershed.	Stream Monitoring Program	Ongoing
City of Young Harris	1997 to present	Stream monitoring as part of discharge permit into Brasstown Creek.	Monitoring Activities	Ongoing

Describe any planned or proposed sampling activities or other surveys. (Scheduled EPD sampling can be found in the Basin Planning document.)

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
EPD	2006		basin planning	planned
Watershed Assessment for Towns County, The City of Young Harris and the City of Hiawassee	TBA	Fecal, TSS, DO, metals, biota, nutrients macro invertebrates , fish, etc.	TMDL Implementation, Surface withdrawal permit	
City of Young Harris	TBA	Fecal coliform	Part of maintenance and prevention plan for water and sewer.	

VII. CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEING MADE:

- % concentration or load change (monitoring program)
- 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)

AG --- HRWC and the NRCS Field Office in Blairsville have been working hard to install as many Ag BMPs and restore as many miles of impaired stream segments as possible. See list of voluntary actions.

FORESTRY -- N/A

URBAN -- NONE

STATE OF GEORGIA

TMDL IMPLEMENTATION PLAN: Yewell Branch, Darr Cove to Brasstown Crk (STREAM) Fecal coliform (PARAMETER) BASIN: Tennessee PLAN DATE: 3-5-01

Prepared by: <u>Larry Sparks</u>		Or Updated By: Tiffannie Chee Hill P.O. Box 1720 Gainesville, GA 30503 Zip: <u>30503</u> e-mail: <u>thill@gmrdc.org</u> Date Submitted to EPD: <u>10-22-03</u>					
<u>Georgia Mountains</u> Regional Development Center Address: <u>P. O. Box 1720</u> City: <u>Gainesville</u> State: <u>GA</u> Zip: <u>30503</u> e-mail: <u>lsparks@gmrdc.org</u> Date Submitted to EPD: <u>3-30-01</u>		Significant Stakeholders Identify local governments, agricultural organizations or significant land holders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups with a major interest in this water body.					
General Information		Significant Stakeholders					
Obtain this information from the TMDL document or other information. When completed, this document will be a self-contained report independent of the TMDL document.		Identify local governments, agricultural organizations or significant land holders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups with a major interest in this water body.					
TMDL ID (to be entered by EPD)		Name/Organization	See Attachment A				
Water body name	Yewell Branch, Darr Cove to Brasstown Creek	Address					
HUC basin name	Tennessee River	City		State		Zip	
HUC number	060200020401	Phone				e-mail	
Primary county	Towns	Name/Organization					
Secondary county		Address					
Primary RDC	Georgia Mountains	City		State		Zip	
Secondary RDC		Phone				e-mail	
Water body location	Towns County, Georgia	Name/Organization					
		Address					
Miles or area impacted	2	City		State		Zip	
Parameter addressed in plan	Fecal coliform	Phone				e-mail	
Water use classification	Fishing	Name/Organization					
Degree of impairment	Partially supporting use <input checked="" type="checkbox"/>	Address					
	Not supporting use <input type="checkbox"/>	City		State		Zip	
Date TMDL approved by EPA	FEB 1998	Phone				e-mail	
Impairment due to	Point sources	Name/Organization					
	Nonpoint sources <input checked="" type="checkbox"/>	Address					
	Both <input type="checkbox"/>	City		State		Zip	

FORM B

SUMMARY OF ALLOCATION MODEL RESULTS FROM TMDL DOCUMENT (existing load, target TMDL, and needed reduction)

EXISTING LOAD	TARGET TMDL	NEEDED REDUCTION
216 cfu/100 ml	150 cfu/100 ml	66 cfu/100 ml

I. IDENTIFY **NONPOINT SOURCE** CATEGORIES AND SUBCATEGORIES OR INDIVIDUAL SOURCES WHICH MUST BE CONTROLLED TO IMPLEMENT LOAD ALLOCATIONS:

List major nonpoint sources contributing to impairment including those identified in TMDL document.

SOURCE	DESCRIPTION OF CONTRIBUTION TO IMPAIRMENT	RECOMMENDED LOAD REDUCTION (FROM TMDL)
Base flow	General logging activities and background wildlife	10% reduction in base flow
Urban runoff	Intense urban land uses with impervious surfaces; illicit discharges; leaking sanitary sewer lines; failing septic systems; wildlife	10% reduction in loading from urban impervious land uses.
	Gravel parking areas, gravel roads, cleared road right-of-ways, recreation fields	10 % reduction in Loading from urban pervious land uses.
Agriculture	Diffuse runoff of animal waste associated with erosion; runoff from concentrated animal operations; spreading of animal waste or municipal sludge on fields; failing septic systems	0% reduction in loading from agriculture or pasture land uses.

II. DESCRIBE ANY REGULATORY OR VOLUNTARY ACTIONS INCLUDING MANAGEMENT MEASURES OR OTHER CONTROLS BY GOVERNMENTS OR INDIVIDUALS THAT SPECIFICALLY APPLY TO THE POLLUTANT AND THE WATERBODY FOR WHICH THE TMDL WAS WRITTEN, THAT WILL BE ACCOMPLISHED THROUGH RELIABLE AND EFFECTIVE DELIVERY MECHANISMS, AND THAT WILL HELP ACHIEVE THE LOAD ALLOCATIONS IN THE TMDL:

See the attachment for more instructions.

Existing or required regulatory actions

RESPONSIBLE GOVERNMENT, ORGANIZATION OR ENTITY	NAME OF REGULATION/ORDINANCE	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Towns County, City of Young Harris	Erosion & Sediment Control Ordinance	Establishes stream protection measures for construction sites.	1990	Currently enforced
City of Young Harris	Tree Ordinance	Tree preservation, replacement and location standards and review	1997	Currently enforced
City of Young Harris	Zoning Ordinance	Designates land uses, density and building requirements within the city.	1991	Currently enforced
City of Young Harris	Water & Sewer Ordinance	Use of public sewer required; industry must pre-treat waste load prior to system entry; prohibits illicit discharges.	1986	Currently enforced
Towns County	Subdivision Regulations	Established procedures for subdivision of land and development of roads.	1984	Currently enforced
City of Young Harris, Towns County	Floodplain Ordinance	Permit review and prevention of development within floodplains	1988, 1992	Currently enforced
Town County, City of Young Harris	Mountain Protection Ordinance	Development standards for all sites above 2,200 feet elevation. Minimum lot sizes and limits to clearing.	1998	Currently enforced
Georgia DNR,EPD	Tennessee River Basin Management Plan	Plan/program to protect, enhance and restore the waters of the Chattahoochee River Basin.	2001	To be completed 2002
Georgia DHR, Towns County Health Department	Septic Tank Regulation	Permit review for placement of septic systems for residential and commercial uses.		Currently enforced

Existing voluntary actions

RESPONSIBLE ORGANIZATION OR ENTITY	NAME OF ACTION	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Chestatee-Chattahoochee Resource, Conservation and Development Council	Stream Bank Protection	Section 319(h) grant funding demonstration stream bank protection project in the Brasstown Creek Watershed	2000	Ongoing
Natural Resource and Conservation Service (Blairsville field office)	Stream Bank Protection	NRCS and WHIP funding to assist local farmers for various BMPs including fencing control of livestock	1999	Ongoing
City of Young Harris	Sewage System Monitoring Activity	City program using smoke detection to discover leaks in the sewage collection system lines.	1999 to present	Ongoing
Hiwassee River Watershed Coalition	Brasstown Creek Watershed Restoration through Ag BMP Demonstration	Section 319(h) FY 00 grant funding demonstration stream bank protection project on Brasstown Creek (inside Georgia and outside Georgia)	March, 2002 - June, 2007	Ongoing

Additional recommended regulatory or other measures which should be implemented to reduce the loads of the TMDL parameter

ENTITY/ORGANIZATION RESPONSIBLE	NAME OF PROPOSED REGULATION/ORDINANCE/ OTHER	DESCRIPTION	ENACTED OR PROJECTED DATE (mm/yy)	STATUS
Towns County, City of Young Harris	Storm Water Ordinance	Adoption of Storm Water manual to include water quality improvements.	TBA	TBA
County, City	Wetland Protection Ordinance	Establishes protections measures for wetlands.	TBA	TBA
County, City	Subdivision Regulations	Amend existing subdivision requirements for roads, curbs/ gutter to allow reductions in impervious area, reduce amounts of road right-of-way..	TBA	TBA
County, City	Erosion & Sedimentation Control Ordinance	Erosion and sedimentation control for all sites of land disturbance and construction. Improve manual.	TBA	TBA

Towns County, City Young Harris, City of Hiawassee	Watershed Assessment Management and Implementation Plan	A study and effort to promote water quality and biological data, pollutant runoff and loading estimates, water quality modeling and watershed management strategies.	TBA	TBA
Towns County		Develop agricultural education/demonstration program	TBA	TBA
Towns County		Develop agricultural cost/share program.	TBA	TBA
Towns County	Septic Tank Survey and Education	Develop and use survey to educate homeowners on septic system maintenance.	TBA	TBA
City of Young Harris	Sanitary Sewer Maintenance/Upgrades	Development of proactive measures and plans to prevent leaks and spills from the sanitary sewer system.	TBA	TBA
County, City	Public Outreach Program	Implement an effective public education/outreach program to promote water quality awareness	TBA	TBA

III. SCHEDULE FOR IMPLEMENTING MANAGEMENT MEASURES OR OTHER CONTROL ACTIONS:

These must be implemented as expeditiously as practicable within five years of when the implementation plan is accepted by EPA.

IMPLEMENTATION ACTION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Form stakeholders group	X				
Organize implementation work with stakeholders and local officials to identify remedial measures and potential funding sources	X	X			
Identify sources of TMDL parameter		X	X		
Develop management programs to control runoff including identification and implementation of BMPs (Phase I):					
Agriculture	X	X	X	X	X
Forestry					
Urban	X	X	X	X	X
Mining					
Organize and implement education and outreach programs	X	X	X		
Detect and eliminate illicit discharges		X	X	X	X
Evaluate additional management controls needed			X	X	X
Monitor and evaluate results			X	X	X
Reassess TMDL allocations				X	X
Provide periodic status reports on implementation of remedial activities	X	X	X	X	X
If needed, begin process for Phase II (next 5 years) and subsequent phases					X

IV. PROJECTED ATTAINMENT DATE AND BASIS FOR THAT PROJECTION:

The projected attainment date is 10 years from acceptance of the implementation plan by EPA.

V. MEASURABLE MILESTONES:

- Number of management controls and activities already implemented ___ 13 ___
- Number of management controls and activities proposed in five-year work program ___ 10 ___
- Number of management controls and activities actually implemented in five-year work period _____ (to be completed after 5 years)
- Stream sampled to identify areas of concern **See HRWA**
- Other _____ _____
- Other _____ _____

VI. MONITORING PLAN:

Monitoring data that placed stream on 303(d) list will be provided if requested.

Describe previous or current sampling activities or other surveys to detect sources or to measure effectiveness of management measures or other controls.

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
Hiawassee River Watershed Coalition (HRWA)	2001	Lake assessment study for Lake Chatuge and Lake Nottley (Towns and Union Counties) looking at lake uses and water quality.	Lake Assessment Study	Funded, has not begun
TVA Watershed Group	1995 to present	Local citizen organization	Sampling Activities	Ongoing

		performing baseline biological sampling on Brasstown Creek and other streams in the Tennessee River Basin.		
Tennessee Valley Authority (TVA)	Several decades to present	Biological and chemical sampling program throughout the Tennessee River Basin including Brasstown Creek Watershed.	Stream Monitoring Program	Ongoing
City of Young Harris	1997 to present	Stream monitoring as part of discharge permit into Brasstown Creek.	Monitoring Activities	Ongoing

Describe any planned or proposed sampling activities or other surveys. (Scheduled EPD sampling can be found in the Basin Planning document.)

ORGANIZATION	TIME FRAME	PARAMETERS	PURPOSE	STATUS
EPD	2006		basin planning	planned
Watershed Assessment for Towns County, The City of Young Harris and the City of Hiawassee	TBA	Fecal, TSS, DO, metals, biota, nutrients macro invertebrates , fish, etc.	TMDL Implementation, Surface withdrawal permit	
City of Young Harris	TBA	Fecal coliform	Part of maintenance and prevention plan for water and sewer.	

VII. CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEING MADE:

- % concentration or load change (monitoring program)
- Categorical change in classification of the stream (delisting the stream is the goal)
- Regulatory controls or activities installed (ordinances, laws, etc.)
- Best management practices installed (agricultural, forestry, urban)

AG -- HRWC and the NRCS Field Office in Blairsville have been working hard to install as many Ag BMPs and restore as many miles of impaired stream segments as possible. See list of voluntary actions.

FORESTRY -- N/A

URBAN -- NONE

Attachment A
Brasstown Creek Watershed Group
(Stakeholders)

Timber Co. Drew Marczak, P.O. Box 1069
Watkinsville, GA 30677

Brasstown Valley Resort, 6321 US Highway 76
Young Harris, GA 30582, Brasstown Valley Resort

Chestatee-Chattahoochee RC&D, 624 Green Street, SE
Gainesville, GA 30501, Chestatee-Chattahoochee RC&D

Dorothy Handy, 234 Crane Creek
Young Harris, GA 30582, City of Young Harris

Hon. Carless Sampson, P.O. Box 122
Young Harris, GA 30582, City of Young Harris

Scott Jones, 505 Pinnacle Court
Norcross, GA 30071, Georgia Forestry Association

Georgia Legal Watch, 264 N. Jackson Street
Athens, GA 30601, Georgia Legal Watch

Georgia PIRG, 1447 Peachtree Street, NE #304
Atlanta, GA 30309, Georgia PIRG

Dennis Martin, 3005 Atlanta HWY
Gainesville, GA 30507, GFC

HRWC Chairperson, 1467 Mining Gap Trail
Young Harris, GA 30582, Hiawassee River Watershed Coalition

N GA Community Foundation Association, P.O. Box 1583
Gainesville, GA 30503, N GA Community Foundation Association

The Nature Conservancy, 1330 W Peachtree Street, # 410
Atlanta, GA 30309, Nature Conservancy, The

Sam Breyfolge, 208 Springdale Drive
LaGrange, GA 30240, Temple Inland Forests

Towns Board of Education, Hwy U.S. 76 East
Hiawassee, GA 30546, Towns Board of Education

Marsha Dorta, 1411 Fuller Circle
Young Harris, GA 30582, Towns Co Chamber

Towns County Library, 110 Berrong Street
Hiawassee, GA 30546, Towns County Library

Towns Farm Bureau, 446 Main Street
Hiawassee, GA 30546, Towns Farm Bureau

Frank Riley, 6303 Hwy 17 S
Hiawassee, GA 30546, Trakker Technology

Trust for Public Land, 1447 Peachtree Street, NE
Atlanta, GA 30309, Trust for Public Land

Robert Bruner, 200 Lakeview Circle
Hiawassee, GA 30546, UGA - Towns Co

Hon. Lamar Paris, 114 Courthouse St., Ste 1
Blairsville, GA 30512, Union County

Mickey Cummings, , Union County

US Fish and Wildlife, 247 Milledge Street
Athens, GA 30605, US Fish and Wildlife

USDA - NRCS, 734 East Crescent Drive
Gainesville, GA 30501, USDA - NRCS

Jim Wentworth, P.O. Box 9
Blairsville, GA 30514, USFS

Young Harris College, Young Harris College
Young Harris, GA 30528, Young Harris College