

STATE OF GEORGIA		RIVER BASIN: Chattahoochee River	
TMDL IMPLEMENTATION PLAN FOR: Baldwin Creek, fecal coliform (stream and parameter)		Plan date: March 30, 2001	
Prepared by: Atlanta Regional Commission for the Douglas County Board of Commissioners Address: 8700 Hospital Drive City: Douglasville State: Georgia Zip: 30134 Date Submitted to EPD: March 30, 2001		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 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.		Name/Organization Mike McBrier, P.E., Director of Public Works Douglas County, Public Works Dept., Engineering Div	
TMDL ID (to be entered by EPD)		Address 8700 Hospital Drive	
Water body name	Baldwin Creek	City/State/Zip Douglasville, GA 30134	
HUC basin name	Bear Creek	Telephone (770) 920-7243	
HUC number	03130002300 0313000203	E-mail mmcbrier@co.douglas.ga.us	
Primary county	Douglas County	Name/Organization Eric Linton, AICP, Director of Developmental Services	
Secondary county		Douglas County, Planning Department	
Primary RDC	Atlanta Regional Commission	Address 8700 Hospital Drive	
Secondary RDC		City/State/Zip Douglasville, GA 30134	
Water body location	From: Quail Dr. To: Confluence with Little Bear Cr.	Telephone (770) 920-7241	
Miles or area impacted	4 miles	E-mail elinton@co.douglas.ga.us	
Water use classification	Fishing	Name/Organization Peter Frost, DDCWSA	
Degree of impairment	Partially supporting use: YES Not supporting use:	Address PO Box 1157	
Date TMDL approved by EPA	February 19, 1998	City/State/Zip Douglasville, GA 30133	
Impairment due to	Point source: Nonpoint source: YES Both:	Telephone (770) 949-8669	
		E-mail pfrost@ddcwsa.com	
		Name/Organization Robert Gore, Environmental Health Services	
		Address 8700 Hospital Drive	
		City/State/Zip Douglasville, GA 30134	
		Telephone (770) 920-7311	
		E-mail	
Point source- Form A; nonpoint source- Form B; both-Form C			

Significant Stakeholders Page 2

Name/Organization	Tony Gonzalez, Friends of Douglas County	Name/Organization	UGA Cooperative Extension Service
Address	5540 South River Road	Address	8700 Hospital Drive
City/State/Zip	Douglasville, GA 30135	City/State/Zip	Douglasville, GA 30134
Telephone	(770) 947-8080	Telephone	(770) 920-7224
E-mail	tonygonz@mindspring.com	E-mail	
Name/Organization	Chris Collier, Executive Officer Homebuilders Assc. of Douglas Co		
Address	PO Box 1272		
City/State/Zip	Douglasville, GA 30133		
Telephone	(770) 577-1955		
E-mail	Chris-Collier@email.msn.com		
Organization	Large Landowners (>100 acres)		
Name	Joshua Group, R.M.P. (LL 0032-02-5-00-001		
Address	14-A Sunnybrook Drive		
City/State/Zip	McDonough, GA 30253		
Telephone			
E-mail			
Name/Organization	Georgia Soil and Water Conservation Commissior		
Address	Region III 1500 Klondike Rc		
City/State/Zip	Conyers, GA		
Telephone	(770) 761-3020		
E-mail			
Name/Organization	Natural Resource Conservation Service		
Address	8700 Hospital Drive		
City/State/Zip	Douglasville, GA 30134		
Telephone	(770) 920-7246		
E-mail			

Form B

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

<u>EXISTING LOAD</u>	<u>TARGET TMDL</u>	<u>NEEDED REDUCTION</u>
330 cfu/100ml	150 cfu/100ml	180 cfu/100ml

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 .

<u>SOURCE</u>	<u>DESCRIPTION OF CONTRIBUTION TO IMPAIRMENT</u>	<u>RECOMMENDED LOAD REDUCTION (from TMDL)</u>
agriculture or pasture land	nonpoint	25%
urban impervious	nonpoint	50%

The TMDL did not identify specific sources of fecal coliform in the basin, however, given this particular watershed, the possible likely source of contamination is stormwater runoff associated with:

1. Leaking or failing septic tanks,
2. Leaking sanitary sewers,
3. Animal waste, domestic and nondomestic, and
4. Illicit discharges.

II. DESCRIBE ANY REGULATORY OR VOLUNTARY ACTIONS INCLUDING MANAGEMENT MEASURES OR OTHER CONTROLS BY GOVERNMENTS OR INDIVIDUALS THAT WILL HELP ACHIEVE THE LOAD ALLOCATIONS IN THE TMDL:				
<u>Existing or required regulatory actions</u>				
<u>RESPONSIBLE GOVERNMENT, ORGANIZATION OR ENTITY</u>	<u>NAME OF REGULATION OR ORDINANCE</u>	<u>DESCRIPTION</u>	<u>ENACTED OR PROJECTED DATE(mm/yy)</u>	<u>STATUS</u>
Douglas County Planning and Zoning	Watershed Protection Regulations - Bear Creek Watershed	100-ft stream buffers, 150-ft setbacks for all impervious surfaces, septic tanks, drain fields and animal livestock/pasturing, keeping or grazing, maximum 25% impervious surface area, maximum residential sewered density of 2.5 du/ac and unsewered of 1 du/ac	Mar-01	enforced
Douglas County Environmental Health Department	Rules and Regulations for On-site Sewage Management	Septic System code - Permits include pre-site analysis and suitability determination, requires installers to be certified, inspections during and after installation required, enforced sanctions on violations.	latest update Feb-00	enforced, State and County regulations
<u>Existing voluntary actions</u>				
<u>RESPONSIBLE ORGANIZATION OR ENTITY</u>	<u>NAME OF ACTION</u>	<u>DESCRIPTION</u>	<u>ENACTED OR PROJECTED DATE(mm/yy)</u>	<u>STATUS</u>
DDCWSA	Baseline Monitoring Program	Baseline sampling has been underway for a number of years.	1987	In progress
DDCWSA with ARC	Water Supply Source Water Assessment	Inventory and risk assessment for water supply watersheds.	Dec-01	In progress
Douglas County Public Works Department, Engineering Division	Watershed Team Taskforce Meetings	Taskforce has been established and met to determine the parties to be involved in the technical Watershed Team.	Mar-01	In progress
Douglas County Public Works Department, Engineering Division	Community Education	Currently airing Watershed Wisdom TMDL video on public access channel twice daily.	Mar-01	In progress, continuing indefinitely

Additional recommended regulatory or other measures which should be implemented to reduce the loads of the TMDL parameter				
<u>ENTITY/ORGANIZATION RESPONSIBLE</u>	<u>NAME OF PROPOSED REGULATION/ORDINANCE/ OTHER</u>	<u>DESCRIPTION</u>	<u>ENACTED OR PROJECTED DATE (mm/yy)</u>	<u>STATUS</u>
Douglas County Public Works Department, Engineering Division	NPDES Phase II MS4 Municipal Stormwater Permit	Requires jurisdiction to have a comprehensive stormwater program which includes public education and participation, illicit discharge detection and elimination, construction site runoff control, post construction runoff control, pollution prevention, permitting and reporting, and program implementation plans.	Late 2002 - Dependent on the date Implementation Plans will be due	
Watershed Team (A technical Watershed Team will be created comprised of the County Public Works Department Engineering Division, Health Department, Planning Division, NRCS, Cooperative Extension Service, and the Douglasville-Douglas County WSA.)		Review recommendations from watershed assessments performed for the DDCWSA in other basins in Douglas County to determine regulatory actions that can be taken to mitigate non-point source runoff. Example recommendations include water quality and stormwater control criteria for new developments, septic system certification policy, maintenance requirements of stormwater facilities for landowners, onsite treatment detention basins and wet ponds, land trusts to purchase buffer zones along creeks, sewer service to all new developments, stream corridor management measures, and educational programs.	2002	

III. SCHEDULE FOR IMPLEMENTING MANAGEMENT MEASURES OR OTHER CONTROL ACTIONS: These must be implemented within five years of when the implementation plan is accepted by EPA.						
IMPLEMENTATION ACTION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	NOTES/ Responsible Party
Form Watershed Team and Citizen Stakeholders Group ¹ and facilitate regular meetings	X					Douglas County Public Works Department, Engineering Division
Organize implementation work with stakeholders and local officials to identify potential remedial measures and potential funding sources	X	X	X			Douglas County Public Works Department, Engineering Division
Review monitoring data for possible source information	X					Douglasville-Douglas County WSA Watershed Team
Identify, map and rank potential sources of fecal coliform after analyzing monitoring data and receiving public input.		X				Douglas County Public Works Department, Engineering Division
Develop management programs to identify non-point sources of pollution and possible controls.	X	X	X			Douglas County Public Works Department, Engineering Division
Implementation of mandatory controls if not already in place.		X				Douglas County Public Works Department, Engineering Division
Organize education and outreach programs	X	X	X			Douglas County Public Works Department, Engineering Division
Implement education and outreach programs			X	X	X	Douglas County Public Works Department, Engineering Division
Detect and eliminate illicit discharges			X	X	X	Douglas County Public Works Department, Engineering Division
Evaluate additional management controls needed (ongoing)	X	X	X	X	X	Watershed Team
Monitor and evaluate results				X	X	Douglasville-Douglas County WSA Watershed Team
Reassess TMDL allocations					X	Douglas County Public Works Department, Engineering Division
Provide periodic status reports on implementation of activities		X	X	X	X	Watershed Team
If needed, begin process for Phase II (next 5 yrs.) and subsequent phases					X	

¹ The Citizen Stakeholder Group will be made up of volunteer adopt-a-stream groups, large landowners, civic groups, homeowners associations, citizens, and other significant stakeholders. This group will identify areas of concern, offer input and feedback on plans, provide and aid in public education programs, and recruit support from the community.

IV. PROJECTED ATTAINMENT DATE AND BASIS FOR THAT PROJECTION:						
The projected attainment date is 10 years from acceptance of the implementation plan by EPA.						

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
Douglasville/Douglas County WSA	weekly	Fecal Coliform and nutrients	Baseline Monitoring	Continuation of existing program
Douglas County Public Works Department, Engineering Divison	Bi-weekly or monthly	To be determined with NPDES Phase II Stormwater Plan (turbidity, heavy metals if necessary and fecal coliform if necessary)	Source locations, verification status and progress monitoring	To be determined, if necessary

VII. CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEEN 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)

COMMENTS:

Baldwin Creek TMDL Implementation Plan Narrative

Douglas County, Georgia

Background and Purpose

Baldwin Creek is in the Chattahoochee River Basin in Douglas County. A four-mile segment from Quail Dr. to the confluence with Little Bear Creek was listed on the 303(d) list of the State of Georgia for violating the water quality standard for fecal coliform bacteria. Fecal coliform bacteria is bacteria found in the intestinal tract of humans and animals. Its presence in streams, rivers and lakes is an indicator of possible harmful pathogens.

For each waterbody on the 303(d) list, the U.S. Clean Water Act requires a TMDL or Total Maximum Daily Load be developed for each pollutant. A 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 U.S. EPA developed a TMDL for Baldwin Creek showed that a reduction from sources of pollution for fecal coliform was needed.

The purpose of this implementation plan is to reduce or eliminate the sources of fecal coliform bacteria draining to the Baldwin Creek in order to meet the fecal coliform water quality standard.

Plan Preparation

This plan was developed with a watershed team made up of representatives of the Douglas County Engineering Department, the Douglasville - Douglas County Water and Sewer Authority (DDCWSA), the Douglas County Health Department, the Atlanta Regional Commission (ARC). The Douglas County Engineering Department is the lead agency on the plan and worked with ARC to draft the plan. The plan was reviewed at a public work session of the Douglas County Commission on March 20, 2001. The plan is a phased approach over a five-year period that begins with convening a stakeholder group in the first year. The plan provides for activities and a schedule to achieve the load reductions and achieve the TMDL.

TMDL Data and Potential Sources of Pollution

Baldwin Creek was listed on Georgia's 303(d) list due to samples collected as part water quality sampling by the DDCWSA. Baldwin Creek was placed on the 303(d) list due to elevated fecal coliform concentrations from samples collected during 1994 and 1995. Samples have been collected from this site and analyzed on a weekly basis from 1988 – July, 1992, and on a monthly basis since July, 1992. The sampling is part of the DDCWSA's comprehensive watershed protection and monitoring program. The EPA TMDL document used mathematical modeling to predict a fecal coliform 30 day geometric mean of 330cfu/100ml which is above the state water quality standard of 200cfu/100ml (geometric mean) and above the recommended EPA target of 150cfu/100ml. The 1998 EPA TMDL documents recommended an 80% reduction in urban impervious sources and 50% reduction from agriculture sources. This was revised by an October 3, 2000 letter from EPA to 50% reduction from urban sources and 25% agriculture sources.

The Baldwin Creek watershed includes residential, forest and some agricultural land uses. It is in a rapidly growing county and is undergoing urbanization. Possible specific causes of increased levels of fecal coliform in Baldwin Creek include leaking septic tanks, stormwater runoff, livestock, domestic animals and wildlife. Monitoring and analysis of data collected as

part of the implementation plan will be necessary to determine the actual source of fecal coliform bacteria.

Regulatory and Voluntary Measures: Existing and Future

Douglas County has already undertaken several measures to improve water quality and reduce bacteria in streams and is also scheduled to implement a comprehensive stormwater runoff control program.

The County adopted a Watershed Protection Ordinance in 1978 which was last updated in March of this year. This ordinance requires 100' stream buffers and 150' setbacks for all impervious surfaces, septic tanks, drain fields, and animal livestock/pasturing, a maximum 25% impervious surface area and maximum densities for sewered areas of 2.5 du/ac and unsewered of 1 du/ac. The County Health Department enforces the Septic System Code updated in January 2001.

Douglas County has begun general education of the public on TMDLs and nonpoint source pollution by airing the Georgia DNR video "Watershed Wisdom" daily on the local public access television channel. Douglas County also convened a task force to develop the technical Watershed Team to begin the implementation plan.

Within two years Douglas County will develop a NPDES Phase II Municipal Stormwater Permit Program. This will be a comprehensive program to control polluted stormwater runoff. Measures included in this program are: public education and participation, detection and elimination of illicit discharge to storm drains, construction site runoff control, post construction runoff control, and pollution prevention. The Phase II Municipal Stormwater Program is planned to be in place by 2003.

Douglas County will also work with the Watershed Team and the Stakeholders Group to review and evaluate other potential management measures that could be put in place to reduce fecal coliform bacteria. Examples of the kinds of measures that will be discussed included water quality and stormwater quality criteria for new developments, septic tank certification policy, maintenance requirements for stormwater facility owners, onsite treatment detention basin and wet ponds, and new sewer service.

Schedule for Implementation

This plan provides for implementation over a five year timeframe. This schedule is detailed in the plan matrix on page 6. During the first year the County will convene a stakeholder group. A list of stakeholders in the Baldwin Creek watershed has been compiled. The watershed team and the stakeholders will work together to identify sources of the problem, identify remedial measures and potential funding sources. The DDCWSA will continue the program of baseline monitoring throughout the 5 year plan and additional monitoring will be considered as needed to help narrow the sources of the problem. Any illicit discharges will also be eliminated as soon as possible when detected. Additional management measures will be reviewed and considered throughout the implementation plan. The results of the plan will be evaluated in years 4 and 5. Periodic status reports will begin in year two. Education programs and outreach will be developed and organized in the first three years and implemented in year three to coincide with the program required under the NPDES MS4 Permit. If needed, a process for Phase II (the next five years) will be developed in year five.

Monitoring Plan

The DDCWSA has an ongoing monitoring program that includes weekly sampling of Baldwin Creek for fecal coliform from 1988 – July, 1992, and on a monthly basis since July, 1992. Additional sampling as part of the NPDES Phase II Stormwater Plan and to narrow the sources of the problem will be developed in year 3 to coincide with the NPDES program.

Funding

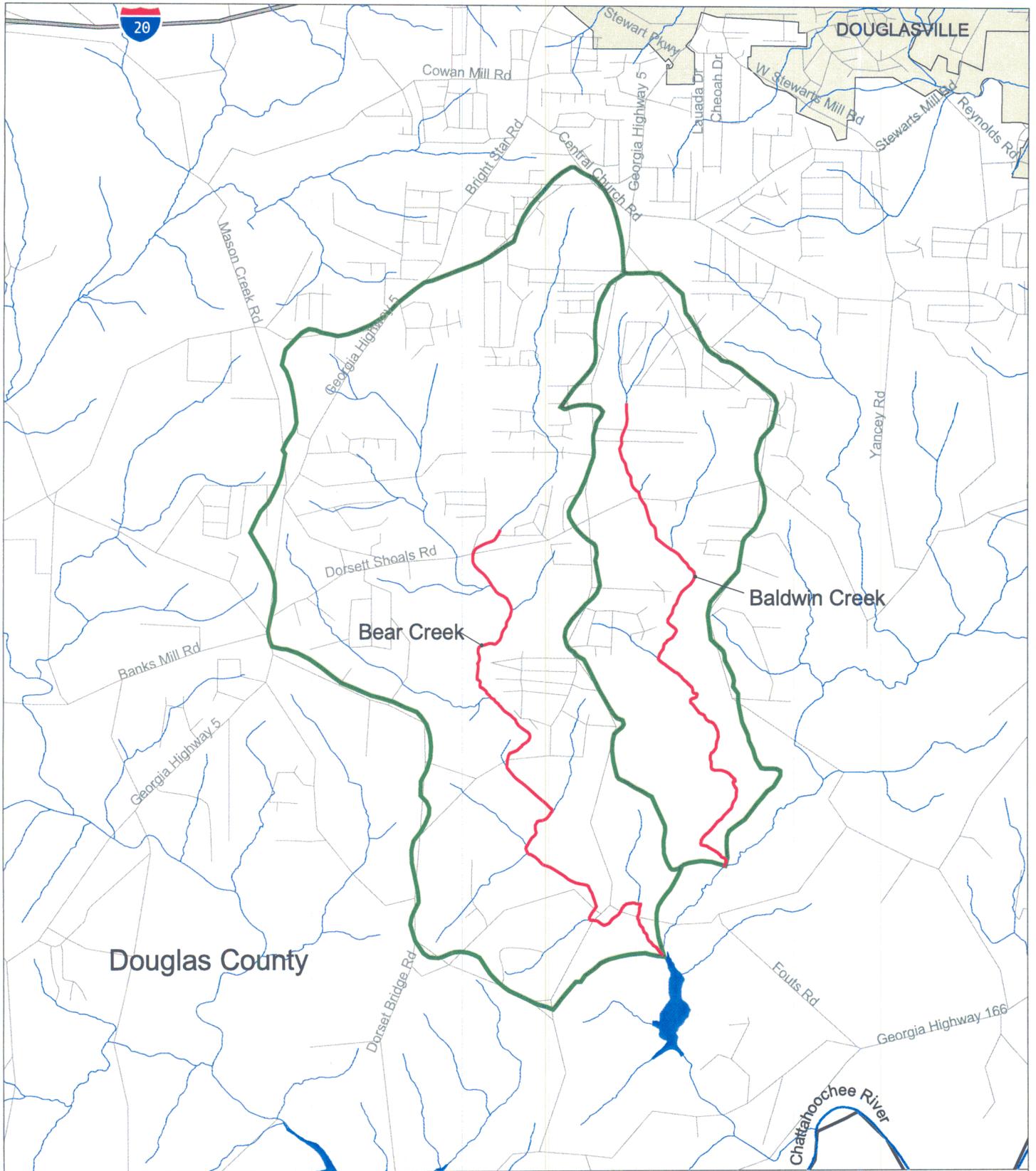
Potential sources of funding that should be explored include Clean Water Act Section 319 grants, the State Water Revolving Loan Fund, NRCS incentive grants, and EPA Watershed Assistance grants, and other local and state funding. Partnerships with various community and business groups should also be explored to support the effort.

Criteria to Determine Progress

The criteria to determine whether progress toward attainment is being made will include the results of monitoring. Also, progress will be measured by the controls and best management practices put in place. The plan will be considered a success when fecal coliform bacteria concentrations are reduced enough to remove the Baldwin Creek from the 303(d) list.

Conclusion

The implementation of the regulatory and voluntary measures that have been put in place in Douglas County and the additional measures that will be developed and put in place as part of this implementation plan will reduce the levels of fecal coliform bacteria present.



0 2 Miles

Bear and Baldwin Creek TMDL Stream Segments

Legend

- Stream Segment of Concern
- Streams & Rivers
- Roads
- Watershed Boundary
- County Boundaries
- Municipal Boundaries

Map Prepared by Atlanta Regional Commission
 Data Source: Georgia Environmental Protection Division's 305(b)/303(d) List