South Carolina Department of Health and Environmental Control
Total Maximum Daily Load Development for
Brushy Creek (Stations BE-035 & BE-009)
Fecal Coliform Bacteria

August 17, 1999
Bureau of Water

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South Carolina Department of Health
and Environmental Control

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State of South Carolina Administrative Record
TMDL Submittal for Brushy Creek (BE-035 & BE-009)
Fecal Coliform Bacteria

Brushy Creek
Monitoring Stations BE-035 and BE-009
Watershed 03050108-010

BASIS FOR 303(d) LISTING

Introduction:

Levels of fecal coliform bacteria can be elevated in water bodies as the result of both point and nonpoint sources of pollution. Section 303(d) of the Clean Water Act and EPA's Water Quality Planning and Management Regulations (40 CFR Part 130) require states to develop total maximum daily loads (TMDLs) for water bodies that are not meeting designated uses under technology-based pollution controls. The TMDL process establishes the allowable loadings of pollutants or other quantifiable parameters for a water body based on the relationship between pollution sources and in stream water quality conditions so that states can establish water quality-based controls to reduce pollution and restore and maintain the quality of water resources (USEPA 1991).

Problem Definition:

Impaired Waterbody: Brushy Creek (Greenville County)

Water Classification: Freshwater

Brushy Creek is designated as Class Freshwater. Waters of this class are described as follows:

> "Freshwaters suitable for primary and secondary contact recreation and as a source for drinking water supply after conventional treatment in accordance with the requirements of the Department. Suitable for fishing and the survival and propagation of a balanced indigenous aquatic community of fauna and flora. Suitable also for industrial and agricultural uses." (R.61-68)

Water Quality Standard Being Violated: Fecal Coliform Bacteria

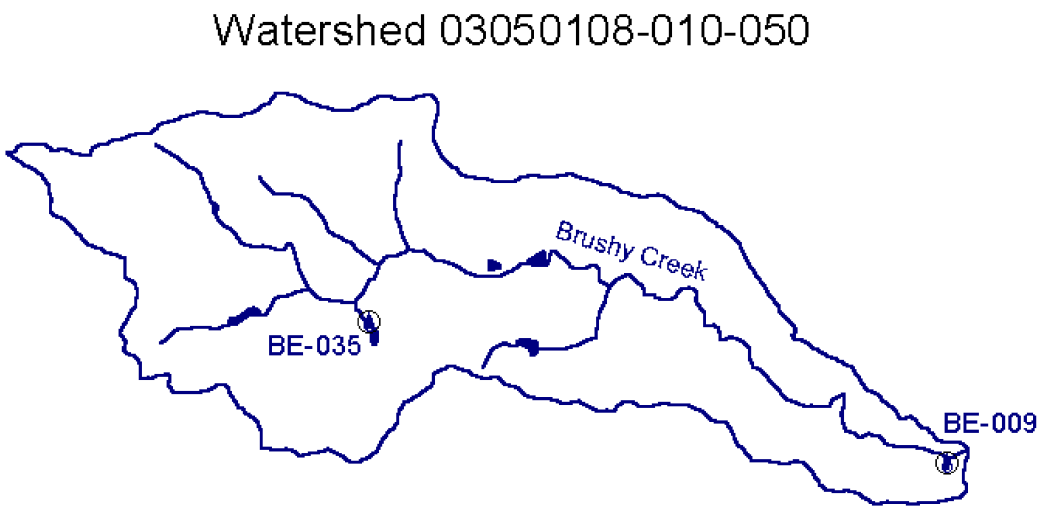
Pollutant of Concern: Fecal Coliform Bacteria

Fecal Coliform Criteria:

> "Not to exceed a geometric mean of 200/100 ml, based on five consecutive samples during any 30 day period; nor shall more than 10% of the total samples during any 30 day period exceed 400/100 ml." (R.61-68)

The *South Carolina Watershed Water Quality Management Strategy: Broad Basin* (SCDHEC 1998) was used to identify this stream segment as impaired and for listing the water body on the 1998 South Carolina 303(d) list. Waters in which no more than 10% of the samples collected over a five year period are greater than 400 colonies/100 ml are considered to comply with the South Carolina water quality standard for fecal coliform bacteria. Waters with more than 10 percent of

samples greater than 400 colonies/100 ml are considered impaired and listed for fecal coliform bacteria on South Carolina's 303(d) List. There are two SCDHEC ambient monitoring stations, BE-035 and BE-009, on the segment of Brushy Creek that is of concern (see map below). The upstream station, BE-035, is located on Brushy Creek at Howell Road. Station BE-009 is located at county road S-23-164. Data from both stations show that recreational uses are not supported due to violations of the 400/100 ml fecal coliform criterion. During the assessment period (1991-95), 95% of the samples at BE-035 did not meet the fecal coliform criterion. During the same time period, 70% of the samples at BE-009 exceeded the criterion.



TMDL TECHNICAL BASIS

Target Identification:

Target levels for fecal coliform bacteria in water bodies are those levels established in South Carolina's Water Quality Standards, Regulation 61-68, as described earlier. The criterion used in this TMDL will be "not to exceed a geometric mean of 175/100 ml," allowing an explicit margin of safety of 25/100 ml to ensure that the 200/100 ml criterion will be met.

This target of a geometric mean of 175/100 ml is expected also to satisfy the criterion, "nor shall more than 10% of the total samples during any 30 day period exceed 400/100 ml." Based on a review of water quality assessments in South Carolina, over 75% of waters that have a fecal coliform geometric mean of 175/100ml also meet the criterion "not more that 10% of samples exceed 400/100ml" (SCDHEC unpublished data). Most of the data in those assessments, however, reflect fecal coliform concentrations in areas that do not have sufficient best management practices (BMPs) in place. Thus, implementation of BMPs as described in this TMDL will likely achieve an even greater rate of compliance with the latter criterion since the

BMPs are generally focused on reducing fecal loadings during runoff events, the condition most likely to result in an exceedence of the 400/100ml criterion.

Source Assessment:

General Sources of Fecal Coliform:
Both point and nonpoint sources may contribute fecal coliform to a given water body. Potential sources of fecal coliform are numerous and often occur in combination. Nationwide, poorly treated municipal sewage is a major source of fecal coliform, but data presented below suggest this is not the case here. Urban storm water runoff, sanitary sewer overflows, and combined sewer overflows can be sources of fecal coliform. Rural storm water runoff can transport significant loads of fecal coliform from livestock pastures and animal feedlots. Failing septic systems and wildlife can also be sources of bacteria. Sources of fecal coliform loads to water bodies can be assigned to two broad classes: point source loads and nonpoint source loads.

Point Sources in the Brushy Creek Watershed:
There is one permittted dischared in the Brushy Creek watershed, though it is not a point source of fecal coliform bacteria.

NPDES #	Facility Name	Facility Type	Permitted Flow	Receiving Water
SCG250166	Liberty Life Insurance Co.	Minor Industrial	Monitor & Report	Brushy Creek

The Liberty Life Insurance Company facility discharges once-through non-contact cooling water. Once-through non-contact water has no additives, and fecal coliform is not typically a pollutant found in this type of effluent. Thus, it is not addressed in the NPDES permit, and this facility will not be considered a source of fecal coliform bacteria in this TMDL.

Nonpoint Sources in the Brushy Creek Watershed:
As there is no fecal coliform bacteria in the discharges from point sources in the Brushy Creek watershed, fecal coliform loadings can be attributed to nonpoint sources. The land use in the entire watershed (drainage to BE-009) is 5.6% forest, 94.0% urban (the City of Greenville), and <1% other. Land use in the area draining to station BE-035 is 100% urban.

Fecal coliform bacteria have been detected in storm water runoff from urban areas at densities high enough to suggest a potential health risk (Novotny 1994). The origins of urban bacterial loads are diverse, and may include leakage or overflows from sanitary sewers, failing septic systems, illegal sanitary connections to storm drains, and transient dumping of wastewater into storm drains, as well as bacteria derived from domestic and non-domestic animal waste (Scheuler 1999).

Sewer lines servicing the Brushy Creek watershed are tied to the Western Carolina Regional Sewer Authority's Pelham Waste Water Treatment Facility (NPDES # SC0033804). The discharge from this facility goes into the Enoree River, which is outside of the Brushy Creek watershed. Several sanitary sewer overflows have been reported in the Brushy Creek watershed, including four between December 1998 and April 1999 that reached Brushy Creek or one of its

tributaries.

Fecal coliform bacteria also originate in forested areas. Sources are generally wild animals such as deer, racoons, wild turkeys, water fowl, etc. Control of these sources would generally be limited to land management BMPs, although forested areas are not specifically targeted for reductions in this TMDL.

Linkage Between Numeric Targets and Sources:

Due to the types of land use present in this watershed, the major source of fecal coliform is urban land. While forested lands may contribute some bacteria to the total Brushy Creek watershed loading, the loadings from these small forested areas are likely to be minor relative to the loadings from urban land. This assertion is supported by a number of data sources. First, substantially higher fecal levels are generally found in urban areas than in forested areas (e.g. Novotny 1994 and Scheuler 1999). Also, the observation that the BE-009 and BE-035 watersheds are 94% and 100% urban, respectively, and exhibited violations of fecal coliform criteria in 70% and 95%, respectively, of samples collected support urban land as the overwhelming source of fecal coliform in Brushy Creek.

The loading from forested lands will be considered background conditions. The geometric mean of fecal coliform concentration in water bodies flowing through forested areas in South Carolina during all flow conditions is estimated to be 30 colonies/100 ml (SCDHEC unpublished data). The 30 colonies/100 ml observed in South Carolina falls well within the range reported by Schueler (1999) of 10 to 100 colonies/100 ml of fecal coliform from forested lands. Thus, 30 colonies/ 100 ml will be considered the background condition.

Data Availability and Analysis:

Watershed Characteristics:
The Brushy Creek watershed, located in the Broad River basin, is a tributary to the Enoree River. The drainage area of concern for this TMDL consists of the 14-digit hydrologic unit 03050108-010-050 in Greenville County and is equivalent to the area of land draining to station BE-009. The area of land draining to station BE-035 is a sub-watershed within this 14-digit hydrologic unit. All references to the Brushy Creek watershed in this TMDL refer specifically to watershed 03050108-010-050. This includes 9,626 acres in the Piedmont region of South Carolina.

Brushy Creek Watershed Land Use

	BE-035 Drainage		BE-009 Drainage *(includes BE-035 watershed)*	
Land Use	**Acres**	**Percentage**	**Acres**	**Percentage**
Forest			539	5.6%
Agriculture/Grass			29	0.3%
Urban	666	100%	9049	94.0%
Other			9	0.1%
Total	*666*		*9626*	

Fecal Coliform

SCDHEC monitors water chemistry on Brushy Creek at two ambient monitoring stations, BE-035 and BE-009, once a month from May through October of every year. Existing data from this monitoring station is available through STORET and included in the data appendix. The geometric mean of fecal coliform using the most recent available data (1994-98) is 1642 colonies/100ml at BE-035 and 644/100ml at BE-009.

Flow

Flow information for Brushy Creek was estimated using flow data for water years 1942-1997 from USGS gage station 02164000 on the Reedy River near Greenville. A warm weather generation coefficient was established by dividing the average flow from May through October at the USGS station by the drainage area for the station. The warm weather generation coefficient (Gc) is established as follows:

$$Gc = \frac{\text{Mean flow from May-Oct in cfs}}{\text{Drainage area in square miles}}$$

$$Gc = 63.9 \text{ cfs}/48.6 \text{ square miles} = 1.31 \text{ cfs/square mile}$$

The warm weather generation coefficient is multiplied by the Brushy Creek drainage area (15.04 square miles) to obtain the average warm weather flow for the Brushy Creek of 19.8 cfs. For the BE-035 drainage area (1.04 square miles), the average warm weather flow is 1.37 cfs.

Critical Conditions:

Novotny & Olem (1994) find statistically lower fecal coliform counts in cold weather urban runoff samples than in warmer weather urban runoff. To substantiate this, winter and summer fecal coliform values were compared at ambient water quality monitoring stations impacted by nonpoint sources in the Piedmont Region of South Carolina. This analysis showed summer fecal levels to be generally higher than or approximately the same as winter levels. Therefore, summer months (May-October) are generally considered critical conditions. This can be explained by the nature of summer and winter storm events. Thunderstorms are typical in the summer months. This pattern of rainfall allows for the accumulation and washing off of fecal coliforms into the streams resulting

in spikes of fecal coliform concentrations. In the winter, longer and slower rain events are the norm. This pattern of rainfall does not allow for the high build-up of coliform that characterizes the summer. Rather, coliform bacteria are washed into the stream at a more even rate. This, coupled with the increased winter flows that provide more dilution, usually results in lower winter fecal coliform concentrations. Warm weather months (May through October) will be used as the critical condition in this TMDL.

Load Calculations:

With the observed warm weather geometric mean of 644 colonies/100 ml and the average flow of 19.8 cfs, the current summer loading at BE-009 is determined to be 3.12×10^{11} colonies/day using the equation below.

Fecal Coliform * Qa * Factor = Loading

where: Fecal Coliform = # colonies/100ml
Qa = average warm weather flow in cfs
Factor = conversion factor = 24468984
Loading = # fecal coliform colonies/day

Using a geometric mean of 200 colonies/100 ml, the allowable load during average warm weather flow is 9.67×10^{10}.

Also using the equation above, the geometric mean of 1642 colonies/100ml, and the average flow of 1.37 cfs, the current summer loading at BE-035 is determined to be 5.49×10^{10} colonies/day. Using a geometric mean of 200 colonies/100 ml, the allowable load at BE-035 during average warm weather flow is 6.69×10^{9}.

Assuming the flow attributable to forest lands is proportional to the percent of forest land in the watershed, the loading from forest lands in the Brushy Creek watershed (to BE-009) was calculated to be 8.13×10^{8} colonies/day (using the equation above and the geometric mean of 30 colonies/100 ml). The remaining fecal loading from the watershed, 3.107×10^{11} colonies/day, is the load attributable to urban land. This loading translates to a mean in-stream concentration of 683/100ml. This concentration is reasonable considering the range reported by Doran et al (1981) of 9.60×10^{2} to 4.3×10^{6} colonies/100 ml for fecal coliform from urban lands.

For the BE-035 watershed, the entire loading of 5.49×10^{10} colonies/day is attributable to urban land.

TMDL Development:

A total maximum daily load (TMDL) for a given pollutant and waterbody is comprised of the sum of individual wasteload allocations (WLAs) for point sources, and load allocations (LAs) for both nonpoint sources and natural background levels. In addition, the TMDL must include a margin of safety (MOS), either implicitly or explicitly, to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving water body. Conceptually, this definition is represented by the equation:

TMDL = 3 WLAs + 3 LAs + MOS

The TMDL is the total amount of pollutant that can be assimilated by the receiving water body while still achieving water quality standards. In TMDL development, allowable loadings from all pollutant sources that cumulatively amount to no more than the TMDL must be established and thereby provide the basis to establish water quality-based controls.

For some pollutants, TMDLs are expressed on a mass loading basis (e.g., pounds per day). For bacteria, however, TMDLs can be expressed in terms of organism counts (or resulting concentration), in accordance with 40 CFR 130.2(l).

Since there are no contributing point sources, the TMDL for Brushy Creek is equal to the load allocations from nonpoint sources and background conditions plus the MOS.

Brushy Creek TMDL = 3 LAs + MOS

Margin of Safety:
There are two basic methods for incorporating the MOS (USEPA 1991): 1) implicitly incorporate the MOS using conservative model assumptions to develop allocations, or 2) explicitly specify a portion of the total TMDL as the MOS; use the remainder for allocations.

An explicit MOS is used for this TMDL by establishing a target concentration level of 175 colonies/ 100 ml. This level is below the state standard of 200 colonies/ 100 ml.

TMDL

TMDL calculation:

The target level of fecal coliform bacteria is 175 colonies/100ml. For the Brushy Creek watershed, this is equivalent to a loading of 8.47×10^{10} colonies/day. The load from urban land plus the load from forest land must equal this target of 175 colonies/100ml. For the BE-035 drainage area, the target fecal concentration of 175/100ml is equivalent to a loading of 5.85×10^{9} colonies/day. Loadings from urban areas must be reduced to meet this target level.

Allocation of Load:

The existing 8.13×10^{8} colonies/day load from forest land can not reasonably be targeted for reduction. Thus, the existing load of 3.107×10^{11} colonies/day from urban lands in the Brushy Creek watershed must be reduced by 73% to 8.38×10^{10} to obtain the TMDL of 8.47×10^{10} colonies/day. In addition, loading within the sub-watershed draining to BE-035 must reduced by 89%, from 5.49×10^{10} colonies/day to 5.85×10^{9} colonies/day, to ensure that fecal standards are met at that station. This means that of the total reduction in fecal loading needed for the Brushy Creek watershed (2.269×10^{11} colonies/day), at least 22% of that reduction (4.91×10^{10} colonies/day) must be taken from the BE-035 watershed.

So, an allocation strategy that will allow the target TMDL to be maintained is as follows:

	BE-035 Drainage			BE-009 Drainage		
Land Use	**Current Loading**	**% Reduction**	**Final Loading**	**Current Loading**	**% Reduction**	**Final Loading**
Forest				8.13×10^{8}	0%	8.13×10^{8}
Urban	5.49×10^{10}	89%	5.85×10^{9}	3.107×10^{11}	73%	8.38×10^{10}
Total	*5.49×10^{10}*	*89%*	*5.85×10^{9}*	*3.12×10^{11}*	*73%*	*8.47×10^{10}*

Implementation Strategy:

As discussed in the Implementation Plan for Achieving Total Maximum Daily Load Reductions From Nonpoint Sources for the State of South Carolina, South Carolina has several tools available for implementing this nonpoint source TMDL. Specifically, SCDHEC's Appalachia II Environmental Quality Control District and the Bureau of Water Enforcement Section will address collection system, overflowing manhole, and leaky sewer line problems as necessary in the watershed. The State Revolving Fund offers low interest rate loans to local governments for improvements to waste water treatment facilities including sewer line and pump station maintenance. In addition, as part of their Municipal Separate Storm Sewer System (MS4) permit (to be public noticed in September 1999), Greenville County will develop and implement a plan for detecting and addressing any illicit discharges to the storm sewer system. Also as part of the MS4 permit, the county will conduct public education about storm water impacts on water bodies and how citizens can reduce storm water pollution. SCDHEC will also work with the existing agencies in the area to provide nonpoint source education in the Brushy Creek watershed. Local sources of nonpoint source education include Clemson Extension Service, the Natural Resource Conservation Service and the South Carolina Department of Natural Resources. Clemson Extension has developed a Home-A-Syst handbook that can help urban homeowners reduce sources of nonpoint source (NPS) pollution on their property. Home-A-Syst allows the homeowner to evaluate practices at their home and determine what NPS impacts they may be having. It recommends best management practices (BMPs) to correct potential nonpoint source problems at a residence. SCDHEC also employs a nonpoint source educator who can assist with distribution of these tools as well as provide additional BMP information.

DHEC will continue to monitor water quality in Brushy Creek according to the basin monitoring schedule in order to evaluate use support and the effectiveness of implementation measures.

References

Doran, J.W., J.S. Schepers, and N.P. Swanson. 1981. Chemical and Bacteriological Quality of Pasture Runoff. J. Soil Water Conserv. May-June:166-171.

Novotny, Vladimir. Olem, Harvey. 1994. Water Quality Prevention, Identification, and Management of Diffuse Pollution. Van Nostrand Reinhold, New York.

SCDHEC. 1998. Watershed Water Quality Management Strategy: Broad Basin. Technical Report No. 001-98.

SCDHEC. 1998. Implementation Plan for Achieving Total Maximum Daily Load Reductions From Nonpoint Sources for the State of South Carolina.

Scheuler, T. R. 1999. Microbes and Urban Watersheds: Concentrations, Sources, and Pathways.
Watershed Protection Techniques 3(1): 554-565.

United States Environmental Protection Agency (USEPA). 1991. Guidance for Water Quality-Based Decisions: The TMDL Process. Office of Water, EPA 440/4-91-001.

Public Participation

The public notice on pages 13-14 was sent to a mailing list of over 300 individuals statewide interested in water quality issues. In addition, the notice was sent to local organizations and county and city officials in Greenville County with a possible interest in this TMDL.

Th public notice on page 15 was published in the following six South Carolina newspapers on July 9, 1999: *The Greenville News*, the Anderson *Independent-Mail*, Charleston's *The Post & Courier*, Columbia's *The State*, *The Herald* in Rock Hill, and Camden's *Chronicle-Independent* .

Comments Received and Responsiveness Summary

Comments were received from the Southern Environmental Law Center (SELC), the South Carolina Department of Natural Resources (SC DNR), the Sierra Club South Carolina Chapter, and the South Carolina Department of Parks, Recreation & Tourism (SC PRT).

The comments are enclosed in Appendix B. A summary of the comments and DHEC's response are found in the Responsiveness Summary on page 16.

NOTICE OF AVAILABILITY OF PROPOSED TMDLS
FOR WATERS AND POLLUTANTS OF CONCERN IN SC

The South Carolina Department of Health and Environmental Control (DHEC) has developed a proposed total maximum daily load (TMDL) for fecal coliform bacteria for each of the following waterbodies: Unnamed tributary to Catawba River (York County), Camp Creek (Lancaster County), Beaverdam Creek (Oconee County), Brushy Creek (Greenville County), and Middle Tyger River (Greenville County). DHEC has also developed a proposed TMDL for dissolved oxygen downstream of dams for each of the following waterbodies: Cawtaba River (downstream of Great Falls Reservoir Dam), Wateree River (Lake Wateree Dam), and Saluda River (Lake Murray Dam). These TMDLs have been developed in accordance with Section 303(d) of the Clean Water Act, and SCDHEC is now proposing to establish them as final TMDLs.

Persons wishing to offer comments or new data regarding these proposed TMDLs may submit data and comments in writing no later than August 9, 1999 to Anne Runge, DHEC, Bureau of Water, 2600 Bull Street, Columbia, SC 29201. For more information, please contact Ms. Runge at (803) 898-3701 or visit our website at www.state.sc.us/dhec/eqpubnot.htm.
July 9, 1999

Responsiveness Summary:

Summarized comments received on fecal TMDLs public noticed on July 9, 1999, are listed below along with DHEC response. (Summarized comments are in italics, name of respondent is in parentheses)

Middle Tyger River, Camp Creek, Beaverdam Creek TMDLs:

1) *Respondent questions the assumption that no fecal coliform contamination originates from forested land. Forestry activities, including land clearing, cultivating, and harvesting, can generate non-point source pollution, particularly if carried out without using Best Management Practices.* (SELC)

Estimates of fecal coliform bacteria loading from forested lands were made using SC DHEC water quality monitoring data from forested areas. As stated in the TMDLs, the estimates used are consistent with the typical values of loadings from forested areas seen in the literature and in other studies.

2) *Agricultural land is treated as a single source of fecal loadings, without assessing individual contributions from intensive livestock operations. Monitoring data pinpointing the locations of major contribution areas or sources within the watershed are not provided. These data are necessary to develop an adequate implementation strategy*. (SELC)

The implementation of these TMDLs will include education about and installation of best management practices that reduce fecal coliform loadings from agricultural lands. These BMPs, to be implemented to the extent possible under voluntary programs such as the Section 319 program and agricultural cost-sharing programs, will be focused on lands that are likely sources of fecal coliform loadings, including the intensive livestock operations and land application sites mentioned by the respondent. As any livestock operation or land application site that does not have adequate BMPs in place is a probable source of fecal coliform bacteria, such implementation measures will reduce fecal loadings to the waterbodies.

3) *The TMDLs do not provide "reasonable assurance" that nonpoint sources of fecals will be adequately addressed by the measures identified, as required by EPA guidance. No statement specifying when implementation actions by DHEC or other agencies will occur is provided. No information or commitments are provided regarding future monitoring and steps to be taken if impairment is not resolved*. (SELC)

EPA guidance acknowledges that in watersheds impaired solely by nonpoint sources, the primary implementation mechanism will be the Section 319 program and other state or federal assistance programs such as cost-sharing and incentive programs (Robert Perciasepe memo, 1997). As these are all voluntary programs, they involve a process of landowners, agencies, or organizations submitting and receiving approval for project proposals to implement appropriate practices. This project development and evaluation process, which will target fecal sources in these watersheds, will take place after TMDL approval by EPA has been granted. According to EPA guidance (1991), implementation of the TMDL is to take place after the state has obtained EPA approval. Commitment and funding for implementing these BMPs will thus be arranged after TMDLs have been approved.

As is stated in the TMDLs, DHEC will continue to monitor water quality in these waters according to the basin monitoring schedule in order to evaluate use support and the effectiveness of implementation measures.

Brushy Creek and Unnamed tributary to Catawba River TMDLs:

1) *The TMDLs do not adequately identify the location of the causes of the impairment. Respondent submits that TMDLs should specifically describe additional monitoring work to pinpoint the primary sources of the contamination*. (SELC)

Fecal coliform is present in all sources of urban runoff including streets, lawns, parking lots, commercial and residential rooftops, and storm water drains (Schueler, Thomas R., ed. 1999. Microbes and Urban Watersheds: Concentrations, Sources, and Pathways. *Watershed Protection Techniques.* April 1999:3-1). It is difficult if not impossible to isolate all the contributing sources of fecal coliform in urban watersheds. However, the Municipal Separate Storm Sewer System (MS4) permit for Greenville County (to be public noticed in September 1999) and the MS4 Phase II permit for Rock Hill (Phase II regulations to be published in the Federal Register in November 1999) will require the identification of illicit discharges to the storm sewer system, a potential major contributor of fecal coliform. Language has been added to the Unnamed Tributary to the Catawba River TMDL discussing the MS4 permit for Rock Hill.

2) *The TMDLs do not provide "reasonable assurance" that nonpoint sources of fecals will be adequately addressed by the measures identified, as required by EPA guidance. No statement specifying when implementation actions by DHEC will occur is provided. No information or commitments are provided regarding future monitoring and steps to be taken if impairment is not resolved*. (SELC)

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In addition to voluntary measures, both of the watersheds will be subject to (MS4) permits. These permits for Greenville County and Rock Hill will require the identification and removal of illicit discharges to the storm sewer system, a potential major contributor of fecal coliform. MS4 permits will also require the development and implementation of a public education program about storm water and how citizens can reduce storm water pollution. Language has been added to the Unnamed Tributary to the Catawba River TMDL discussing the MS4 permitting program.

As is stated in the TMDLs, DHEC will continue to monitor water quality in these waters according to the basin monitoring schedule in order to evaluate use support and the effectiveness of implementation measures.

Other Comments on all five Fecal TMDLs

1) *Respondent commends DHEC on TMDLs and believes implementation of the strategies will make waters safe for recreation. (SC DNR)*

No response necessary.

2) *Respondent has reviewed TMDLs and administrative record and has no questions, comments, or additional information to offer. (Sierra Club - SC Chapter)*

No response necessary.

3) *Respondent supports DHEC's effort to establish TMDLs and believes they are consisted with recommendations in Lower Saluda River Corridor Plan and the Catawba River Corridor Plan. (SC PRT)*

No response necessary.