August 7, 2007

Memorandum

To: Steve Kroeger
From: Cathy Tyndall

Subject: Follow-up Fecal Coliform Sampling; Peachtree-Martins Creek Watersheds
Hiwassee River Basin, Cherokee County, North Carolina

The NC Division of Water Quality (DWQ) conducted fecal coliform sampling in the Peachtree-Martins Creek watersheds near Murphy between September 2005 and September 2006 to support the development of a Local Watershed Plan (LWP) by the NC Ecosystem Enhancement Program. The sampling during this period was conducted during baseflow and stormflow and samples were delivered to the Laboratory Section in excess of a six-hour holding time. Additional sampling was warranted in order to determine whether water quality standards are being met for fecal coliform bacteria or to gain additional information on bacteria concentrations. These data were requested by the NC Ecosystem Enhancement Program and will be used to develop management strategies to improve water quality and aquatic habitat in these watersheds. This follow-up sampling was conducted at the eight sites listed below in Tables 1. and 2. from May 24, 2007 to June 19, 2007.

The DWQ Watershed Assessment Team (WAT) determined whether water quality standards for fecal coliform bacteria are being met for sites listed in Table 1. Samples from additional sites (Table 2) were collected to provide further data for watershed assessment and characterization. All applicable DWQ standard operating procedures were followed. A Quality Assurance Program Plan (QAPP) was not prepared for this project.

Table 1. Sites where 5 samples were collected in a 30 day period.

Waterbody	Location	Lat/Long	
George Creek	Above Crisp Road (SR 1576)	35.04746	-84.03081
Martins Creek	Martin Creek Road (SR 1556)	35.06569	-84.02181
Lamb Branch	Upper Peachtree Road at SR 1535	35.09618	-83.92247
Peachtree Creek	Mission Road (SR 1537)	35.08945	-83.93091
Mission Branch	Myers Branch Road (SR 1545)	35.06145	-83.94644
Slow Creek	Greenlawn Cemetery Road (SR 1670)	35.09240	-83.95580

Table 2. Sites for watershed assessment and characterization.

Waterbody	Location	Lat/Long	
McComb Branch	Hiwassee River confluence	35.06850	-83.97220
Sudderth Branch	below Mission Road (SR 1544)	35.06591	-83.93533

Of the follow-up sites where five samples were collected during baseflow conditions in a 30 day period (Table 3), Martins Creek, Lamb Branch, Peachtree Creek, Mission Branch and Slow Creek had geometric means greater than the water quality standard of 200/100ml. Lamb Branch had the highest geometric mean (1540/100 ml) followed by Slow Creek (1043/100 ml). At these two sites, 100% of the samples collected were over 400/100 ml. George Creek was sampled five times in 30 days, but the geometric mean was 140/100 ml, indicating that fecal coliform did not exceed the state standard at the location sampled. McComb Branch was not sampled five times in 30 days due to logistical difficulties, however, the results indicate fecal coliform values of concern and livestock do have easy access to the stream. Sudderth Branch did not have fecal coliform values of concern for the first four sampling events, so it was not sampled a fifth time.

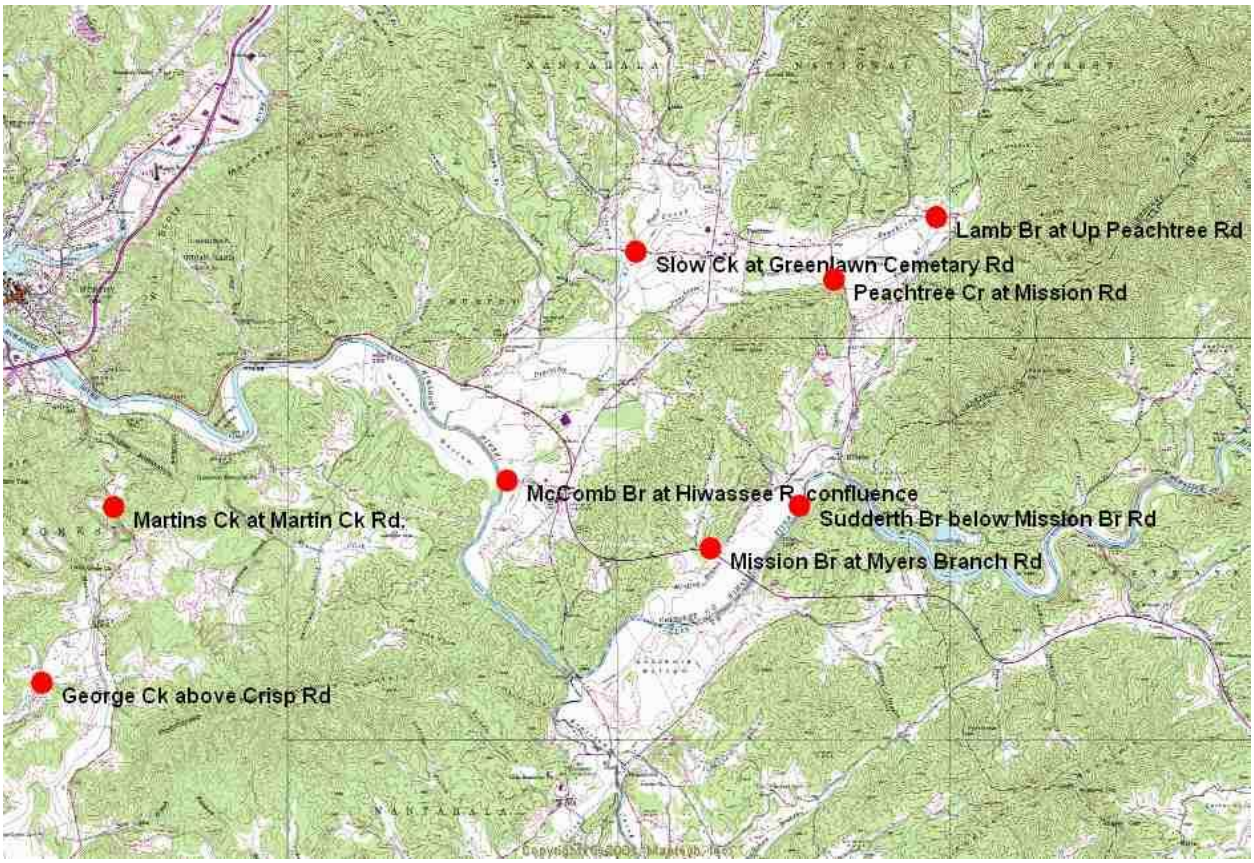

Figure 1. Follow-up Fecal sites in Peachtree-Martins Creek Watershed

Table 3. Follow-up fecal data collected May 24-June 19, 2007

Waterbody	Total number samples	Results >400	Min value	Max Value	Geometric Mean	Proportion (% > 400)
George Creek	5	0	88	230	140	0
Martins Creek	5	2	220	1400	550	40
Lamb Branch	5	5	800	2200	1540	100
Peachtree Creek	5	3	180	1200	520	60
Mission Branch	5	3	390	2400	631	60
Slow Creek	5	5	460	2400	1043	100
McComb Branch	4	2	170	2200	518	50
Sudderth Branch	4	0	96	190	122	0

cc: Roger Edwards, Surface Water Protection Supervisor, ARO
Andrea Leslie, Ecosystem Enhancement Program
Jim Blose, Equinox Environmental
Callie D. Moore, Hiwassee River Watershed Coalition