

Smith Branch Monitoring Sites

Monitoring Data Summary for March 30th, 2017 – May 3rd, 2017

Data Gaps

- The SMIA and SMIB stations each experienced a period of turbidity fouling in early April. Several severe thunderstorms moved through the watershed during this period, and the sondes were buried in sediment for a brief period.

SCDHEC Standards

- Neither the SMIA nor the SMIB station recorded pH values outside of the SCDHEC standards acceptable range. However, the SMIB station did record a maximum pH of 8.5 during this deployment period, the upper limit of the SCDHEC standard.
- The SMIA and SMIB stations recorded average DO concentrations of 8.3 mg/L and 8.5 mg/L, respectively, well above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentrations were 7.0 mg/L and 6.4 mg/L at the SMIA and SMIB stations, respectively. Each of these minimum DO concentrations is well above the SCDHEC minimum level of 4 mg/L.

Storm Events

- The SMIA and SMIB rain gauges recorded six and eight storm events, respectively, during this monitoring period. These events resulted in 8.1 total inches of rainfall at SMIA and 8.0 inches of rainfall at SMIB.
- The Smith Branch monitoring stations generally recorded typical water quality responses to the storm events observed during this monitoring period.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 17.9 days in the Smith Branch watershed, and occurred prior to the April 23rd – 24th storm event.

Potential Illicit Discharges and Abnormal Events

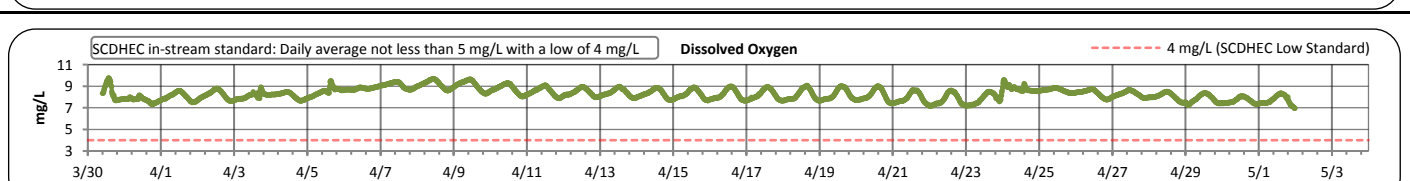
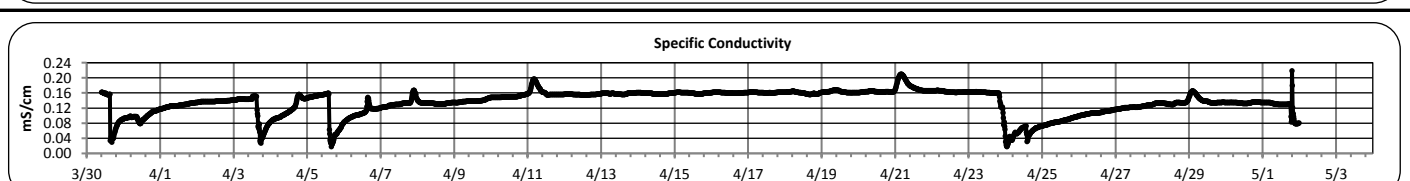
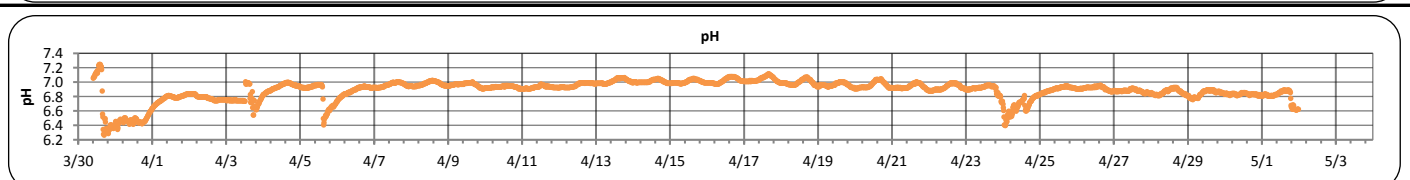
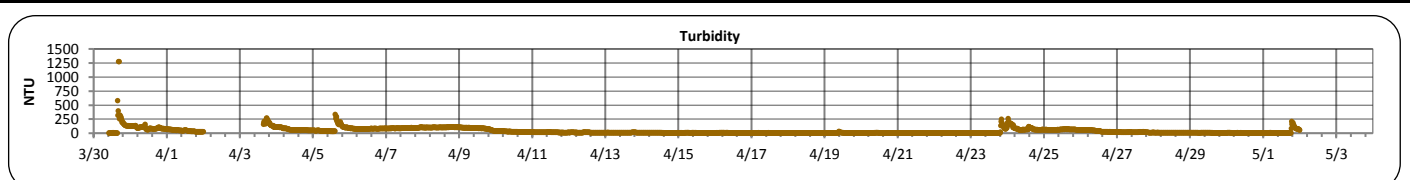
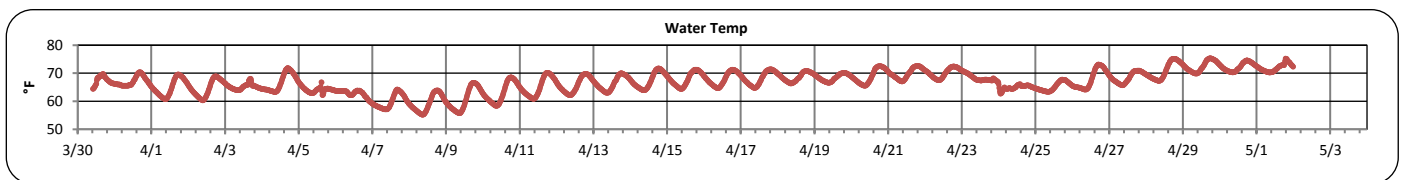
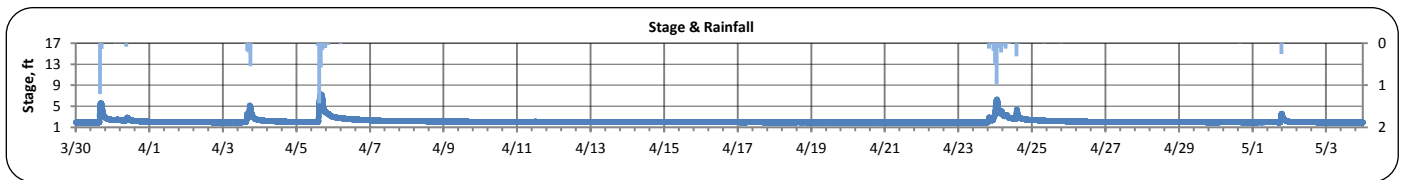
- Six periods of abnormal conditions were noted at the SMIA station. All of these were observed in the specific conductivity dataset, and they occurred on April 6th, 7th, 11th, 21st, and 28th-29th, and May 1st.
- Six periods of abnormal water quality conditions were observed at the SMIB station during this monitoring period, and all of these influenced specific conductivity and were also observed at the SMIA station. These occurred on April 6th, 7th-8th, 11th, 21st, and 29th, and May 1st.

Flow Measurements

- No flow measurements were taken in this watershed during this monitoring period.

Smith Branch A (March 30, 2017 -- May 3, 2017)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Smith Branch	STAGE (FT):	1.9	7.4	2.0	2.2	0.5
LOCATION:	Earlewood Park	TEMPERATURE (°F):	55	75	67	67	4
ADDRESS:	1111 Parkside Dr Columbia, SC 29201	TURBIDITY (NTU):	4	1277	16	42	57
COORDINATES:	34.027289,-81.04265	pH:	6.3	7.3	6.9	6.9	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.018	0.219	0.142	0.136	0.031
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	7.0	9.8	8.3	8.3	0.5
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	6						
MAX. DAILY RAINFALL:	2.5 inches						
TOTAL RAINFALL (FOR PERIOD):	8.1 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

**Continuous Water Quality
Monitoring Periodic Report**

Smith Branch A (March 30, 2017 -- May 3, 2017)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The average of all the values recorded by the datasonde in 15 minute intervals.
STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

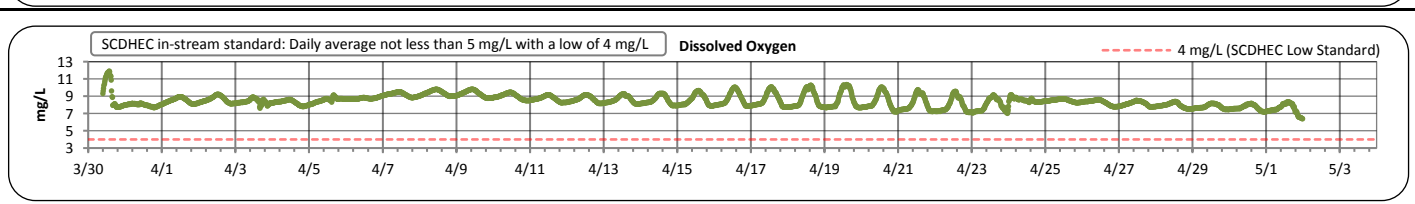
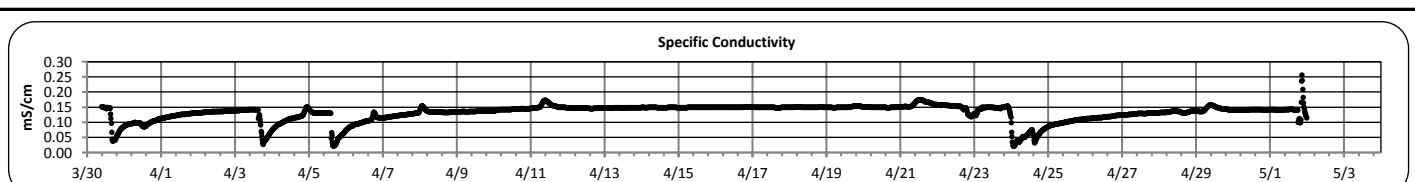
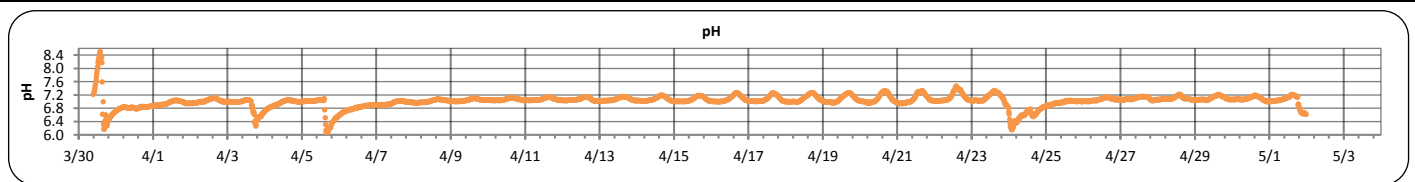
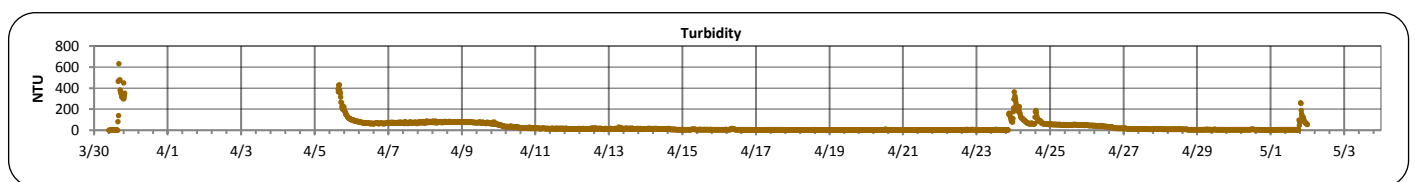
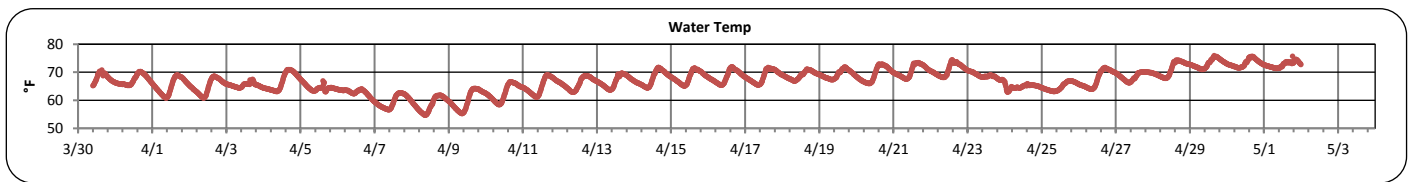
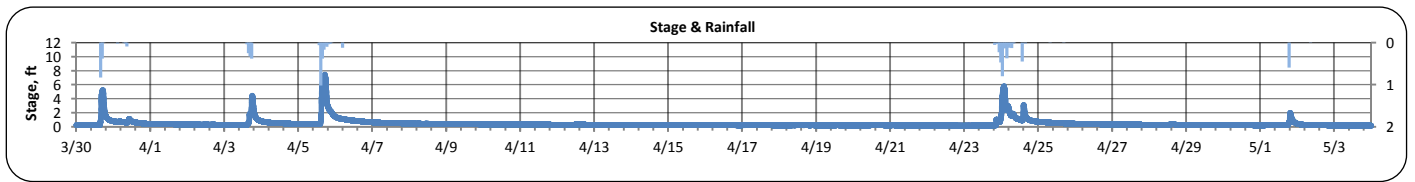
Grab Sample Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	3/30/2017		3/30/2017		3/30/2017		3/30/2017	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	12:21	486	15:21	544	15:47	13,730	16:16	6,896
Total Suspended Solids (mg/L)			15:21	101	15:47	600	16:16	352
Total Phosphorus (mg/L)			15:21	0.25	15:47	1.3	16:16	0.73
Total Nitrogen (mg/L)			15:21	4.53	15:47	7.58	16:16	5.5

Note: The first sample collected on 3/30/2017 was collected during dry weather conditions.

Smith Branch B (March 30, 2017 -- May 3, 2017)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Smith Branch	STAGE (FT):	0.2	7.5	0.3	0.5	0.6
LOCATION:	Off Mountain Drive	TEMPERATURE (°F):	55	76	67	67	4
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203	TURBIDITY (NTU):	2	634	12	32	52
COORDINATES:	34.037933,-81.0591	pH:	6.1	8.5	7.0	7.0	0.2
TMDL/IMPAIRED:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.02	0.256	0.141	0.132	0.027
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	6.4	11.9	8.4	8.5	0.7
SPATIAL LOCATION:	Most Downstream Site						
TOTAL NO. STORMS OVER 0.1 INCH:	8						
MAX. DAILY RAINFALL:	2.2 inches						
TOTAL RAINFALL (FOR PERIOD):	8.0 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

**Continuous Water Quality
Monitoring Periodic Report**

Smith Branch B (March 30, 2017 -- May 3, 2017)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The average of all the values recorded by the datasonde in 15 minute intervals.
STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	3/30/2017		3/30/2017		3/30/2017		3/30/2017	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	12:48	220	15:34	2,034	16:01	17,330	16:30	12,260
Total Suspended Solids (mg/L)			15:34	420	16:01	1,260	16:30	786
Total Phosphorus (mg/L)			15:34	0.55	16:01	1.4	16:30	1.1
Total Nitrogen (mg/L)			15:34	3.24	16:01	7.77	16:30	

Note: The first sample collected on 3/30/2017 was collected during dry weather conditions.