

Smith Branch Monitoring Sites

Monitoring Data Summary for February 23rd, 2017 – March 29th, 2017

Data Gaps

- The SMIA and SMIB stations did not experience any interruptions in the data record during this monitoring period.

SCDHEC Standards

- The SMIA station recorded a brief period of elevated pH levels in excess of the upper SCDHEC pH standard. This occurred on February 25th, and is described further in the “Potential Illicit Discharges and Abnormal Events” section (below).
- The SMIB station did not record any violations of the upper or lower SCDHEC pH standard during this deployment.
- The SMIA and SMIB stations recorded average DO concentrations of 9.1 and 9.8 mg/L, respectively, well above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentrations were 3.6 mg/L and 7.5 mg/L at the SMIA and SMIB stations, respectively. At the SMIB station, this minimum DO concentration is well above the SCDHEC minimum level of 4 mg/L. However, at the SMIA station, the DO concentrations fell below the lower SCDHEC limit of 4 mg/L on two occasions, during the storm events on March 12th and 22nd.

Storm Events

- The SMIA and SMIB rain gauges recorded four storm events during this monitoring period, resulting in 2.1 and 2.0 inches of rainfall, respectively.
- The Smith Branch monitoring stations generally recorded typical water quality responses to the storm events observed during this monitoring period. During the storm event on March 12th, however, the turbidity at SMIA became elevated significantly higher than typically observed.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 14 days in the Smith Branch watershed, and occurred prior to the March 1st-2nd storm event.

Potential Illicit Discharges and Abnormal Events

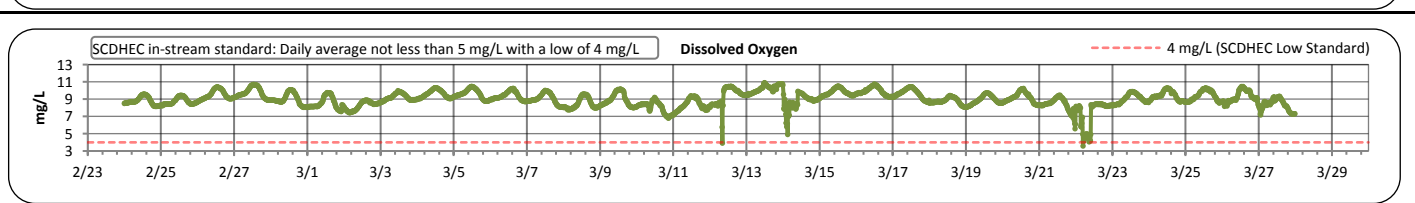
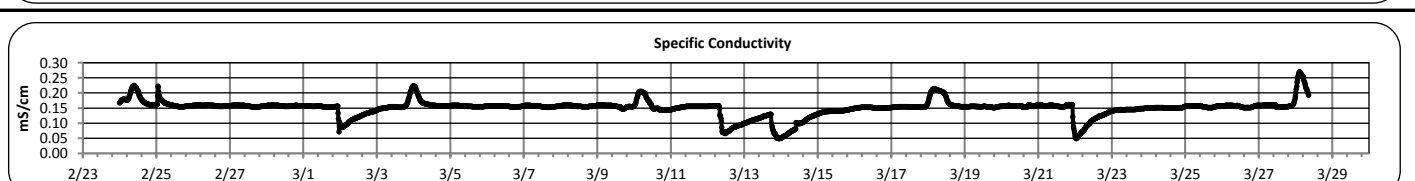
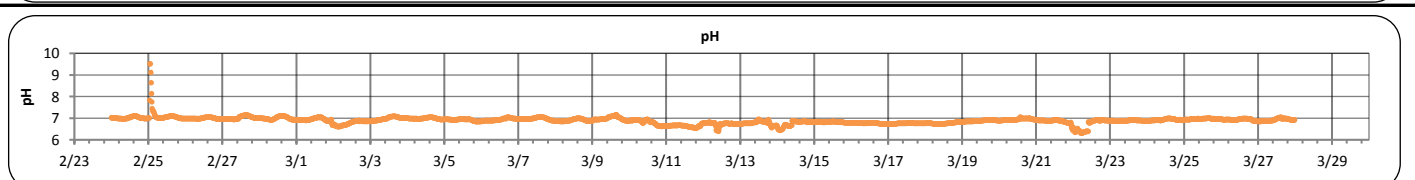
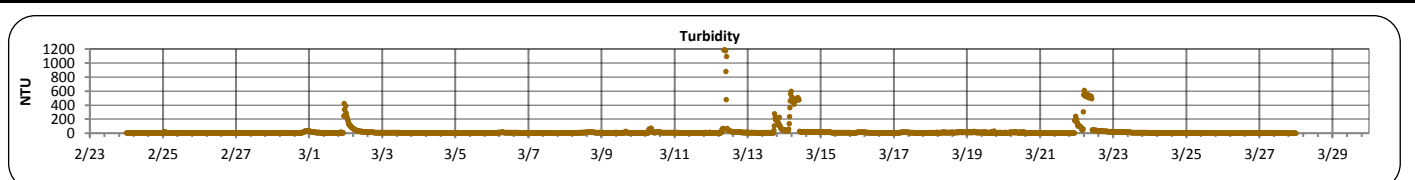
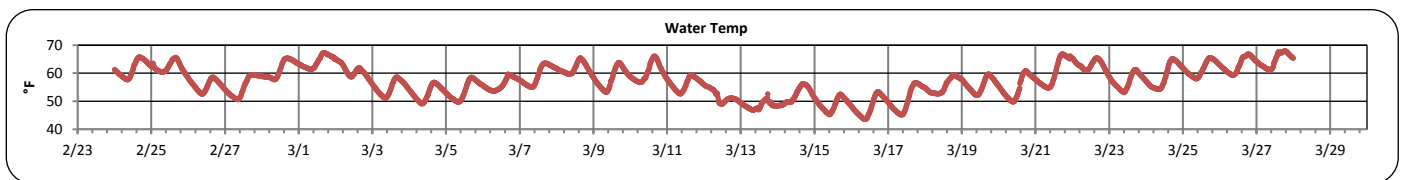
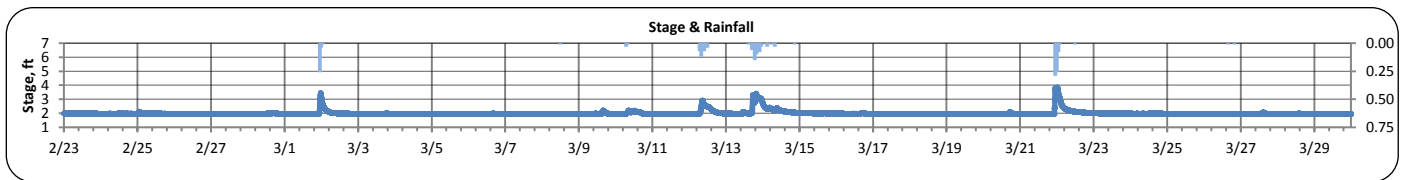
- Six periods of abnormal conditions were noted at the SMIA station. All of these were observed in the specific conductivity dataset, and they occurred on February 24th and 25th, and March 3rd-4th, 10th, 17th-18th, and 27th-28th. The specific conductivity increase on February 25th was also associated with a significant increase in pH level.
- Five 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 February 24th and 25th, and March 4th, 10th, and 18th.

Flow Measurements

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

Smith Branch A (February 23, 2017 -- March 29, 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	3.9	2.0	2.0	0.2
LOCATION:	Earlewood Park	TEMPERATURE (°F):	44	68	58	57	5
ADDRESS:	1111 Parkside Dr Columbia, SC 29201	TURBIDITY (NTU):	1	1187	7	23	85
COORDINATES:	34.027289,-81.04265	pH:	6.3	9.5	6.9	6.9	0.2
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.049	0.27	0.156	0.151	0.027
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	3.6	10.9	9.1	9.1	0.9
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	4						
MAX. DAILY RAINFALL:	0.6 inches						
TOTAL RAINFALL (FOR PERIOD):	2.1 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 (February 23, 2017 -- March 29, 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.

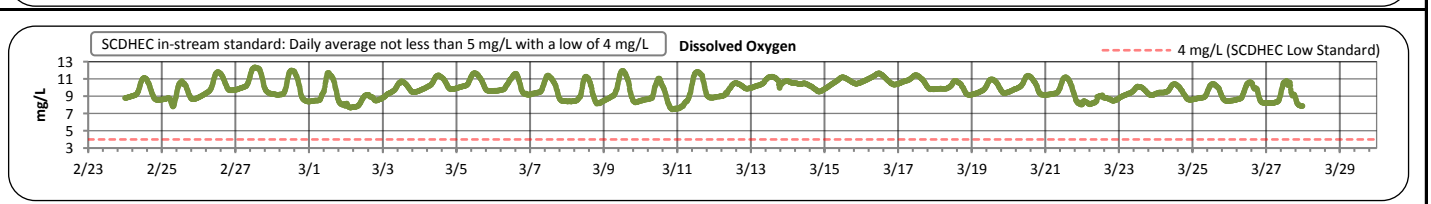
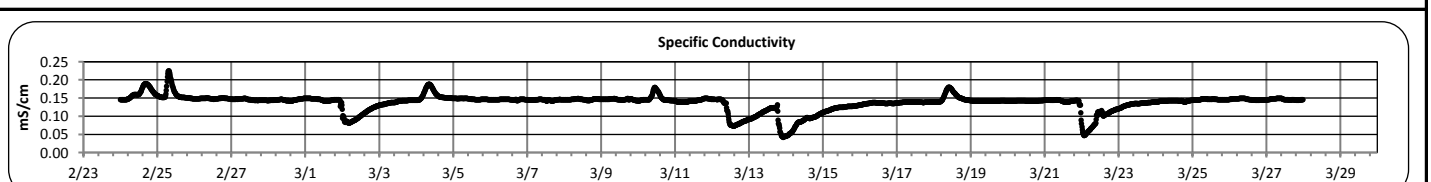
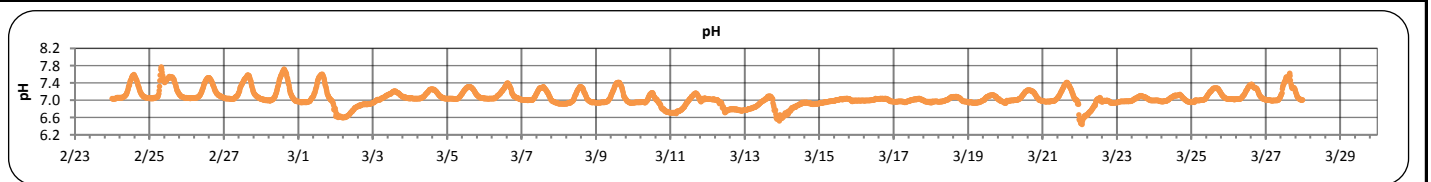
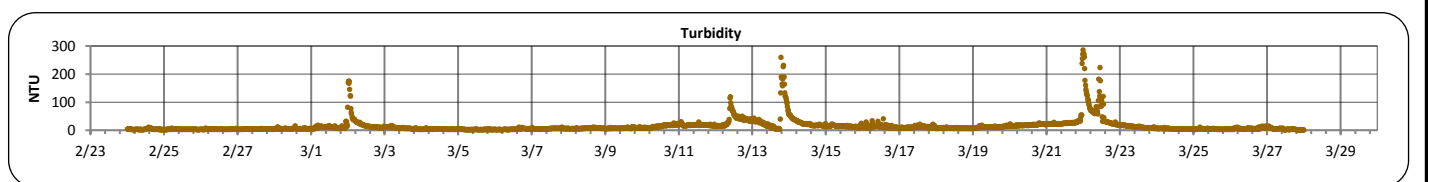
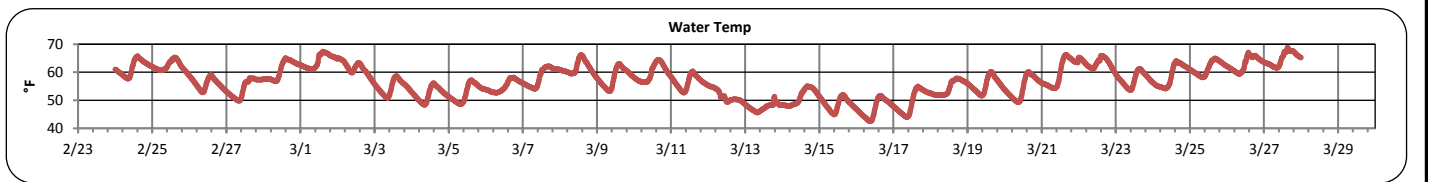
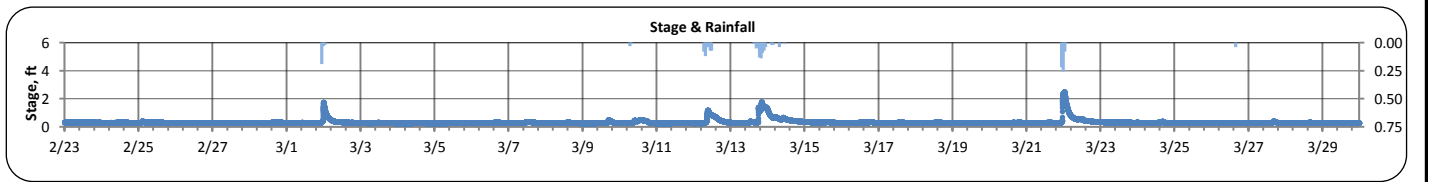
Grab Sample Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)								
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Note:

Smith Branch B (February 23, 2017 -- March 29, 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	2.5	0.3	0.3	0.2
LOCATION:	Off Mountain Drive	TEMPERATURE (°F):	43	69	57	57	6
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203	TURBIDITY (NTU):	2	286	9	15	24
COORDINATES:	34.037933,-81.0591	pH:	6.4	7.8	7.0	7.1	0.2
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.042	0.225	0.144	0.138	0.023
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	7.5	12.4	9.8	9.8	1.0
SPATIAL LOCATION:	Most Downstream Site						
TOTAL NO. STORMS OVER 0.1 INCH:	4						
MAX. DAILY RAINFALL:	0.6 inches						
TOTAL RAINFALL (FOR PERIOD):	2.0 inches						



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**Continuous Water Quality
Monitoring Periodic Report**

Smith Branch B (February 23, 2017 -- March 29, 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	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)								
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Note: