

Smith Branch Monitoring Sites

Monitoring Data Summary for January 19th, 2017 – February 22nd, 2017

Data Gaps

- The SMIA station experienced one brief gap in the turbidity record due to sensor fouling.
- At the SMIB station, no gaps in the dataset occurred during this monitoring period.

SCDHEC Standards

- The SMIA and SMIB stations 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 9.6 and 10.0 mg/L, respectively, well above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentrations were 8.2 mg/L and 8.6 mg/L at the SMIA and SMIB stations, respectively, well above the SCDHEC minimum level of 4 mg/L.

Storm Events

- The SMIA and SMIB rain gauges recorded six storm events during this monitoring period, resulting in 3.6 and 3.8 inches of rainfall, respectively.
- The Smith Branch monitoring stations generally recorded typical water quality responses to the storm events observed during this monitoring period. At the beginning of the storm event on February 7th-8th, however, a significant increase in specific conductivity was observed at the SMIA station, and to a lesser degree at the SMIB station.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was 14 days in the Smith Branch watershed, and occurred prior to the January 21st storm event.

Potential Illicit Discharges and Abnormal Events

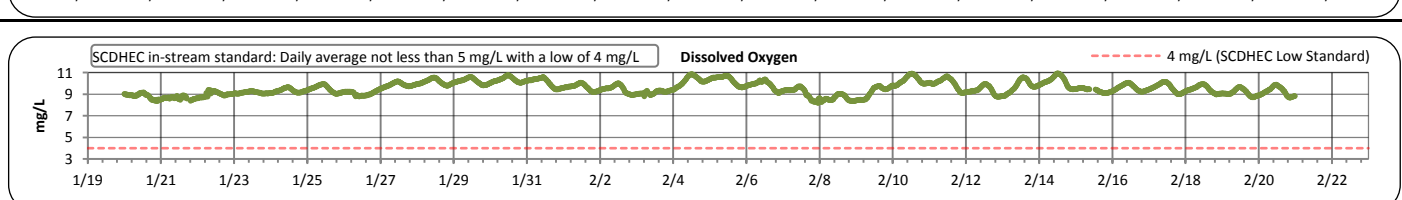
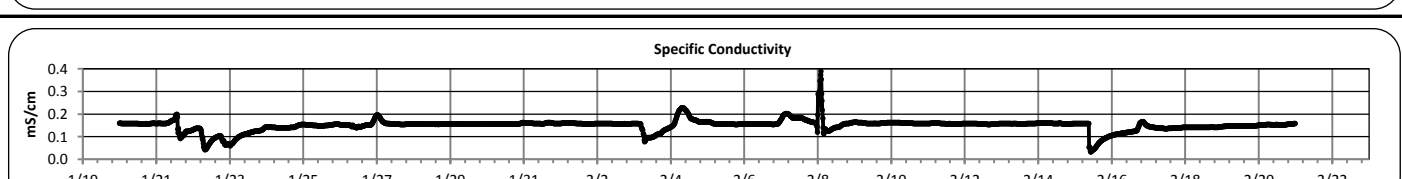
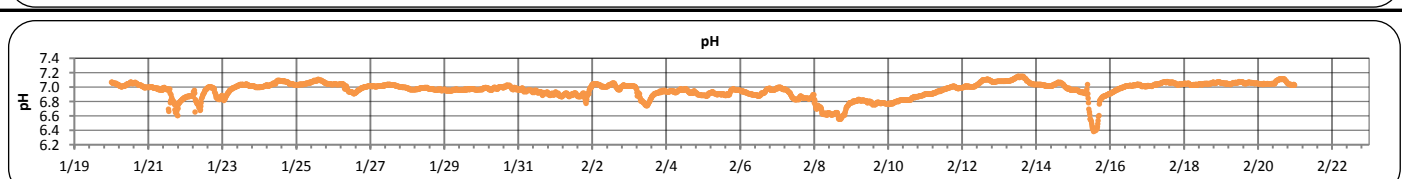
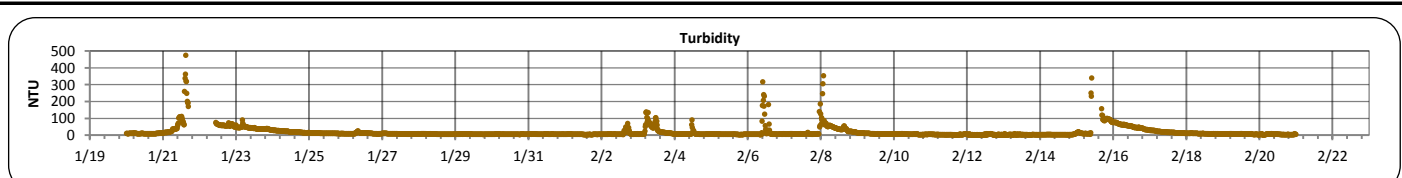
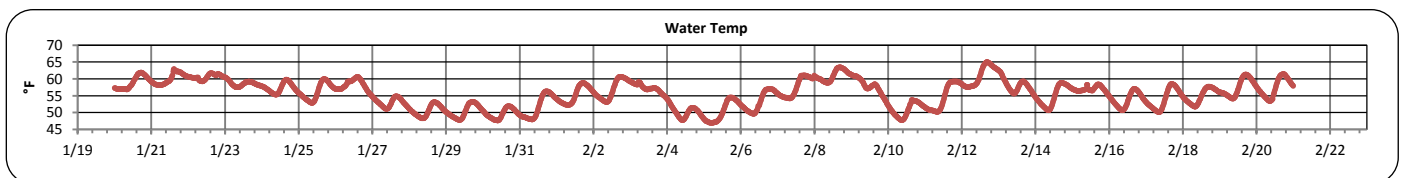
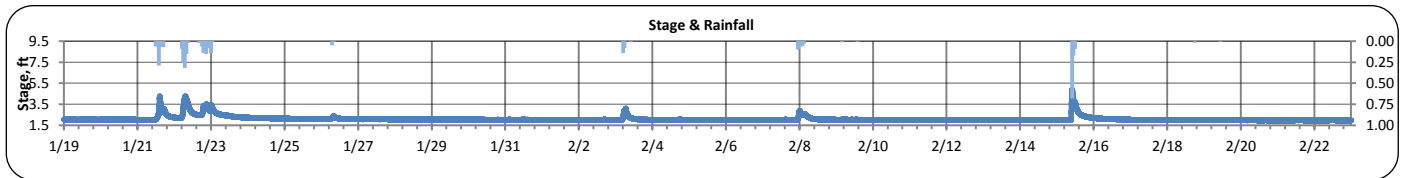
- Six periods of abnormal conditions were noted at the SMIA station. Four of these were observed in the specific conductivity dataset and occurred on January 26th-27th, and February 4th, 6th-7th, and 16th. Two periods of elevated turbidity were also recorded on February 4th and 6th.
- Five periods of abnormal water quality conditions were observed at the SMIB station during this monitoring period. These included 4 instances of elevated specific conductivity occurring on January 27th, and February 4th, 7th, and 16th-17th. Additionally, elevated turbidity levels were noted on February 6th.

Flow Measurements

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

Smith Branch A (January 19, 2017 -- February 22, 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):	2.0	5.0	2.0	2.1	0.3
LOCATION:	Earlewood Park	TEMPERATURE (°F):	47	65	56	56	4
ADDRESS:	1111 Parkside Dr Columbia, SC 29201	TURBIDITY (NTU):	1	476	8	18	31
COORDINATES:	34.027289,-81.04265	pH:	6.4	7.2	7.0	7.0	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.033	0.389	0.156	0.150	0.026
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	8.2	10.9	9.5	9.6	0.6
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	6						
MAX. DAILY RAINFALL:	1.5 inches						
TOTAL RAINFALL (FOR PERIOD):	3.6 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 (January 19, 2017 -- February 22, 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.

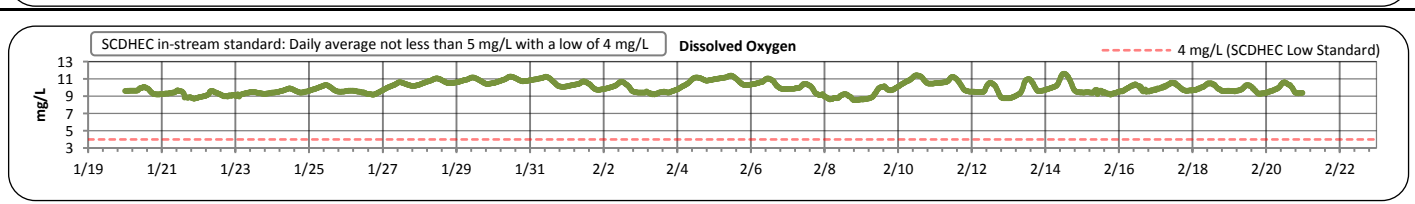
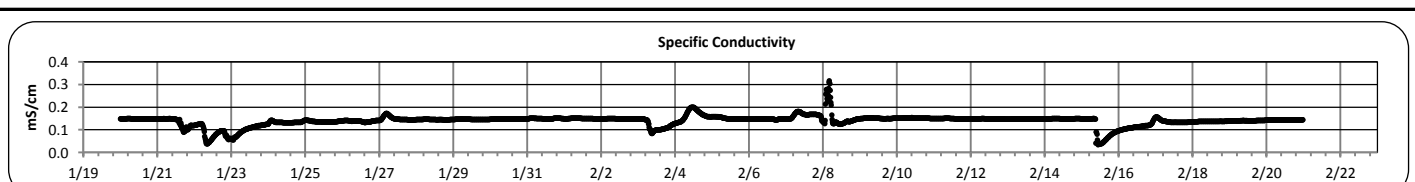
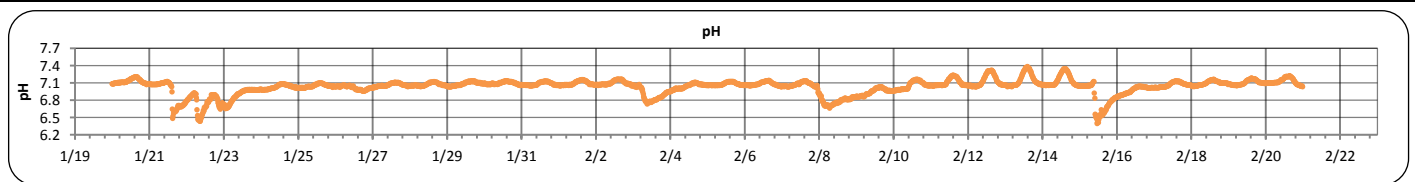
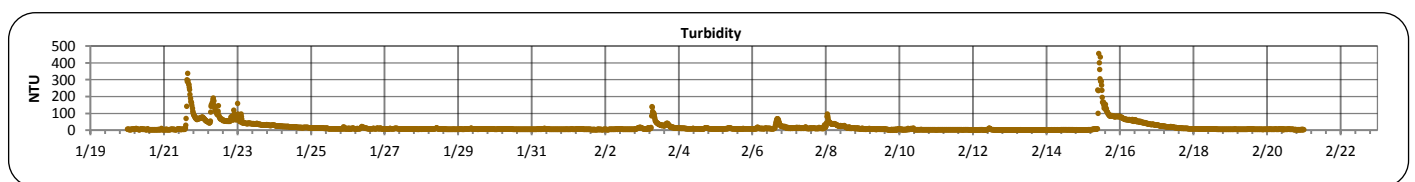
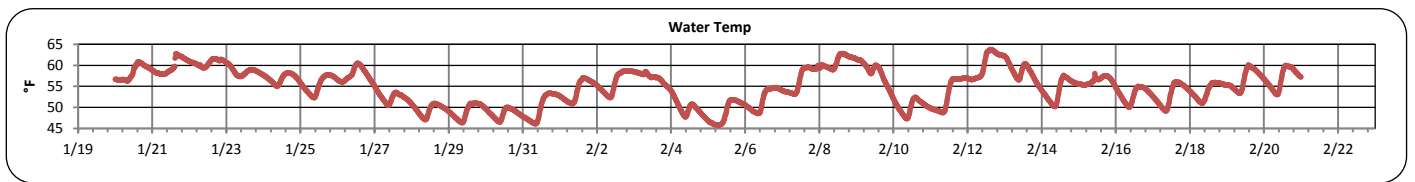
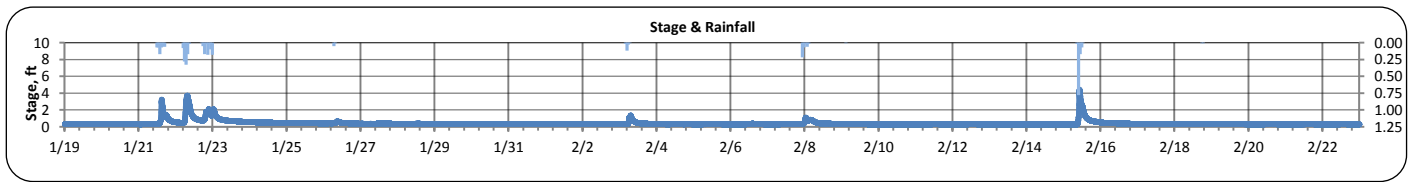
Grab Sample Data:

Analyte (units)	Sample 1		Sample 2	
	1/23/2017		1/23/2017	
	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	12:20	828	14:20	5,818
Total Suspended Solids (mg/L)	12:20	13.6	14:20	12
Total Phosphorus (mg/L)	12:20	0.079	14:20	0.075
Total Nitrogen (mg/L)	12:20	1.08	14:20	1.15
Note:				

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	2/15/2017		2/15/2017		2/15/2017		2/15/2017	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	8:45	426	10:48	7,308	13:10	2,666	14:36	3,082
Total Suspended Solids (mg/L)	8:45	2.9	10:48	284	13:10	96.8	14:36	57
Total Phosphorus (mg/L)	8:45	0.054	10:48	0.41	13:10	0.14	14:36	0.13
Total Nitrogen (mg/L)	8:45	1.67	10:48	1.37	13:10	1.04	14:36	1.05
Note:								

Smith Branch B (January 19, 2017 -- February 22, 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):	0.3	4.4	0.3	0.4	0.3
LOCATION:	Off Mountain Drive	TEMPERATURE (°F):	46	64	56	55	4
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203	TURBIDITY (NTU):	1	456	9	19	33
COORDINATES:	34.037933,-81.0591	pH:	6.4	7.4	7.1	7.0	0.1
TMDL/IMPAIRED:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.035	0.316	0.147	0.140	0.023
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	8.6	11.7	9.9	10.0	0.7
SPATIAL LOCATION:	Most Downstream Site						
TOTAL NO. STORMS OVER 0.1 INCH:	6						
MAX. DAILY RAINFALL:	1.6 inches						
TOTAL RAINFALL (FOR PERIOD):	3.8 inches						



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**Continuous Water Quality
Monitoring Periodic Report**

Smith Branch B (January 19, 2017 -- February 22, 2017)

Explanation of Statistics:

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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	
	1/23/2017		1/23/2017	
	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	11:57	1,024	14:10	618
Total Suspended Solids (mg/L)	11:57	24	14:10	9.8
Total Phosphorus (mg/L)	11:57	0.075	14:10	0.073
Total Nitrogen (mg/L)	11:57	0.97	14:10	1.02
Note:				

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4		Sample 5	
	2/15/2017		2/15/2017		2/15/2017		2/15/2017		2/15/2017	
	Time	Result	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	8:31	654	9:00	618	11:01	7,746	13:02	4,196	14:25	3,130
Total Suspended Solids (mg/L)			9:00	13.7	11:01	418	13:02	133	14:25	89.6
Total Phosphorus (mg/L)			9:00	0.053	11:01	0.45	13:02	0.19	14:25	0.14
Total Nitrogen (mg/L)			9:00	1.34	11:01	1.66	13:02	1.23	14:25	1.11
Note: The sample collected at 8:31 was collected during dry conditions. The remainder of the samples were collected during a storm event.										