

# Smith Branch Monitoring Sites

## Monitoring Data Summary for June 19<sup>th</sup>, 2019 – July 25<sup>th</sup>, 2019

### *Data Gaps*

- The SMIA station did not experience any interruptions in the water quality data during this monitoring period.
- The SMIB station experienced a brief period of turbidity fouling from June 28<sup>th</sup>-July 2<sup>nd</sup>. This period of turbidity data was deleted from the dataset.
- The SMIB datasonde experienced submergence issues with the specific conductivity sensor. There were several periods throughout this monitoring period when the specific conductivity sensor was not submerged, occurring mostly during dry periods, so this data was deleted from the dataset.
- The monitoring website experienced reporting issues with the CS451 pressure transducers at SMIA and SMIB from July 15<sup>th</sup>-19<sup>th</sup> and July 20<sup>th</sup>-21<sup>st</sup>, therefore there is no CS451 stage data record during those two periods.

### *SCDHEC Standards*

- The SMIA station did not record any pH values outside of the acceptable SCDHEC range of 6 to 8.5. The SMIB station recorded a minimum pH value of 5.9, which is slightly below the acceptable SCDHEC range. The low values occurred at the peak of storm events.
- The SMIA and SMIB stations recorded average DO concentrations of 6.7 mg/L and 7.4 mg/L, respectively, which are both well above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentrations recorded at the SMIA and SMIB stations were 4.9 mg/L and 5.7, respectively, which are above the SCDHEC discrete minimum standard of 4 mg/L.

### *Storm Events*

- The SMIA station recorded 10 storms (at least 0.1 inches) in this monitoring period resulting in 4.2 inches of precipitation. The SMIB station recorded 9 storms (at least 0.1 inches) resulting in 3.7 inches of precipitation.
- The Smith Branch monitoring stations both 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 inch) was approximately 9.7 days in the Smith Branch watershed, occurring prior to the July 4<sup>th</sup> storm event.

### *Potential Illicit Discharges and Abnormal Events*

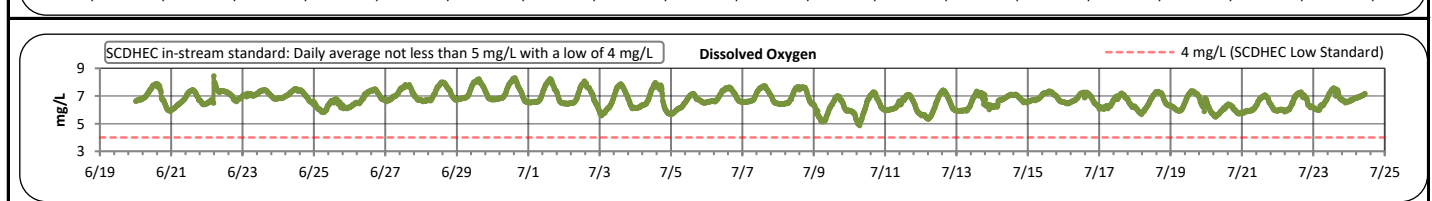
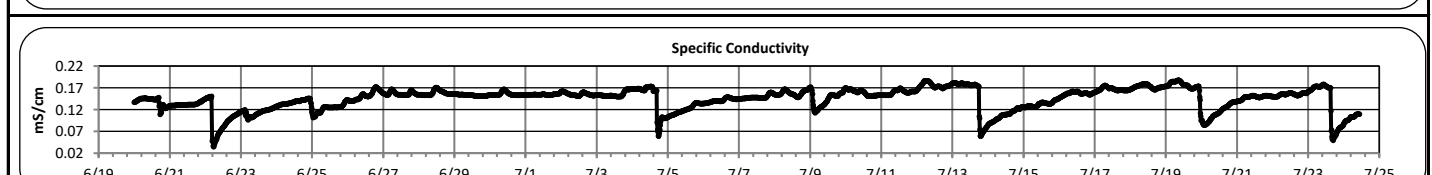
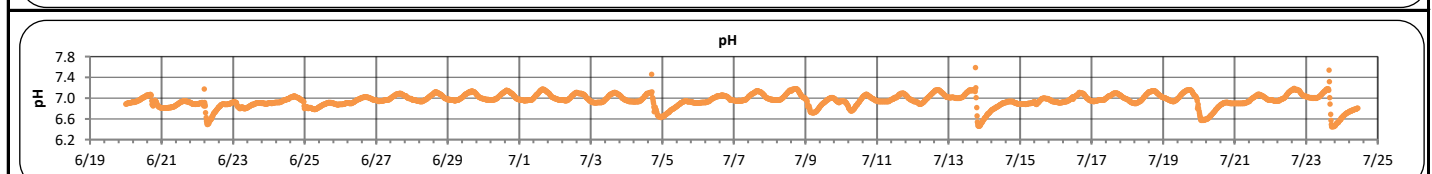
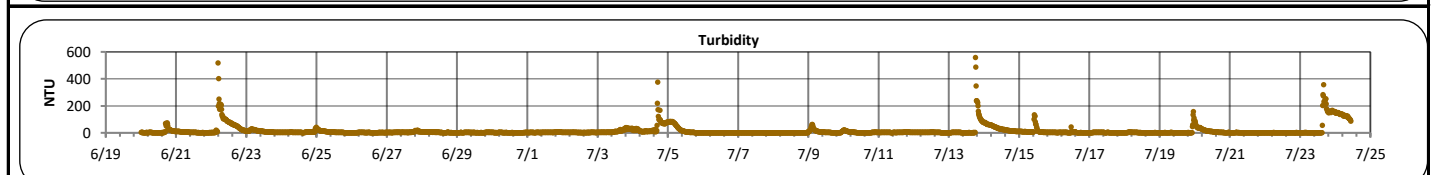
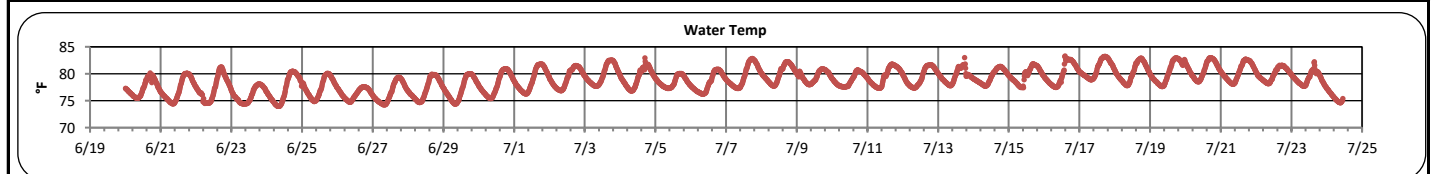
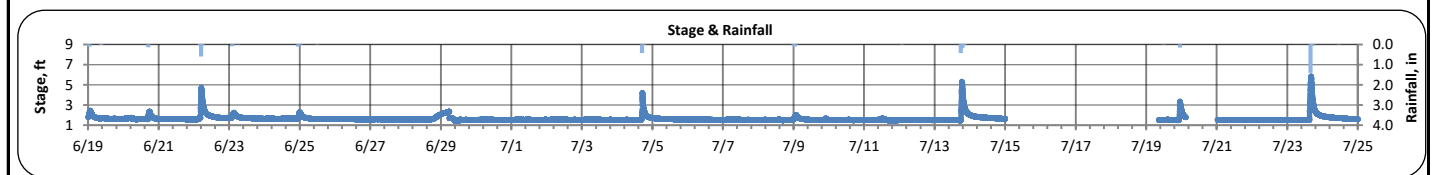
- There were no potential illicit discharges or abnormal events in the Smith Branch watershed during this monitoring period.

### *Flow Measurements*

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

Smith Branch A (June 19, 2019 -- July 25, 2019)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Smith Branch	STAGE (FT):	1.4	5.9	1.6	1.7	0.3
LOCATION:	Earlewood Park	TEMPERATURE (°F):	74	83	79	79	2
ADDRESS:	1111 Parkside Dr Columbia, SC 29201	TURBIDITY (NTU):	1	558	4	15	38
COORDINATES:	34.027289,-81.04265	pH:	6.5	7.6	7.0	7.0	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.035	0.188	0.153	0.145	0.025
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.9	8.5	6.7	6.7	0.6
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	10						
MAX. DAILY RAINFALL:	1.5 inches						
TOTAL RAINFALL (FOR PERIOD):	4.2 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 (June 19, 2019 -- July 25, 2019)**

**Explanation of Statistics:**

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

**Grab Sample Data:**

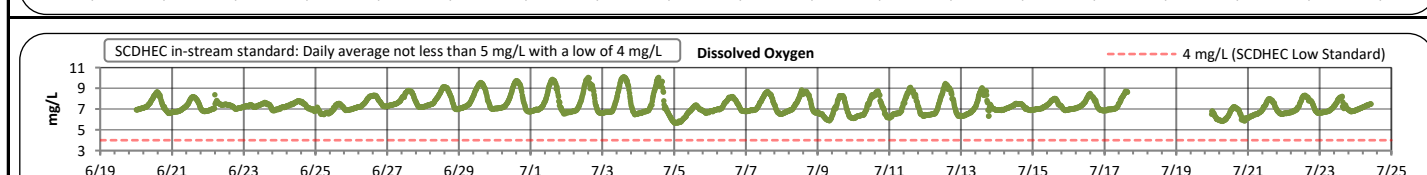
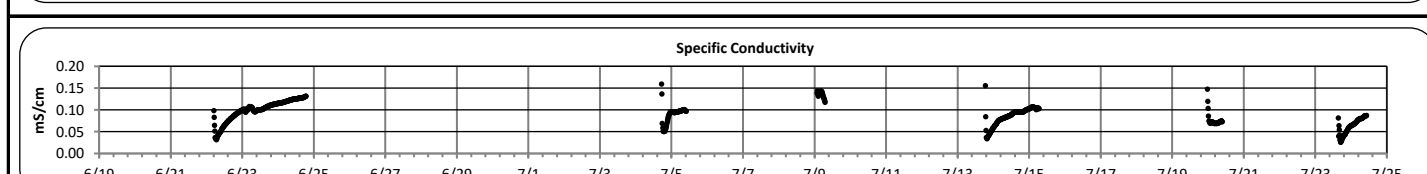
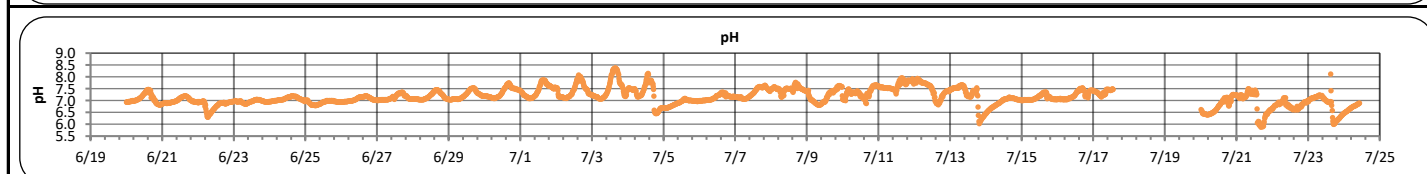
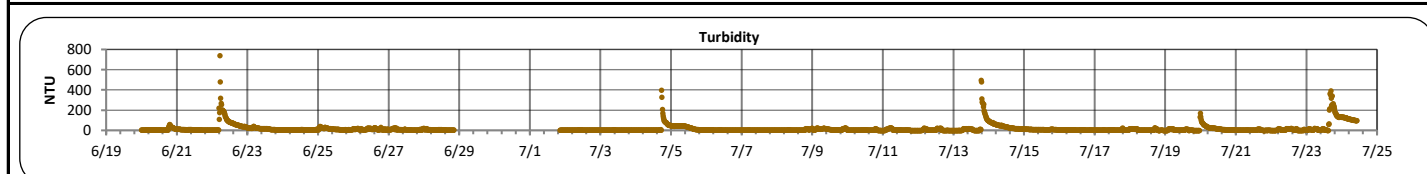
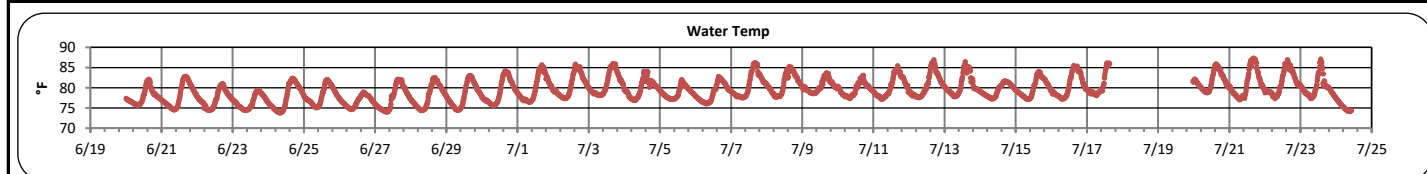
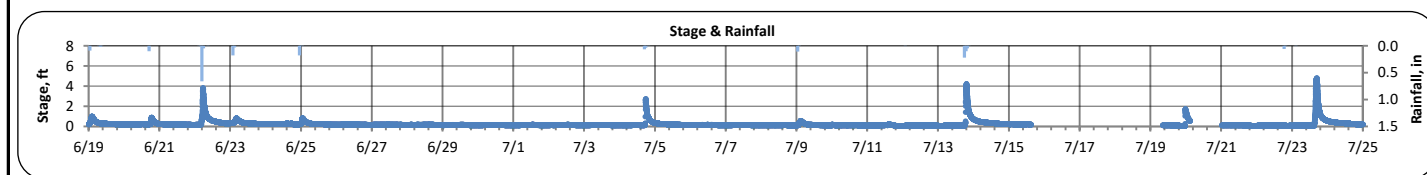
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	6/21/2019		7/22/2019		7/23/2019		7/23/2019	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	10:28	3,808	9:36	378	12:10	310	15:17	6,510
Total Suspended Solids (mg/L)	10:28	3.1					15:17	514
Total Phosphorus (mg/L)							15:17	0.38
Total Nitrogen (mg/L)							15:17	2.29

Analyte (units)	Sample 5		Sample 6		Sample 7		Sample 8	
	7/23/2019		7/23/2019		7/23/2019			
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	15:27	10340	16:18	10340	16:34	8320		
Total Suspended Solids (mg/L)	15:27	438	16:18	237	16:34	229		
Total Phosphorus (mg/L)	15:27	0.44	16:18	0.3	16:34	0.28		
Total Nitrogen (mg/L)	15:37	2.39	16:18	1.75	16:34	1.66		

Note: Samples 1-3 were collected during dry weather conditions. Samples 4-7 were collected during different points of a storm event.

Smith Branch B (June 19, 2019 -- July 25, 2019)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Smith Branch	STAGE (FT):	0.1	4.8	0.2	0.2	0.3
LOCATION:	Off Mountain Drive	TEMPERATURE (°F):	74	87	79	79	3
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203	TURBIDITY (NTU):	1	740	5	17	42
COORDINATES:	34.037933,-81.0591	pH:	5.9	8.4	7.1	7.2	0.3
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.026	0.160	0.095	0.091	0.026
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.7	10.1	7.2	7.4	0.8
SPATIAL LOCATION:	Most Downstream Site						
TOTAL NO. STORMS OVER 0.1 INCH:	9						
MAX. DAILY RAINFALL:	1.6 inches						
TOTAL RAINFALL (FOR PERIOD):	3.7 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 (June 19, 2019 -- July 25, 2019)**

**Explanation of Statistics:**

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<b>MEDIAN OBSERVED</b>	The median of all the values recorded by the datasonde in 15 minute intervals.
<b>MEAN OBSERVED</b>	The average of all the values recorded by the datasonde in 15 minute intervals.
<b>STANDARD DEVIATION</b>	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	
	7/23/2019							
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	12:30	172						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Note: This sample was collected during dry weather conditions.