

Smith Branch Monitoring Sites

Monitoring Data Summary for September 27th, 2018 – October 31st, 2018

Data Gaps

- The SMIA sonde was buried with sediment from October 17th-19th and October 20th-23rd. All water quality data was removed during these periods.
- At the SMIB station, due to dry conditions and low flow, the specific conductivity sensor and temperature sensor became unsubmerged for two prolonged periods during this deployment. For the periods where the temperature sensor was unsubmerged, DO and pH values were also removed from the dataset because they are temperature dependent parameters.

SCDHEC Standards

- Neither of the Smith Branch stations recorded pH values outside of the acceptable SCDHEC range of 6 to 8.5.
- The SMIA and SMIB stations recorded average DO concentrations of 7.5 mg/L and 8.2 mg/L, respectively, which are well above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentration recorded at the SMIA station was 6.3 mg/L and 6.7 mg/L at the SMIB station, which are well above the SCDHEC discrete minimum standard of 4.0 mg/L.

Storm Events

- The SMIA station recorded 5 storms (at least 0.1 inches) in this monitoring period that resulted in 5.9 inches of precipitation. The SMIB station recorded 6 storms (at least 0.1 inches) in this monitoring period that resulted in 6.8 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 14.5 days at both Smith Branch monitoring stations occurring prior to the storm event on October 26th.

Potential Illicit Discharges and Abnormal Events

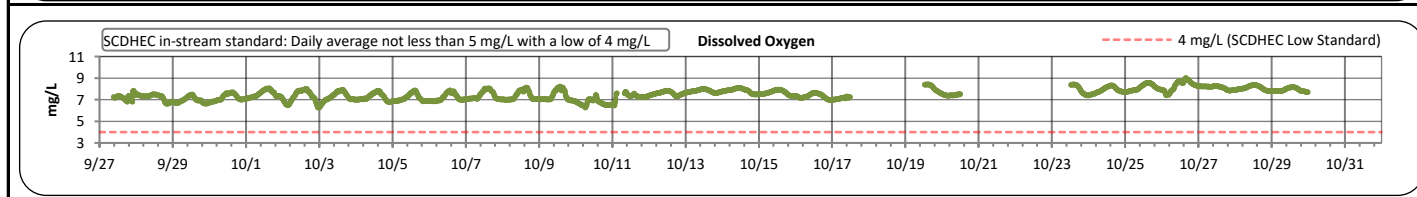
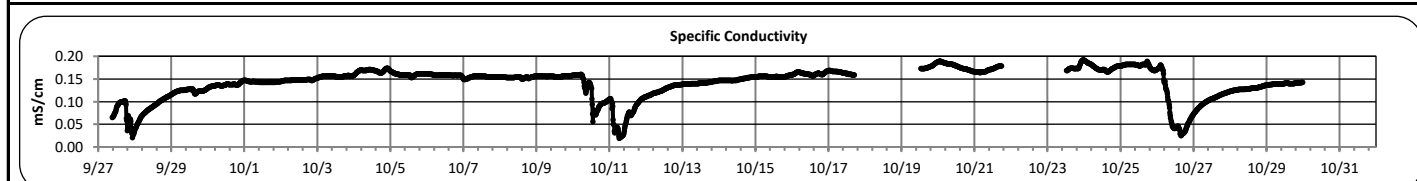
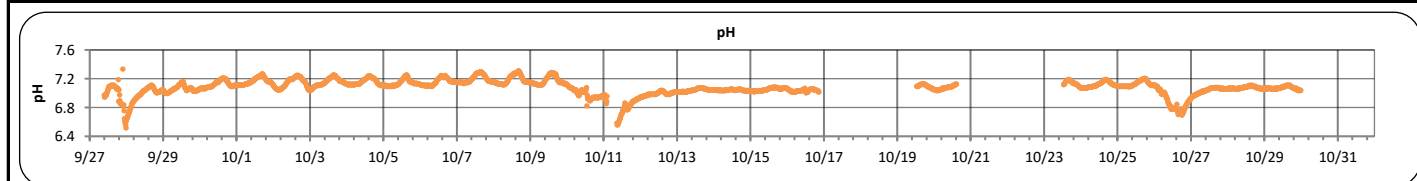
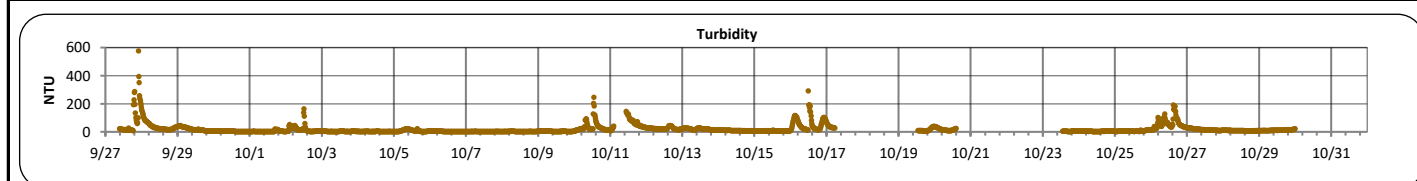
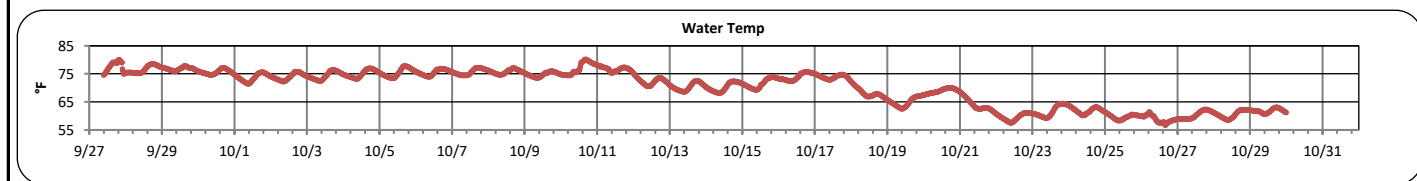
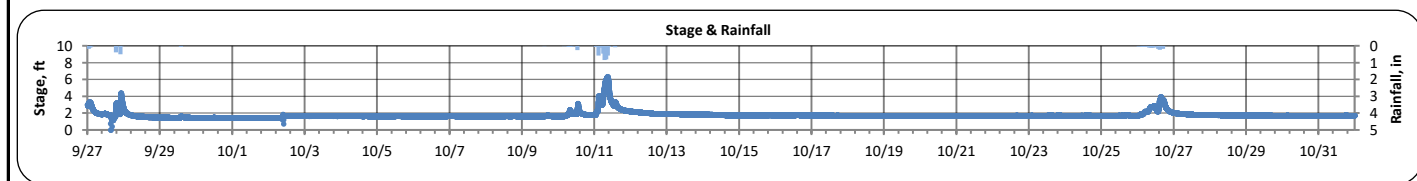
- There were no abnormal events observed at the Smith Branch stations during this deployment period.

Flow Measurements

- High flow measurement was taken at SMIB on October 10th.

Smith Branch A (September 27, 2018 -- October 31, 2018)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Smith Branch	STAGE (FT):	0.0	6.3	1.7	1.8	0.4
LOCATION:	Earlewood Park	TEMPERATURE (°F):	57	80	73	70	6
ADDRESS:	1111 Parkside Dr Columbia, SC 29201	TURBIDITY (NTU):	2	577	9	19	32
COORDINATES:	34.027289,-81.04265	pH:	6.5	7.3	7.1	7.1	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.019	0.192	0.153	0.142	0.033
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	6.3	9.0	7.5	7.5	0.5
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	5						
MAX. DAILY RAINFALL:	3.8 inches						
TOTAL RAINFALL (FOR PERIOD):	5.9 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 (September 27, 2018 -- October 31, 2018)

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	
	10/3/2018		10/10/2018		10/10/2018		10/11/2018	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	9:33	1,812	10:10	14,540	10:55	10,950	9:30	11,590
Total Suspended Solids (mg/L)			10:10	13.4	10:55	11.4	9:30	183
Total Phosphorus (mg/L)			10:10	0.1	10:55	0.099	9:30	0.19
Total Nitrogen (mg/L)			10:10	1.49	10:55	1.42	9:30	1.04
Analyte (units)	Sample 5		Sample 6		Sample 7		Sample 8	
	10/11/2018		10/11/2018					
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	9:55	14,540	10:40	12,980				
Total Suspended Solids (mg/L)	9:55	233	10:40	153				
Total Phosphorus (mg/L)	9:55	0.2	10:40	0.2				
Total Nitrogen (mg/L)	9:55	1.51	10:40	1.59				

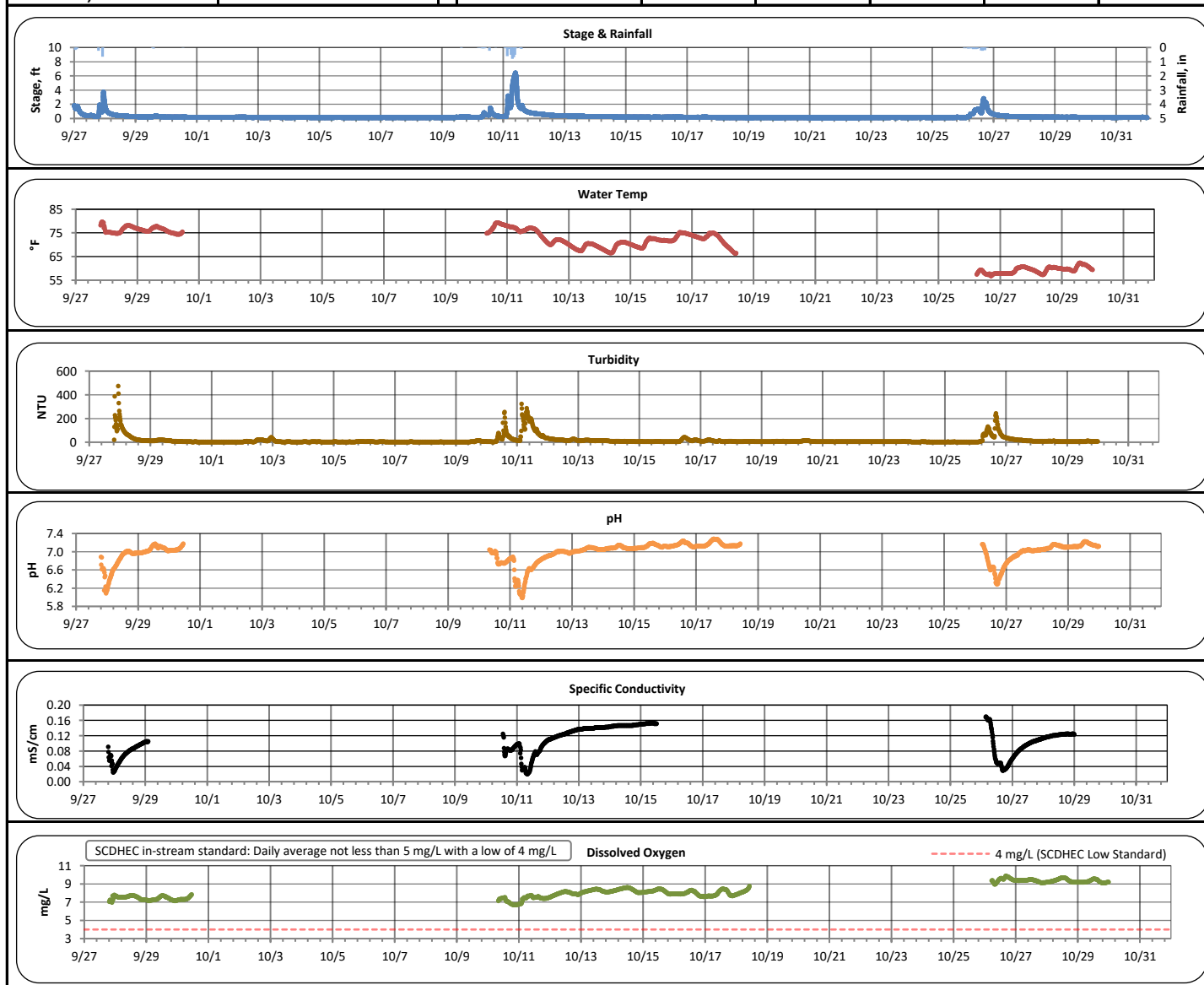
Note: Sample 1 was collected during dry weather conditions. Samples 2-6 were collected during wet weather conditions.

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

REPORT GENERATED ON 11/27/2018

Smith Branch B (September 27, 2018 -- October 31, 2018)

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	6.5	0.2	0.3	0.5
LOCATION:	Off Mountain Drive	TEMPERATURE (°F):	57	80	72	70	7
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203	TURBIDITY (NTU):	2	476	6	17	35
COORDINATES:	34.037933,-81.0591	pH:	6.0	7.3	7.1	7.0	0.2
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.02	0.170	0.115	0.107	0.037
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	6.7	9.9	8.1	8.2	0.8
SPATIAL LOCATION:	Most Downstream Site						
TOTAL NO. STORMS OVER 0.1 INCH:	6						
MAX. DAILY RAINFALL:	3.6 inches						
TOTAL RAINFALL (FOR PERIOD):	6.8 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 (September 27, 2018 -- October 31, 2018)

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.
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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		Sample 3		Sample 4	
	10/3/2018		10/10/2018		10/10/2018		10/11/2018	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	9:25	7,308	10:25	12,980	11:10	19,610	9:45	13,730
Total Suspended Solids (mg/L)			10:25	30.4	11:10	21.8	9:45	224
Total Phosphorus (mg/L)			10:25	0.25	11:10	0.14	9:45	0.21
Total Nitrogen (mg/L)			10:25	1.61	11:10	1.57	9:45	1.09
Analyte (units)	Sample 5		Sample 6		Sample 7		Sample 8	
	10/11/2018		10/11/2018					
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	10:15	12,260	11:00	4,286				
Total Suspended Solids (mg/L)	10:15	218	11:00	234				
Total Phosphorus (mg/L)	10:15	0.22	11:00	0.23				
Total Nitrogen (mg/L)	10:15	1.33	11:00	1.72				

Note: Sample 1 was collected during dry weather conditions. Samples 2-6 were collected during wet weather conditions.

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