

Smith Branch Monitoring Sites

Monitoring Data Summary for February 20th, 2020 – March 25th, 2020

Data Gaps

- The SMIA DO and pH sensors became buried during a storm event from March 17th-19th when field staff cleaned the sensors of sediment. The turbidity, DO, and pH sensors were again buried at the end of the monitoring period from March 22nd-24th when the sonde was removed from the field for calibrations. These periods were deleted from the dataset.
- The SMIB pH and DO sensors became buried during a storm event from March 17th-19th when field staff cleaned the sensors of sediment. The turbidity, pH, and DO sensors all became buried from March 23rd-24th when the sonde was removed from the field for calibrations. These periods were deleted from the dataset.

SCDHEC Standards

- The SMIA and SMIB stations did not record any pH values outside of the acceptable SCDHEC range of 6 to 8.5.
- The SMIA station recorded an average DO concentration of 9.3 mg/L and the SMIB station recorded an average DO concentration of 9.6 mg/L, which are both above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentration recorded at the SMIA station was 6.7 mg/L and 7.1 mg/L at the SMIB station, which are above the SCDHEC discrete minimum standard of 4 mg/L.

Storm Events

- The SMIA rain gauge recorded 10 storms (at least 0.1 inches) in this monitoring period resulting in 6.0 inches of precipitation. The SMIB rain gauge recorded 9 storms (at least 0.1 inches) resulting in 5.6 inches of precipitation.
- The SMIA and SMIB monitoring stations recorded typical water quality responses to the storm events observed during this monitoring period.

Potential Illicit Discharges and Abnormal Events

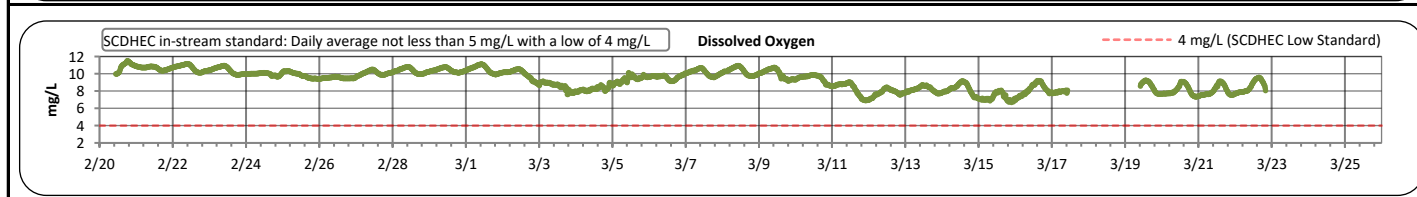
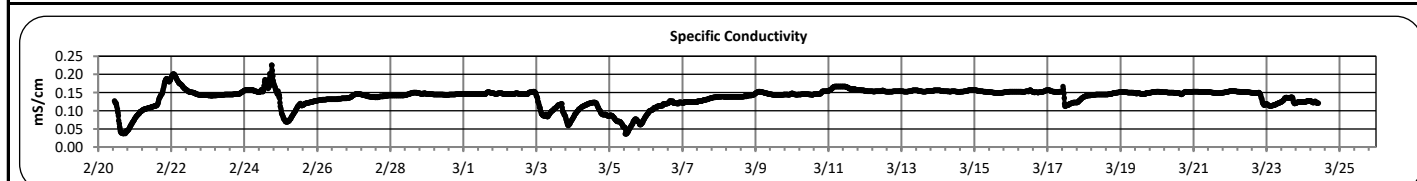
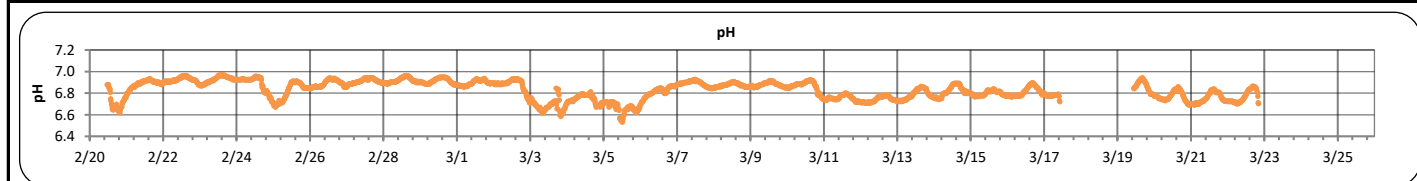
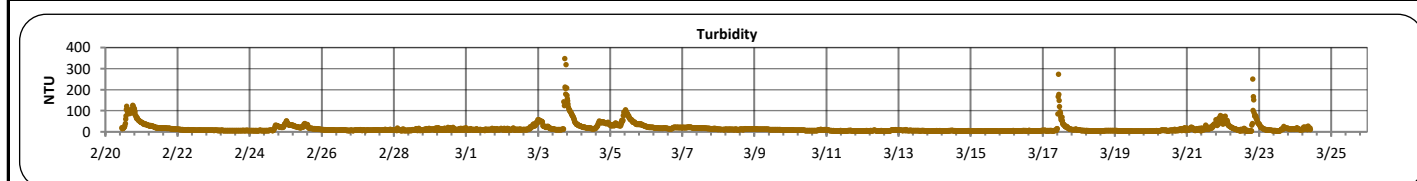
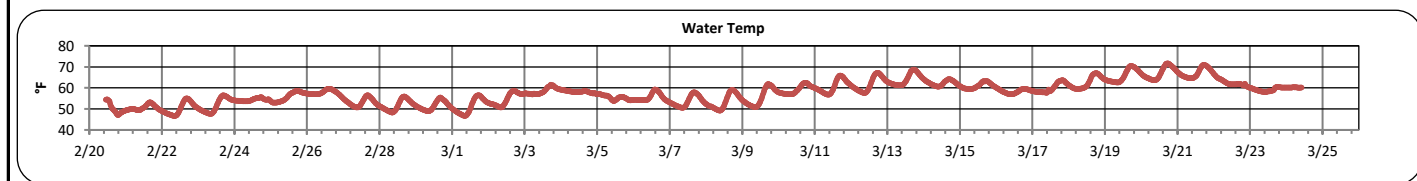
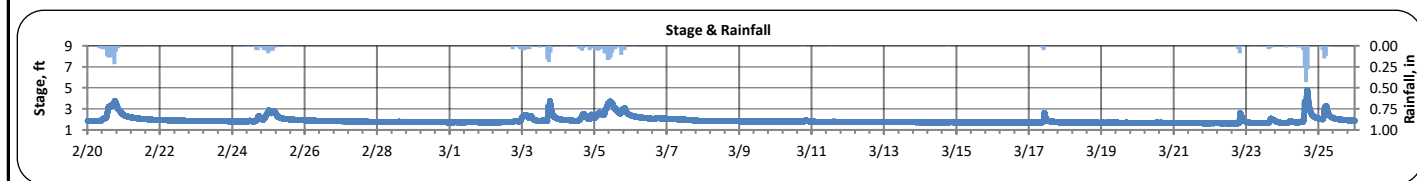
- Specific conductivity of SMIA spiked on February 21st-22nd, February 24th, and March 11th indicating possible illicit discharge.
- Specific conductivity of SMIB spiked on February 21st-22nd and February 24th indicating possible illicit discharge.

Flow Measurements

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

Smith Branch A (February 20, 2020 - March 25, 2020)

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	4.8	1.8	1.9	0.3
LOCATION:	Earlewood Park	TEMPERATURE (°F):	47	72	58	58	5
ADDRESS:	1111 Parkside Dr Columbia, SC 29201	TURBIDITY (NTU):	3	348	10	16	22
COORDINATES:	34.027289,-81.04265	pH:	6.5	7.0	6.9	6.8	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.036	0.226	0.146	0.137	0.025
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	6.7	11.5	9.6	9.3	1.1
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	10						
MAX. DAILY RAINFALL:	1.3 inches						
TOTAL RAINFALL (FOR PERIOD):	6.0 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 A (February 20, 2020 - March 25, 2020)

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.

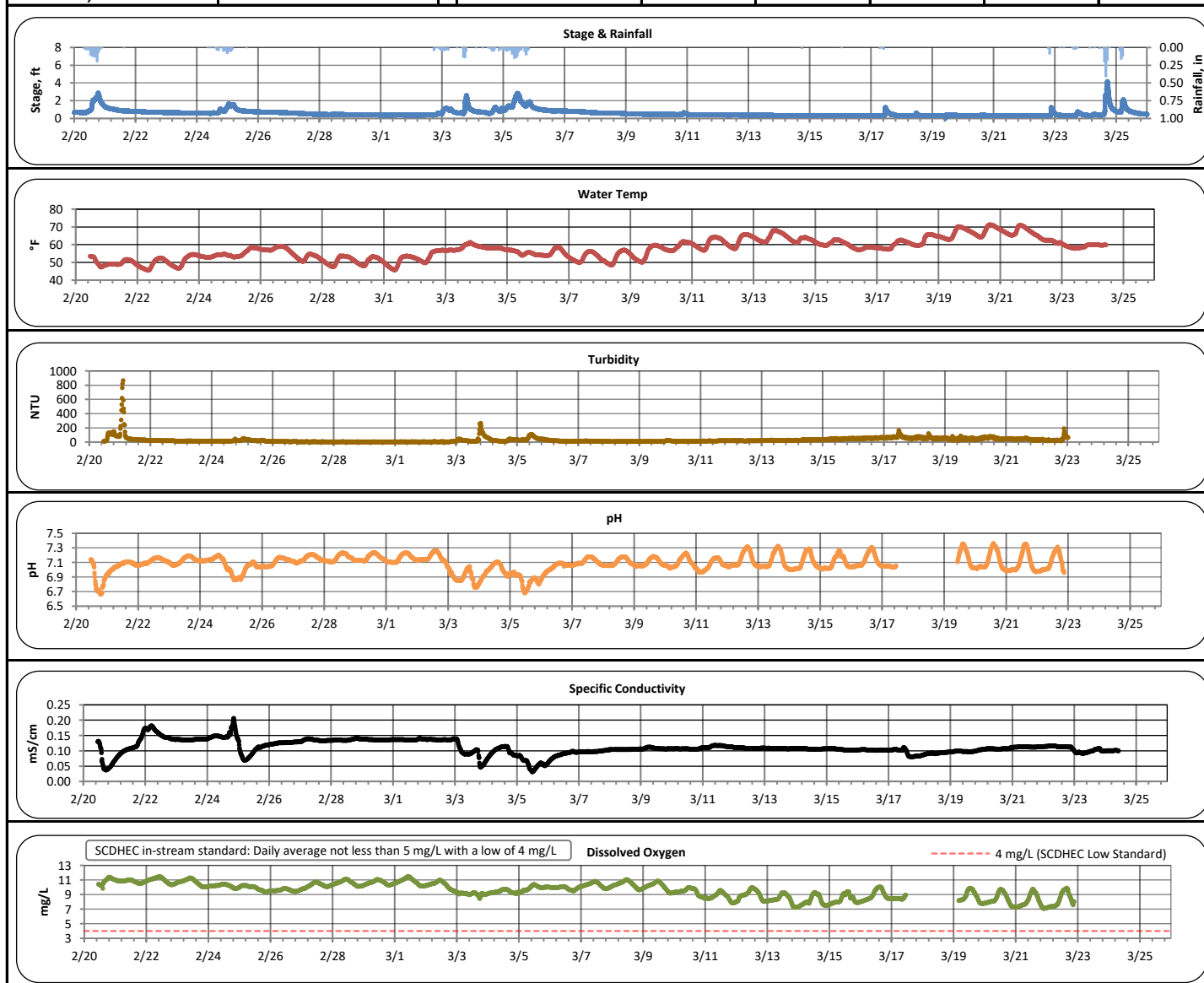
Grab Sample Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4		Sample 5	
	3/5/2020		3/5/2020		3/5/2020		3/5/2020		3/20/2020	
	Time	Result	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	10:25	24070	12:05	5,510	14:05	12980	15:35	4128	9:34	290
Total Suspended Solids (mg/L)	10:25	97.6	12:05	58.7	14:05	36.8	15:35	22.2	9:34	3
Total Phosphorus (mg/L)	10:25	0.12	12:05	0.11	14:05	0.089	15:35	0.064		
Total Nitrogen (mg/L)	10:25	1.15	12:05	1.01	14:05	0.91	15:35	0.8		

Note: Samples 1, 2, 3, and 4 were collected during wet weather conditions. Sample 5 was collected during dry weather conditions.

Smith Branch B (February 20, 2020 - March 25, 2020)

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	4.2	0.5	0.6	0.4
LOCATION:	Off Mountain Drive	TEMPERATURE (°F):	46	71	58	57	6
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203	TURBIDITY (NTU):	5	868	21	31	43
COORDINATES:	34.037933,-81.0591	pH:	6.7	7.4	7.1	7.1	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.031	0.207	0.108	0.111	0.023
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	7.1	11.5	9.8	9.6	1.0
SPATIAL LOCATION:	Most Downstream Site						
TOTAL NO. STORMS OVER 0.1 INCH:	9						
MAX. DAILY RAINFALL:	1.3 inches						
TOTAL RAINFALL (FOR PERIOD):	5.6 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 B (February 20, 2020 - March 25, 2020)

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	
	3/5/2020		3/5/2020		3/5/2020		3/5/2020	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	10:40	4374	12:20	6510	14:15	5510	15:45	3870
Total Suspended Solids (mg/L)	10:40	131	12:20	89.6	14:15	47.7	15:45	34.2
Total Phosphorus (mg/L)	10:40	0.15	12:20	1.1	14:15	0.1	15:45	0.091
Total Nitrogen (mg/L)	10:40	1.09	12:20	0.68	14:15	0.55	15:45	0.9

Note: Samples 1, 2, 3, and 4 were collected during wet weather conditions.