

Rocky Branch Monitoring Sites

Monitoring Data Summary for March 30th, 2017 – May 3rd, 2017

Data Gaps

- The ROCA and ROCB stations did not record any interruptions in the dataset during this monitoring period.

SCDHEC Standards

- The ROCA station recorded 4 periods with pH slightly below the minimum standard of 6.0. These occurrences were during the severe storm events impacting the stream over the course of this deployment.
- No violations of either the lower or the upper pH standard were observed at the ROCB station during this deployment period.
- The ROCA and ROCB stations recorded average DO concentrations of 7.9 mg/L and 8.3 mg/L, respectively, well above the SCDHEC daily average minimum standard of 5 mg/L.
- The minimum DO concentration recorded at both the ROCA and ROCB stations was 6.2 mg/L, well above the SCDHEC discrete minimum standard of 4 mg/L.

Storm Events

- The ROCA station recorded seven storm events during this monitoring period, resulting in 9.7 inches of precipitation, and the ROCB station also recorded seven storms, resulting in 8.5 inches of precipitation.
- The ROCA and ROCB stations exhibited typical responses to storm events during this monitoring period.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 17.9 days in the Rocky Branch watershed and occurred prior to the April 23rd – 24th rainfall event.

Potential Illicit Discharges and Abnormal Events

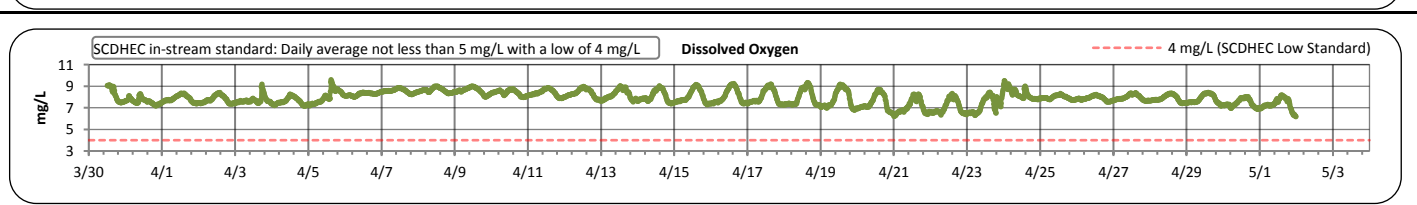
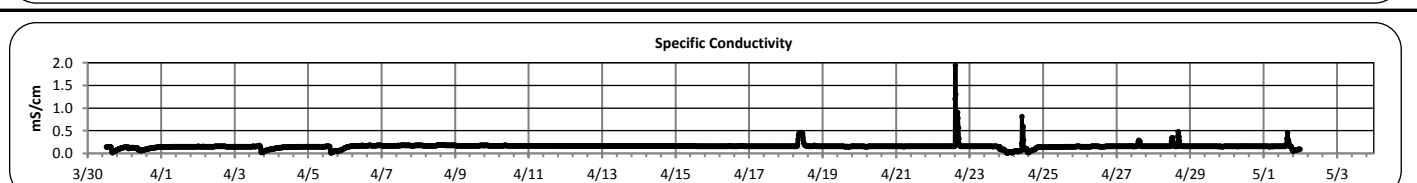
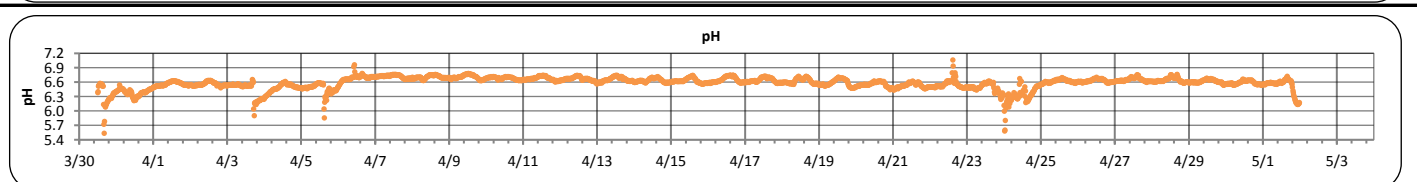
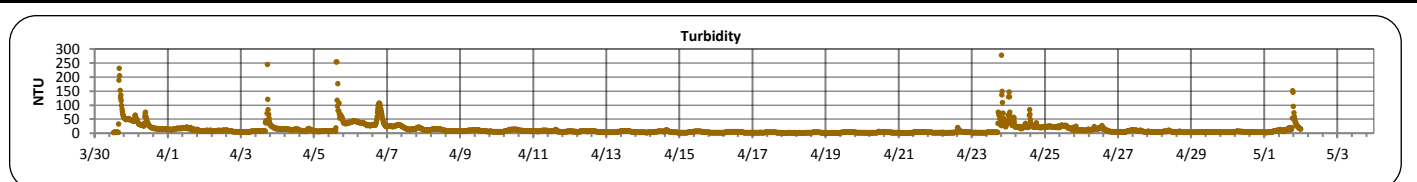
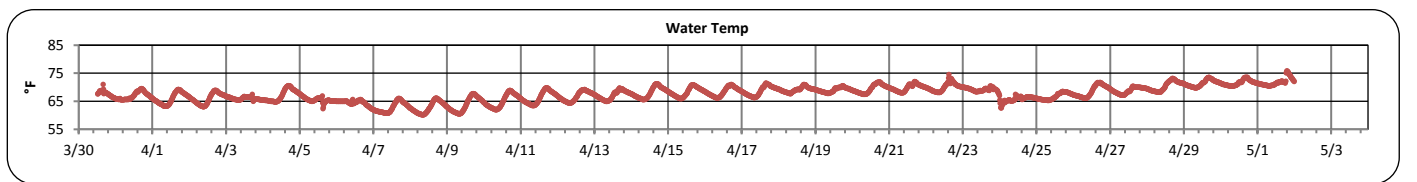
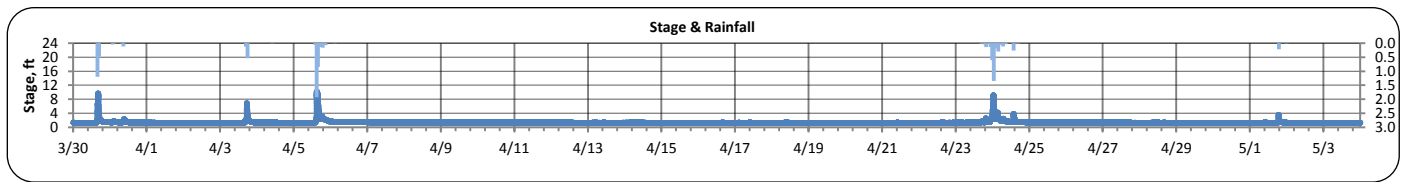
- At ROCA, five abnormal events were noted which had a significant impact on specific conductivity levels. These occurred on April 18th, April 22nd, April 24th, April 27th, twice on April 28th, and May 1st. The event on April 22nd was particularly severe and also impacted pH levels slightly. This activity is likely related to the operation of the Maxcy Greg pool.
- At ROCB, several abnormal trends were noted during this monitoring period:
 - 12 occurrences of elevated specific conductivity were observed. These took place on: April 4th, 6th, 7th, 10th, 13th, 14th, 16th, 18th-19th, 20th, 21st, 23rd, and 28th-29th.
 - Extremely elevated turbidity levels were recorded between March 31st and April 1st, but no other parameters were affected.
 - Between April 16th and May 1st, a subtle daily increase in turbidity levels was observed at the ROCB station. No other parameters appeared to be affected by the slight variation in turbidity.

Flow Measurements

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

Rocky Branch A (March 30, 2017 -- May 3, 2017)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Rocky Branch	STAGE (FT):	1.4	10.2	1.4	1.5	0.5
LOCATION:	Maxcy Gregg Park	TEMPERATURE (°F):	60	76	68	68	3
ADDRESS:	1650 Park Circle Columbia, SC 29201	TURBIDITY (NTU):	2	279	7	13	19
COORDINATES:	34.995864, -81.021842	pH:	5.5	7.1	6.6	6.6	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.011	1.945	0.156	0.157	0.062
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	6.2	9.6	7.9	7.9	0.6
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	7						
MAX. DAILY RAINFALL:	3.4 inches						
TOTAL RAINFALL (FOR PERIOD):	9.7 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**

Rocky Branch A (March 30, 2017 -- May 3, 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.

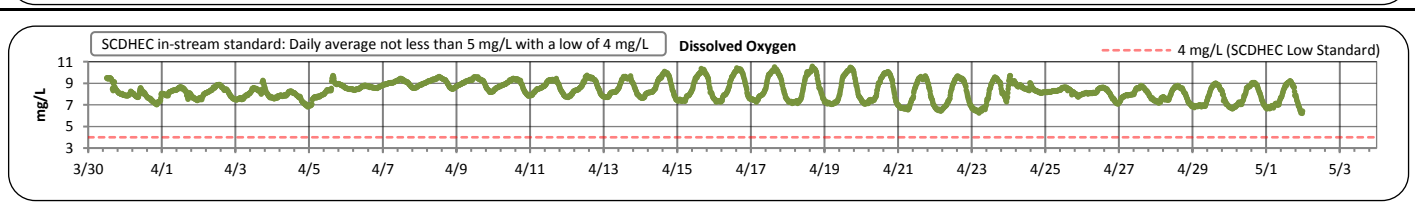
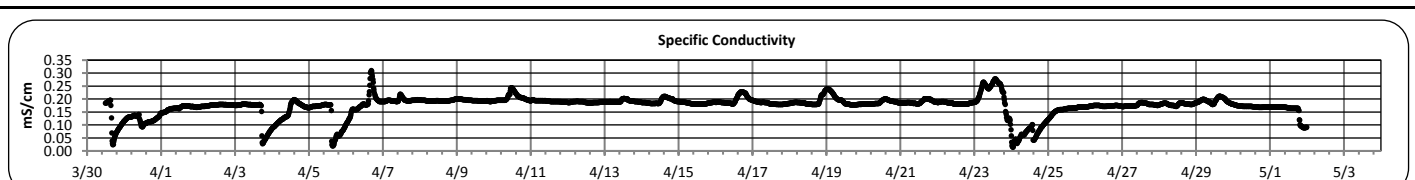
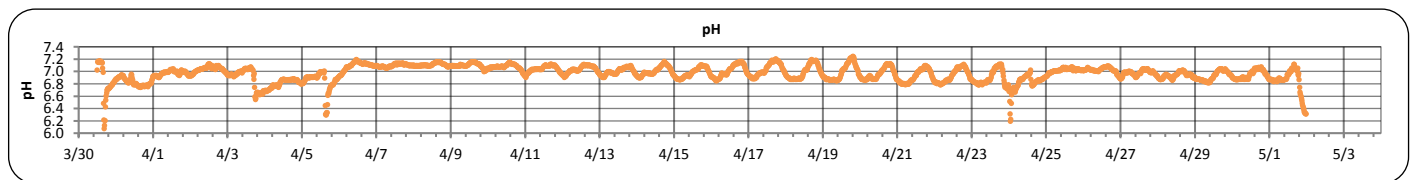
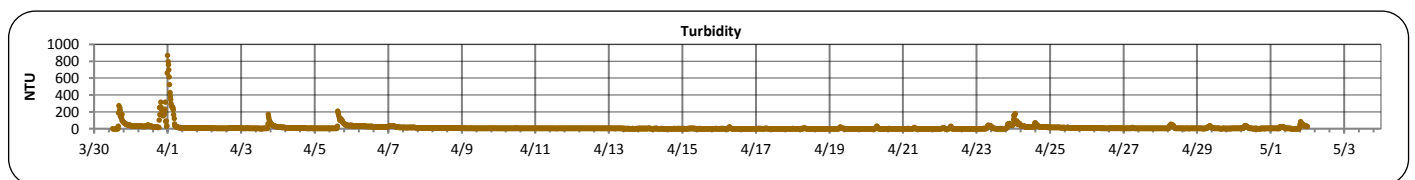
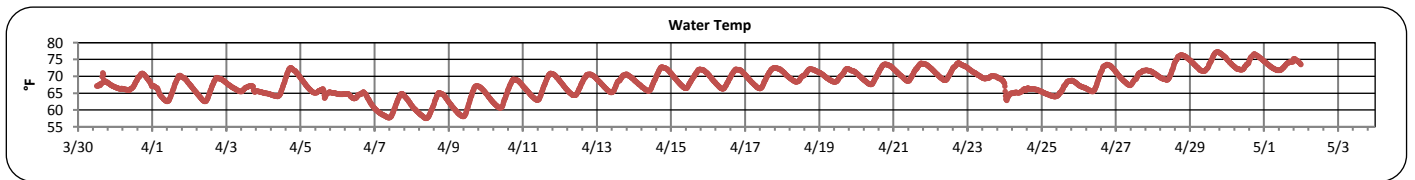
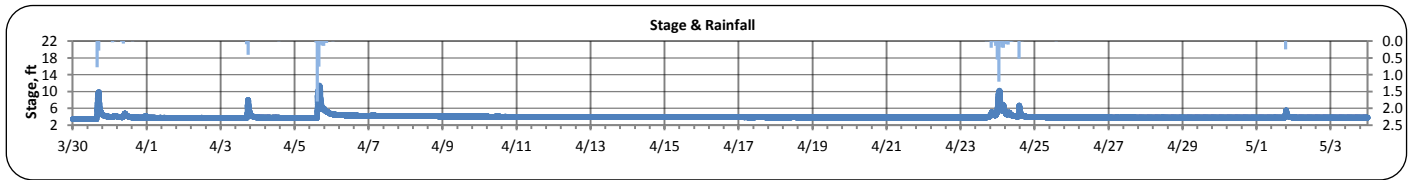
Grab Sample Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	3/30/2017		3/30/2017		3/30/2017		3/30/2017	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	12:00	20	15:31	11,590	15:53	10,340	16:25	6,896
Total Suspended Solids (mg/L)			15:31	398	15:53	458	16:25	248
Total Phosphorus (mg/L)			15:31	0.94	15:53	0.79	16:25	0.44
Total Nitrogen (mg/L)			15:31	6.91	15:53	4.43	16:25	2.29

Note: The sample collected at 12:00 was collected during dry weather conditions.

Rocky Branch B (March 30, 2017 -- May 3, 2017)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Rocky Branch	STAGE (FT):	3.4	11.5	3.9	4.0	0.5
LOCATION:	Olympia Ave Crossing	TEMPERATURE (°F):	58	77	69	68	4
ADDRESS:	510 Heyward St Columbia, SC 29201	TURBIDITY (NTU):	1	871	5	15	45
COORDINATES:	33.982578, -81.035036	pH:	6.1	7.3	7.0	7.0	0.1
TMDL/IMPAIRED:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.014	0.310	0.183	0.175	0.038
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	6.2	10.6	8.3	8.3	0.9
SPATIAL LOCATION:	Most Downstream Site						
TOTAL NO. STORMS OVER 0.1 INCH:	7						
MAX. DAILY RAINFALL:	3.1 inches						
TOTAL RAINFALL (FOR PERIOD):	8.5 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**

Rocky Branch B (March 30, 2017 -- May 3, 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	
	3/30/2017		3/30/2017		3/30/2017			
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	11:45	220	15:13	218	15:41	24,070		
Total Suspended Solids (mg/L)			15:13	1.8	15:41	330		
Total Phosphorus (mg/L)			15:13	0.1	15:41	0.7		
Total Nitrogen (mg/L)			15:13	2.2	15:41	5.03		

Note: The sample collected at 11:45 was collected during dry weather conditions. Only 2 wet weather samples were collected during this storm event due to the road flooding and not allowing access to station.