

Monitoring Data Analysis for August 13, 2014 – September 22, 2014

Rocky Branch Monitoring Sites

Data Gaps

- There were no sensor fouling issues during this monitoring period at the Rocky Branch sites.

SCDHEC Standards

- The average DO at ROCA and ROCB was above the 5 mg/L limit, with values of 6.3 mg/L and 6.7 mg/L, respectively.
- The instantaneous DO limit was contravened at ROCB on September 5th, during a suspected illicit discharge, and on the following day, September 6th.
- The pH standard was not violated at either of the ROC sites.

Storm Events

- ROCA and ROCB recorded 6 and 8 storm events, respectively.
- A total rainfall of 6.4 inches was recorded at ROCA while a total rainfall of only 4.7 inches was recorded at ROCB, a reflection of the varying rainfall amounts of storms in the area.

Potential Illicit Discharges

At ROCA, a number of potential illicit discharges were recorded:

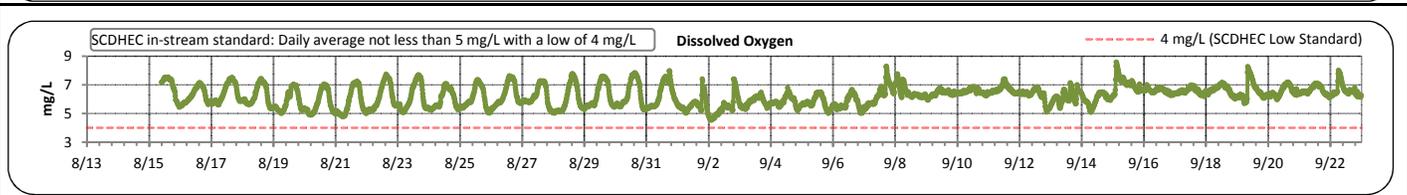
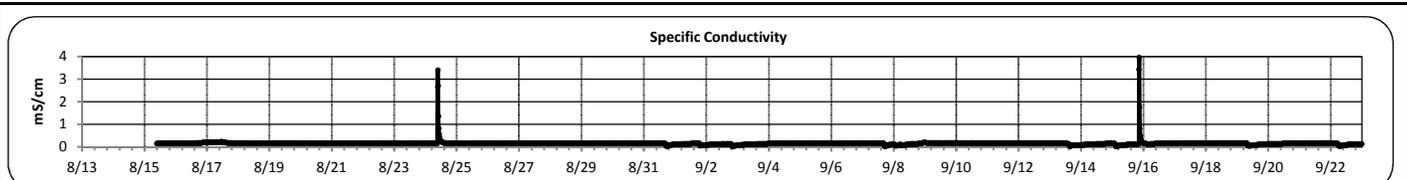
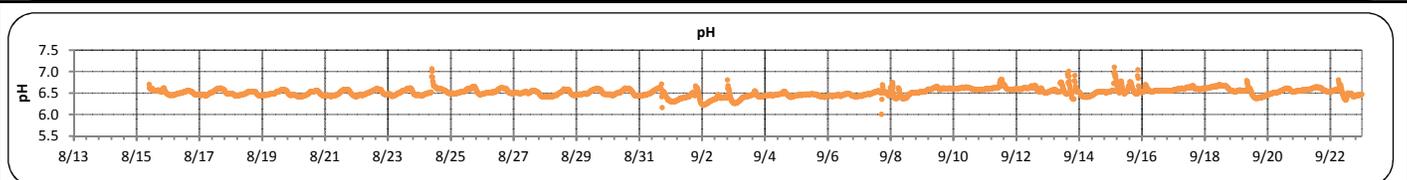
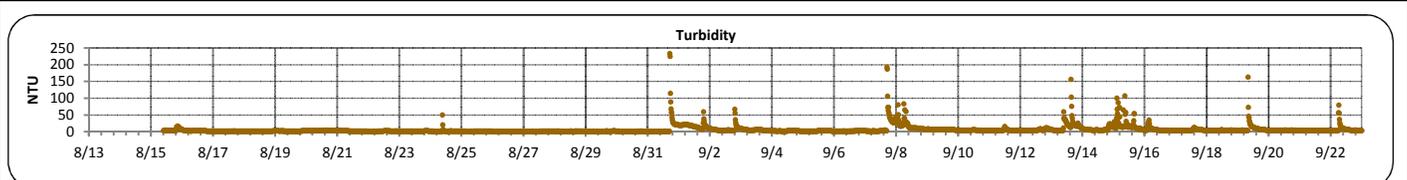
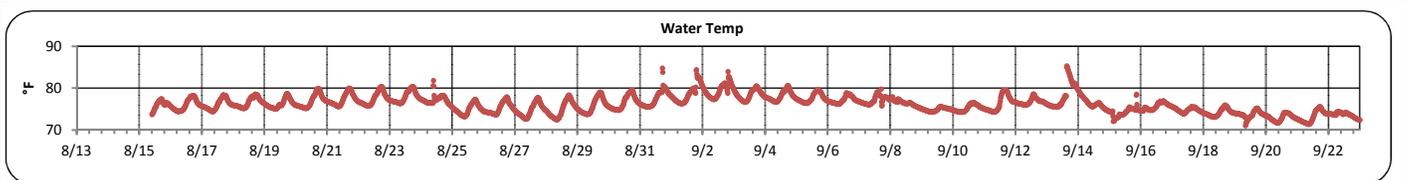
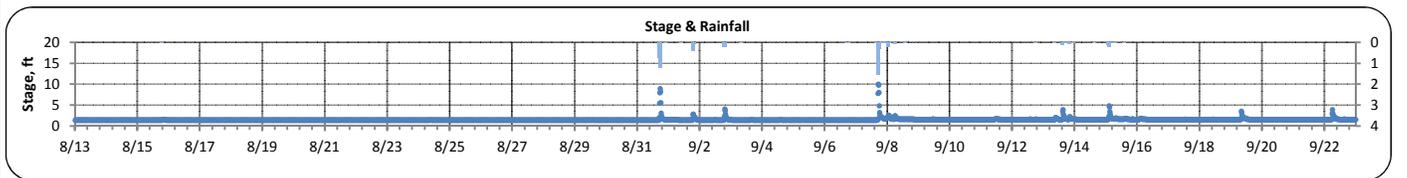
- It appears likely that the Maxcy Greg pool filter was backwashed on August 24th and September 15th, resulting in very high specific conductivity levels, as well as other parameter influences.
- On September 11th, a potential illicit discharge caused the conductivity in the stream to decrease, while DO, pH, turbidity, and stage all increased slightly. There is no clear explanation for this event.
- Additionally, two very minor events were recorded on September 3rd and 4th.

At ROCB, a number of potential illicit discharge events were noted:

- A pattern of slight stage increases, without any water quality response, was seen on August 18th, 26th and 27th, and September 10th and 11th.
- The impacts of the pool backwash activities seen at ROCA were recorded at ROCB on August 25th and September 15th.
- On three occasions, the turbidity was seen to increase along with a delayed increase in conductivity. These events, confirmed by field visits, occurred on September 4th-5th, 12th, and 18th. Nearby construction activities are one explanation for these observations, but further field tracking will be needed to confirm this.
- On September 16th, a potential illicit discharge from an SSO was recorded. This occurred at the end of a storm event, which is typical timing for SSOs, and caused an increase in specific conductivity and turbidity, also typical of SSOs.
- Other minor events were noted on August 27th, and September 9th and 17th.

Rocky Branch A (Aug 13, 2014 -- Sep 22, 2014)

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	10.0	1.4	1.5	0.4
LOCATION:	Maxcy Gregg Park	TEMPERATURE (°F):	71	85	76	76	2
ADDRESS:	1650 Park Circle Columbia, SC 29201	TURBIDITY (NTU):	1	233	3	6	12
COORDINATES:	34.995864, -81.021842	pH:	6.0	7.1	6.5	6.5	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.016	3.962	0.145	0.145	0.124
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.6	8.6	6.3	6.3	0.7
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	6						
MAX. DAILY RAINFALL:	2.0 inches						
TOTAL RAINFALL (FOR PERIOD):	6.4 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 (Aug 13, 2014 -- Sep 22, 2014)

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.

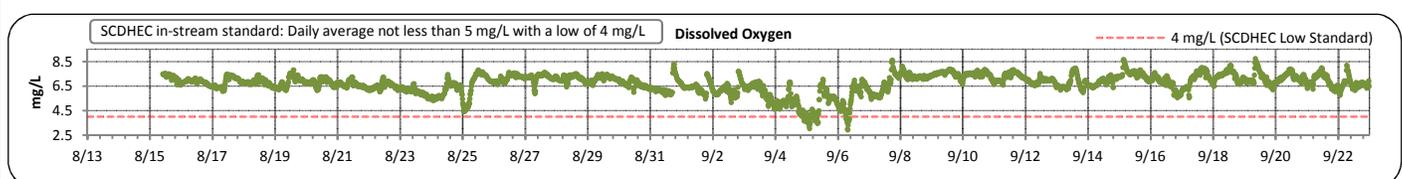
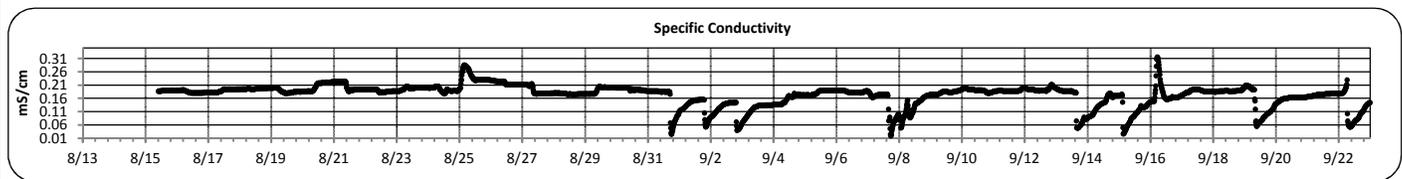
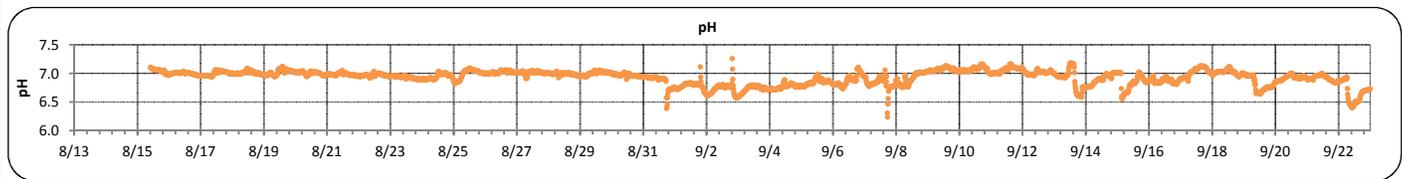
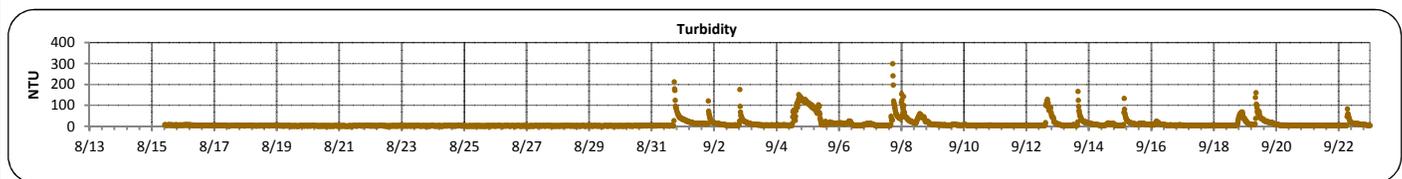
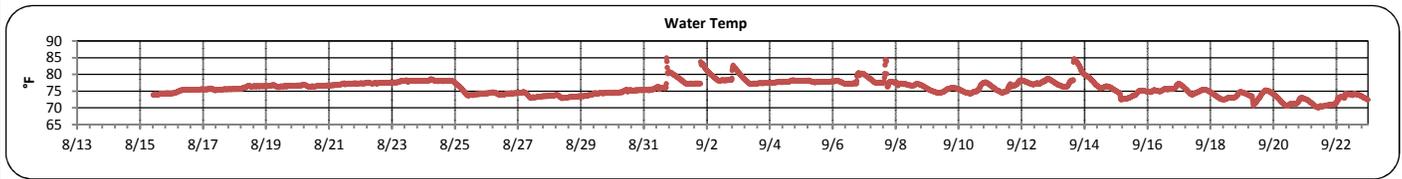
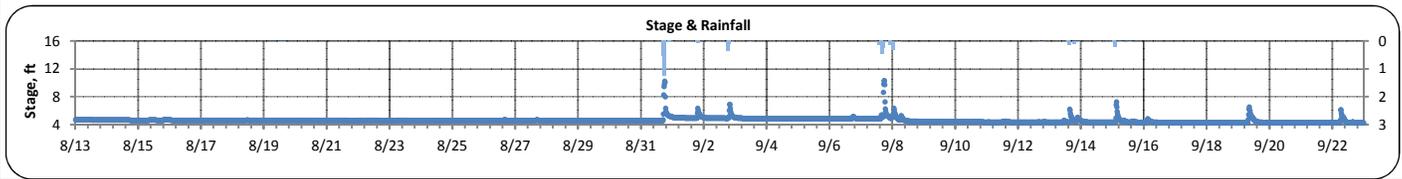
Grab Sample Data:

Analyte (units)	Sample 1		Sample 2		Sample 3	
	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)						
Total Suspended Solids (mg/L)						
Total Phosphorus (mg/L)						
Total Nitrogen (mg/L)						

Note:

Rocky Branch B (Aug 13, 2014 -- Sep 22, 2014)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Rocky Branch	STAGE (FT):	4.2	10.3	4.6	4.6	0.4
LOCATION:	Olympia Ave Crossing	TEMPERATURE (°F):	70	85	76	76	2
ADDRESS:	510 Heyward St Columbia, SC 29201	TURBIDITY (NTU):	1	299	4	11	23
COORDINATES:	33.982578, -81.035036	pH:	6.2	7.3	7.0	6.9	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.019	0.316	0.185	0.173	0.040
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	3.0	8.8	6.9	6.7	0.8
SPATIAL LOCATION:	Most Downstream Site						
TOTAL NO. STORMS OVER 0.1 INCH:	8						
MAX. DAILY RAINFALL:	1.9 inches						
TOTAL RAINFALL (FOR PERIOD):	4.7 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 B (Aug 13, 2014 -- Sep 22, 2014)

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	
	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)						
Total Suspended Solids (mg/L)						
Total Phosphorus (mg/L)						
Total Nitrogen (mg/L)						

Note: