

Kinley Creek Monitoring Sites

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

Data Gaps

- The KINA and KINB stations did not experience any gaps in the data record during this monitoring period.

SCDHEC Standards

- The KINA and KINB stations did not record any pH values outside the SCDHEC standard range during this monitoring period.
- The KINA and KINB stations recorded average DO concentrations of 6.6 mg/L and 6.7 mg/L, respectively. These averages were well above the SCDHEC daily average standard minimum of 5 mg/L.
- The instantaneous minimum DO values recorded at the KINA and KINB stations were 2.5 mg/L and 4.7 mg/L, respectively. This extremely low DO minimum at KINA occurred during a period of very low stage levels as described in the “Potential Illicit Discharges and Abnormal Events” section (below).

Storm Events

- The Kinley rain gauge recorded six storm events over this deployment period, resulting in 9.3 inches of precipitation.
- Both stations generally recorded typical storm event responses during this monitoring period, with the exception of an increase in specific conductivity at the KINA station during the beginning of the April 3rd and April 23rd-24th storm events. This may have been related to ongoing maintenance work at the Quail Valley Lake as discussed in the “Potential Illicit Discharges and Abnormal Events” section below.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 17.5 days in the Kinley Creek watershed, and occurred prior to the April 23rd – 24th storm event.

Potential Illicit Discharges and Abnormal Events

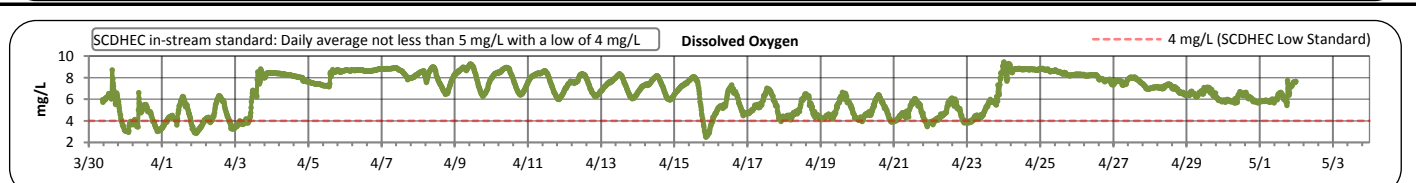
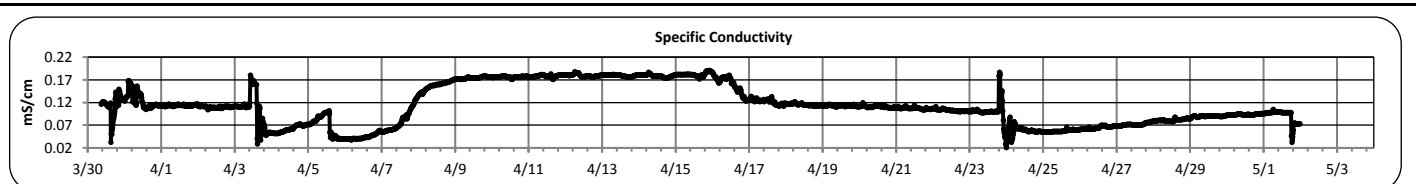
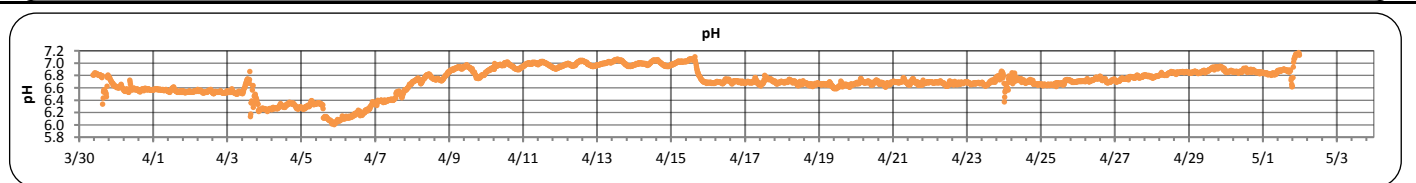
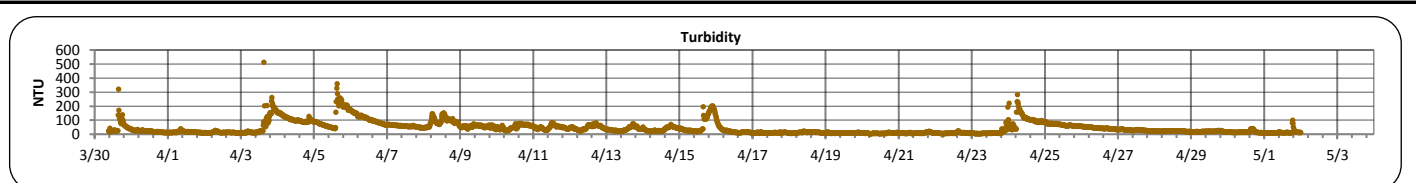
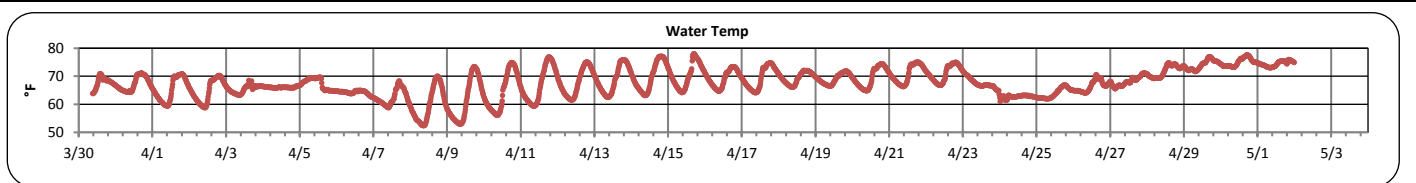
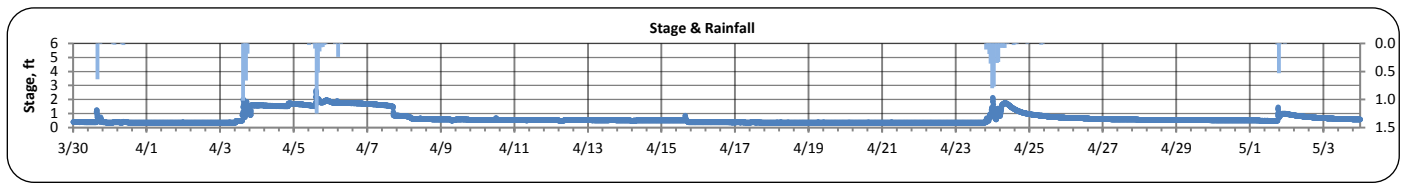
- During this monitoring period, an ongoing maintenance and dredging project at the Quail Valley Lake, upstream of the KINA station, affected water quality data at the City’s monitoring stations. From the day of deployment until the storm event on March 30th, the stage at the KINA station was extremely low and DO levels were depressed, possibly as a result of a decreased discharge of Kinley Creek from the upstream Quail Valley Lake control structure. Between April 7th and April 15th, the water level at the KINA station dropped considerably, again possibly due to a reduction in the discharge released from Quail Valley Lake. This period was associated with elevated pH and specific conductivity levels. On April 15th, the stage dropped even further, and there was an increase in turbidity and a decrease in DO which appear to have been associated with the rapidly changing stage. Following this rapid stage decrease, the water level remained low from April 15th until April 23rd, and depressed DO concentrations were observed.
- At the KINB station, one significant abnormal event was observed. On April 21st, the turbidity increased drastically, and the pH and specific conductivity levels showed mild increases. This occurred in the absence of any rainfall.

Flow Measurements

- Two low flow measurements were collected at the KINA station and two low flow measurements were collected at the KINB station on April 18th.

Kinley Creek 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:	Kinley Creek	STAGE (FT):	0.4	2.6	0.5	0.7	0.4
LOCATION:	Longhorn Steakhouse	TEMPERATURE (°F):	52	78	67	68	5
ADDRESS:	171 Harbison Blvd Columbia, SC 29212	TURBIDITY (NTU):	5	513	28	44	44
COORDINATES:	34.069897, -81.164592	pH:	6.0	7.2	6.7	6.7	0.2
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.021	0.191	0.110	0.114	0.044
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	2.5	9.5	6.7	6.6	1.7
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	6						
MAX. DAILY RAINFALL:	2.2 inches						
TOTAL RAINFALL (FOR PERIOD):	9.3 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**

Kinley Creek 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.

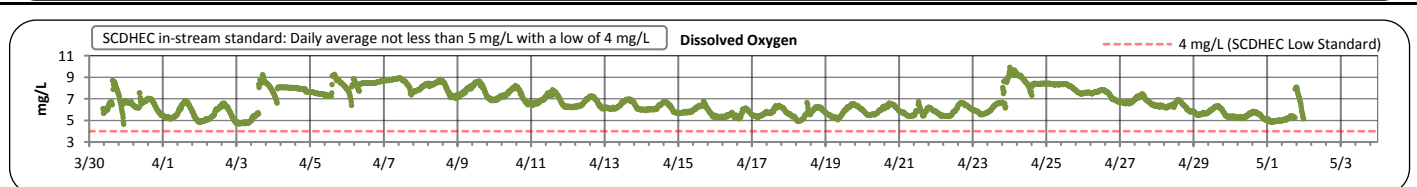
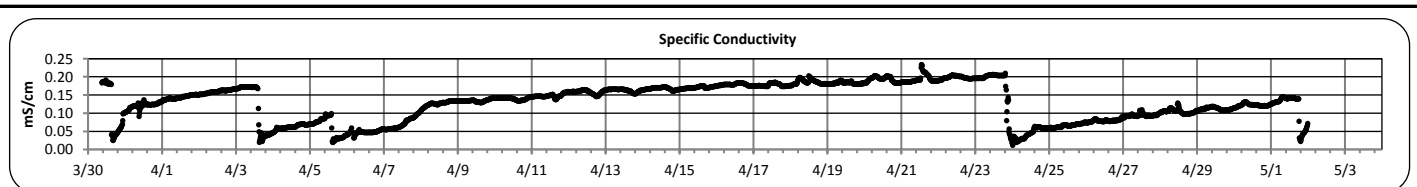
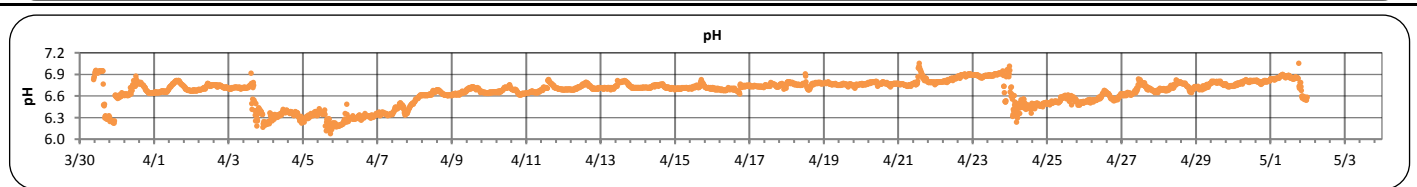
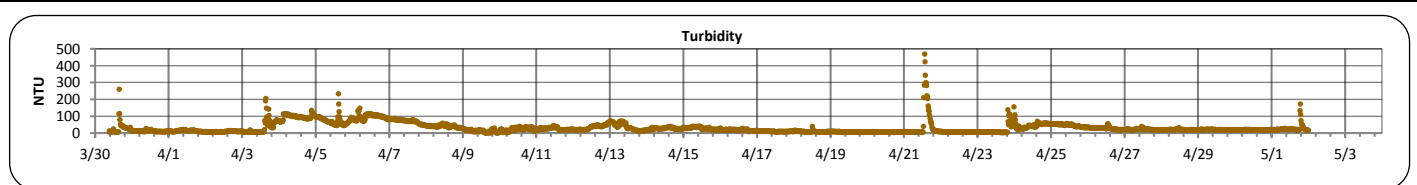
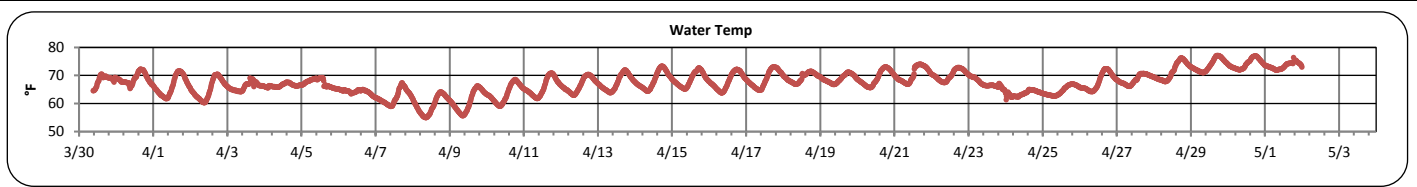
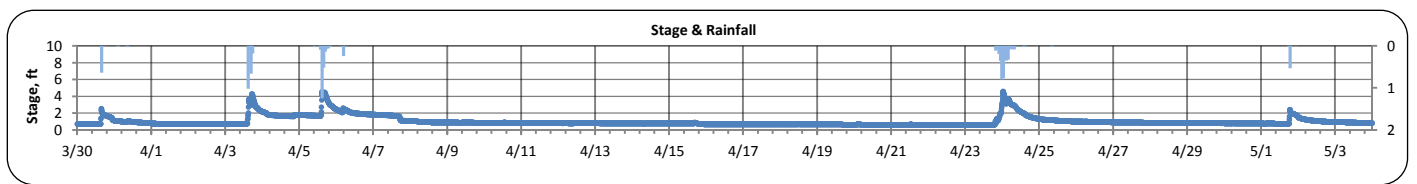
Grab Sample Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	3/30/2017		3/31/2017		3/31/2017		3/31/2017	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	13:35	718	8:35	>48,392	9:05	>48,392	9:30	25,990
Total Suspended Solids (mg/L)			8:35	25.7	9:05	19.7	9:30	17.7
Total Phosphorus (mg/L)			8:35	0.29	9:05	0.25	9:30	0.24
Total Nitrogen (mg/L)			8:35	1.69	9:05	1.59	9:30	1.49

Note: The sample collected on 3/30/2017 was collected during dry weather conditions.

Kinley Creek 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:	Kinley Creek	STAGE (FT):	0.6	4.6	0.8	1.0	0.6
LOCATION:	Broken Hill Rd	TEMPERATURE (°F):	55	77	67	67	4
ADDRESS:	609 Broken Hill Rd Columbia, SC 29212	TURBIDITY (NTU):	1	469	21	31	32
COORDINATES:	34.06635, -81.159986	pH:	6.0	7.1	6.7	6.7	0.2
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.012	0.234	0.141	0.132	0.050
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.7	9.9	6.4	6.7	1.1
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	6						
MAX. DAILY RAINFALL:	2.2 inches						
TOTAL RAINFALL (FOR PERIOD):	9.3 inches						



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**Continuous Water Quality
Monitoring Periodic Report**

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Explanation of Statistics:

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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		3/31/2017		3/31/2017		3/31/2017	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	13:12	426	8:50	2,752	9:15	2,910	9:45	1,112
Total Suspended Solids (mg/L)			8:50	28	9:15	18.3	9:45	14
Total Phosphorus (mg/L)			8:50	0.11	9:15	0.098	9:45	0.099
Total Nitrogen (mg/L)			8:50	1.21	9:15	1.01	9:45	1.06

Note: The sample collected on 3/30/2017 was collected during dry weather conditions.