

Gills Creek Monitoring Sites

Monitoring Data Summary for July 14th, 2017 – August 15th, 2017

Data Gaps

- The GILA and GILC sondes did not experience any interruptions in the data record during this monitoring period.
- The GILB station experienced a period of specific conductivity fouling from July 28th through August 2nd. The GILB station also experienced a period of turbidity fouling from August 10th – 11th, so that data was removed from the dataset.

SCDHEC Standards

- The GILB station did not record any pH readings outside of the acceptable SCDHEC range of 6 to 8.5.
- The GILA and GILC stations recorded some pH values below the standard minimum of 6. These low values occurred during a storm event on July 24th at both stations. The lowest pH value recorded at GILA and GILC was 5.9 and 5.7, respectively.
- The GILA, GILB, and GILC stations recorded average DO concentrations of 7.1 mg/L, 6.5 mg/L, and 5.3 mg/L, respectively, during this monitoring period. All of these average values are above the SCDHEC daily average standard of 5 mg/L.
- The GILA, GILB, and GILC stations recorded minimum DO levels of 4.8 mg/L, 5.3 mg/L, and 4.5 mg/L, respectively, during this deployment. All of these values are above the SCDHEC instantaneous minimum standard of 4.0 mg/L.

Storm Events

- 9 storm events were recorded at the GILA station, 9 storm events were recorded at GILB, and 10 were recorded at GILC during this deployment period, resulting in 8.2 inches, 5.8 inches, and 6.2 inches of total precipitation at the GILA, GILB, and GILC stations, respectively.
- The water quality parameters in the Gills Creek watershed displayed typical storm event response patterns in the turbidity dataset for the majority of recorded storm events.
- The GILA station experienced a slight drop in stage for a short period on July 21st and July 25th associated with specific conductivity increase and DO decrease. This is most likely due to maintenance at Forest Lake upstream of GILA.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 11.8 days at the GILA station occurring prior to the August 6th storm event and approximately 12.8 days occurring prior to the August 7th storm event.

Potential Illicit Discharges and Abnormal Events

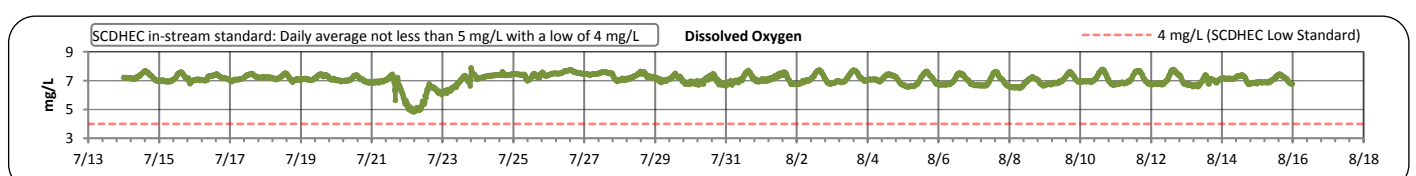
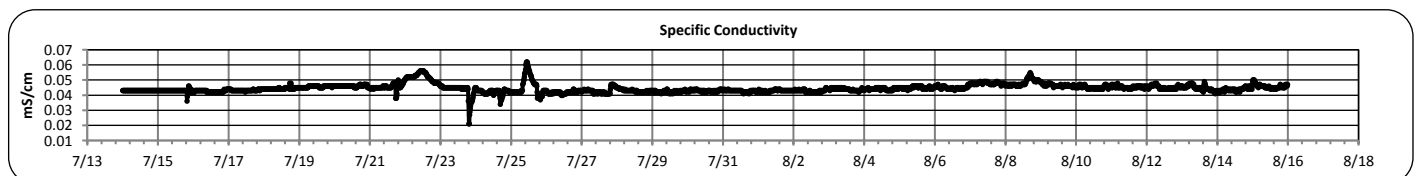
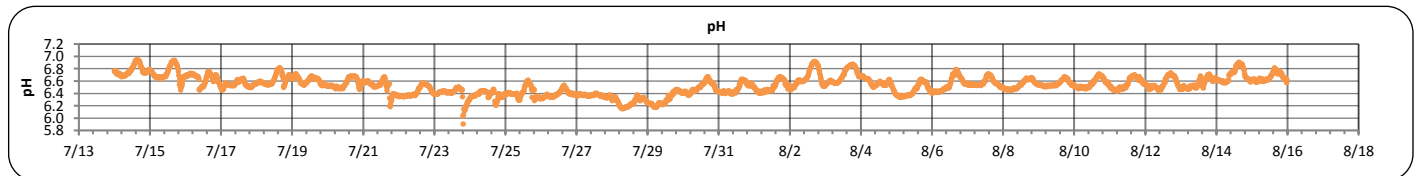
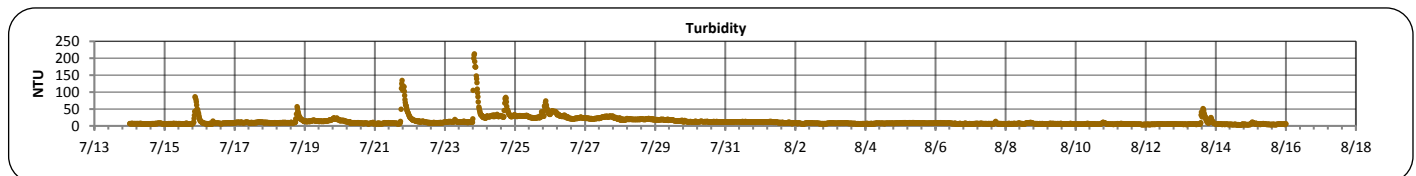
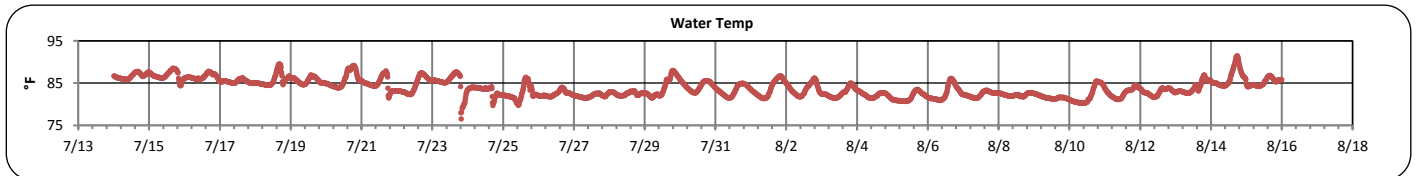
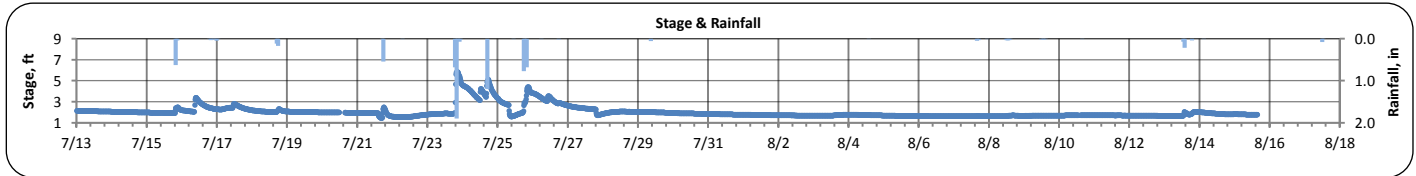
- At the GILA station, there was a slight decrease in stage for a short period on July 21st and July 25th that was associated with specific conductivity increase and DO decrease. This is most likely due to a decrease in discharge in Gills Creek from Forest Lake.

Flow Measurements

- No flow measurements were taken at any of the Gills Creek stations during this deployment period.

Gills Creek A (July 13, 2017 -- August 17, 2017)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	1.5	5.9	1.9	2.0	0.6
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	77	91	84	84	2
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	3	213	9	13	15
COORDINATES:	34.019826, -80.963566	pH:	5.9	7.0	6.5	6.5	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.021	0.062	0.044	0.045	0.003
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.8	7.9	7.1	7.1	0.4
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	9						
MAX. DAILY RAINFALL:	2.7 inches						
TOTAL RAINFALL (FOR PERIOD):	8.2 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**

Gills Creek A (July 13, 2017 -- August 17, 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:

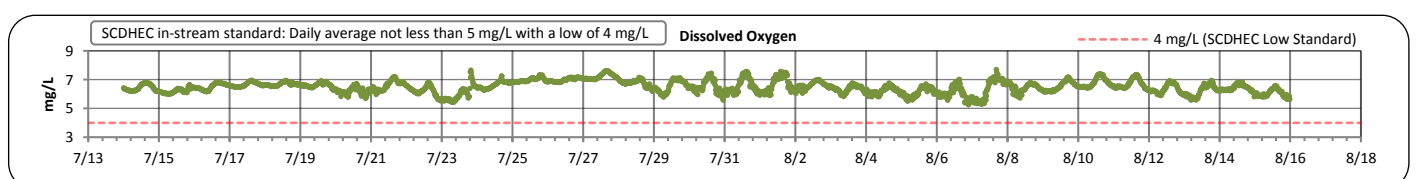
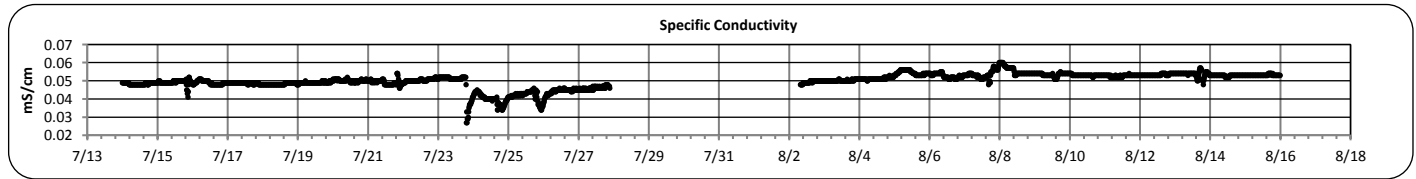
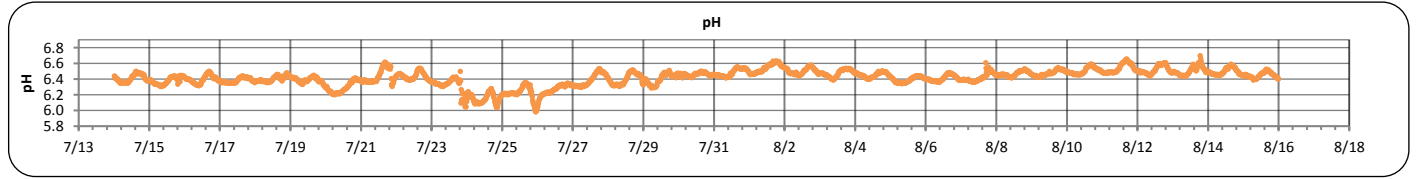
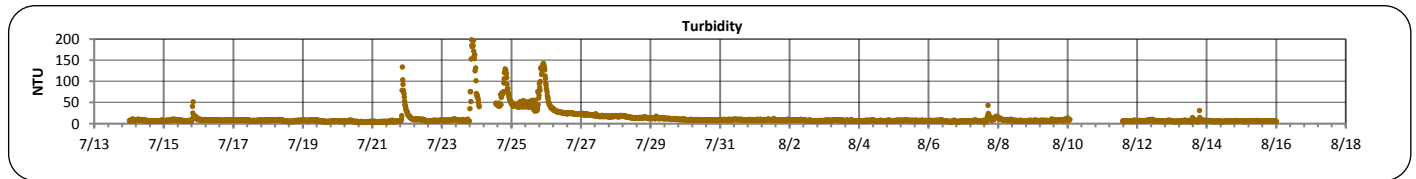
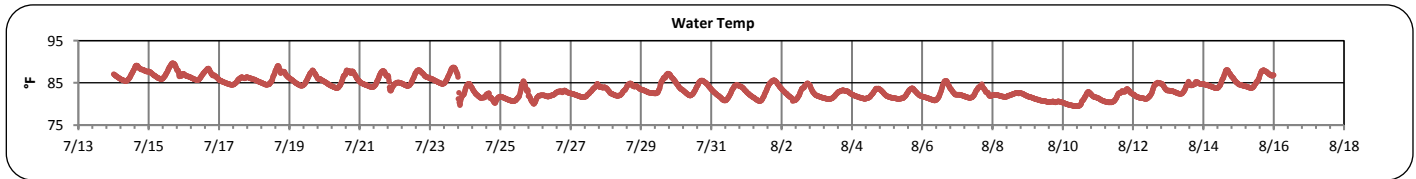
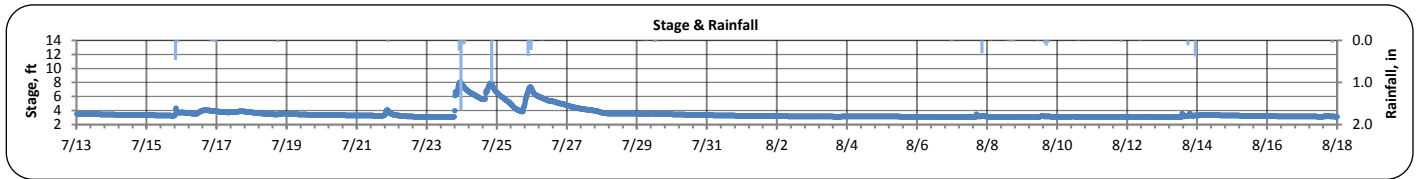
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	8/8/2017							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	13:36	398						
Total Suspended Solids (mg/L)	13:36	8.6						
Total Phosphorus (mg/L)	13:36	0.038						
Total Nitrogen (mg/L)	13:36	0.42						

Notes:

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

Gills Creek B (July 13, 2017 -- August 17, 2017)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	3.1	8.1	3.3	3.6	0.8
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	79	90	84	84	2
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	3	199	8	13	19
COORDINATES:	33.989656, -80.97433	pH:	6.0	6.7	6.4	6.4	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.027	0.060	0.051	0.050	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.3	7.7	6.5	6.5	0.4
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	9						
MAX. DAILY RAINFALL:	2.1 inches						
TOTAL RAINFALL (FOR PERIOD):	5.8 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**

Gills Creek B (July 13, 2017 -- August 17, 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:

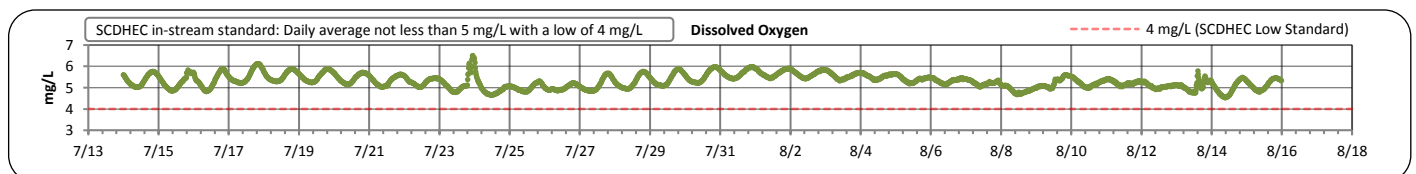
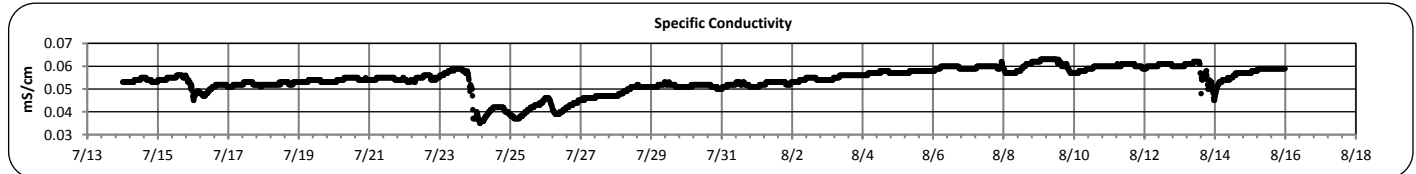
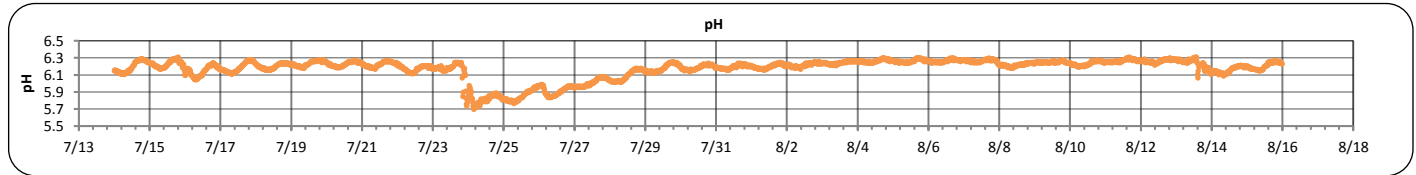
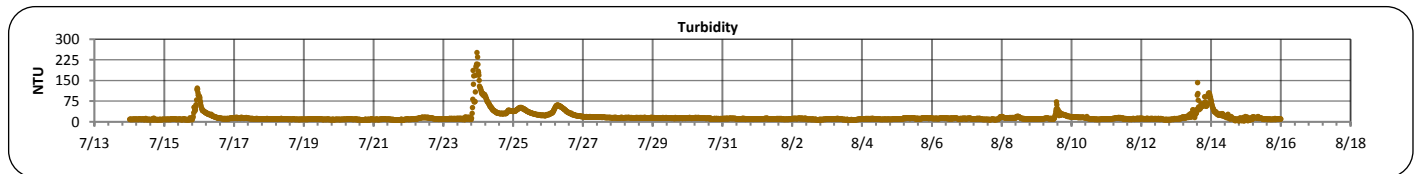
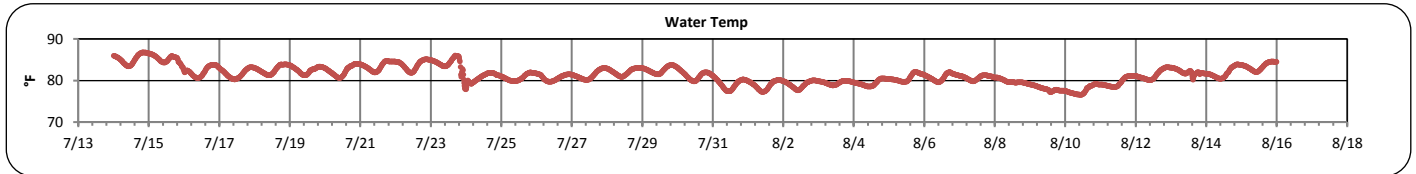
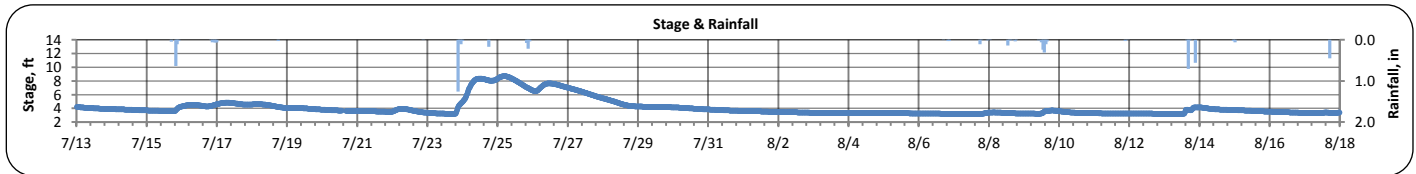
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	8/8/2017							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	13:52	390						
Total Suspended Solids (mg/L)	13:52	8						
Total Phosphorus (mg/L)	13:52	0.047						
Total Nitrogen (mg/L)	13:52	0.42						

Notes:

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

Gills Creek C (July 13, 2017 -- August 17, 2017)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	3.2	8.7	3.7	4.1	1.2
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	77	87	81	81	2
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	3	253	12	17	19
COORDINATES:	33.948043, -80.98889	pH:	5.7	6.3	6.2	6.2	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.035	0.063	0.054	0.054	0.006
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.5	6.5	5.3	5.3	0.3
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	10						
MAX. DAILY RAINFALL:	1.47 inches						
TOTAL RAINFALL (FOR PERIOD):	6.2 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**

Gills Creek C (July 13, 2017 -- August 17, 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	
	8/8/2017							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	14:14	1,076						
Total Suspended Solids (mg/L)	14:14	6.4						
Total Phosphorus (mg/L)	14:14	0.057						
Total Nitrogen (mg/L)	14:14	0.55						

Notes:

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