

Gills Creek Monitoring Sites

Monitoring Data Summary for August 19th, 2017 – September 18th, 2017

Data Gaps

- The GILA station did not experience any interruptions in the data record during this monitoring period.
- The GILB station experienced a period of fouling that affected pH, specific conductivity, and DO. These parameters were removed from the dataset during this time period.
- The GILC station experienced noisy turbidity levels due to fouling of the probe in multiple periods throughout this dataset, these periods were removed.

SCDHEC Standards

- The GILA and GILB stations did not record any pH readings outside of the acceptable SCDHEC range of 6 to 8.5.
- The GILC station recorded some pH values below the standard minimum of 6. These low values occurred during a storm event on September 12th, which was during Hurricane Irma. The lowest pH value recorded was 5.9.
- The GILA, GILB, and GILC stations recorded average DO concentrations of 7.1 mg/L, 6.2 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 5.3 mg/L, 4.4 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

- Four storm events were recorded at the GILA station, two storm events were recorded at GILB, and three were recorded at GILC during this deployment period, resulting in 4.7 inches, 3.9 inches, and 4.6 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 rain event from September 11th – 12th were related to impacts from Hurricane Irma.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 14.2 days at the GILA station occurring prior to the August 31st storm event, 18.9 days at the GILB station occurring prior to the September 1st storm event, and approximately 14.2 days occurring prior to the August 31st storm event.

Potential Illicit Discharges and Abnormal Events

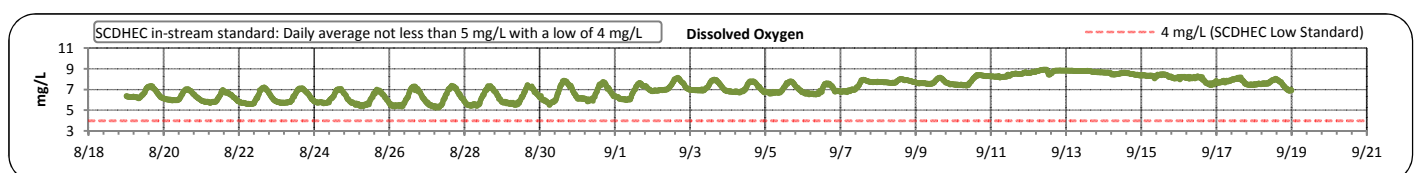
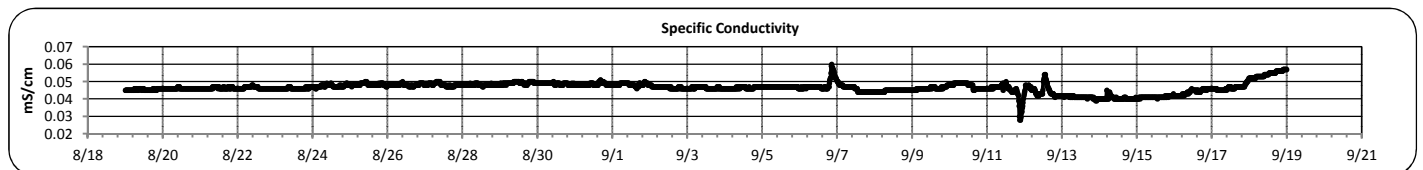
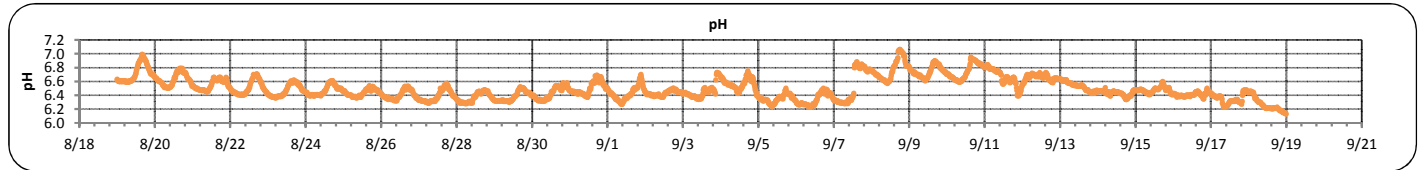
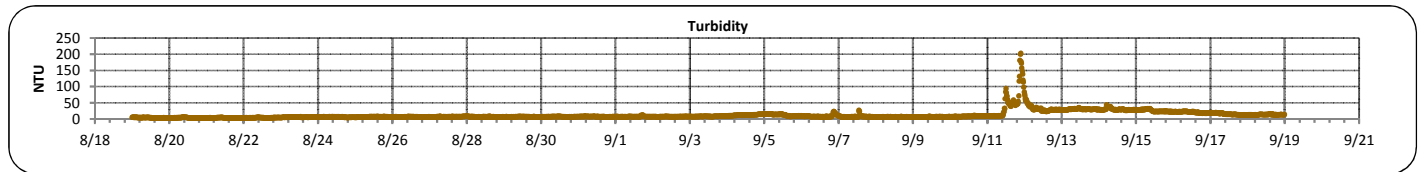
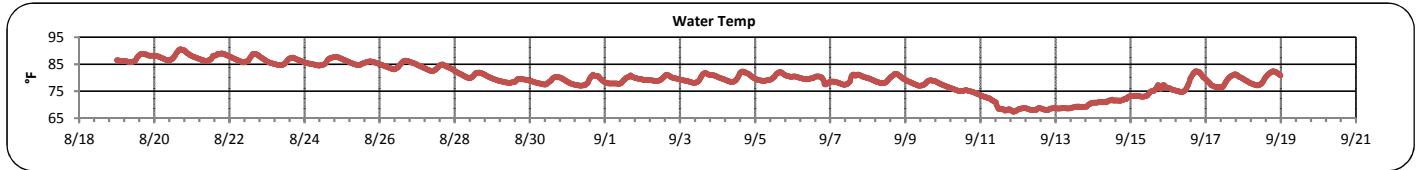
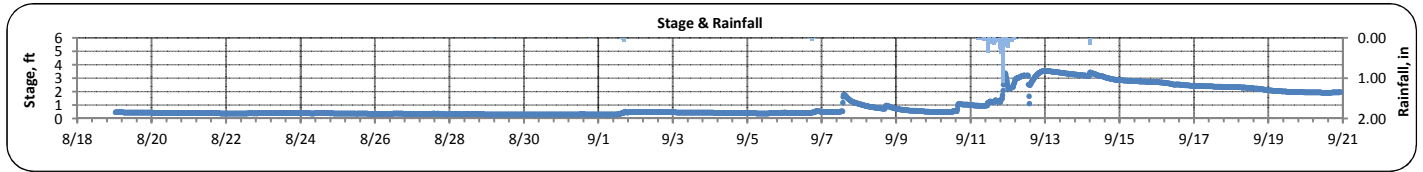
- There were no abnormal events that occurred during this deployment.

Flow Measurements

- Flow measurements were taken at high flow on September 12th.

Gills Creek A (August 18, 2017 -- September 20, 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):	0.3	3.6	0.5	1.1	1.0
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	67	91	80	80	5
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	3	203	8	12	14
COORDINATES:	34.019826, -80.963566	pH:	6.1	7.1	6.5	6.5	0.2
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.028	0.06	0.047	0.046	0.003
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.3	8.9	7.1	7.1	1.0
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	4						
MAX. DAILY RAINFALL:	3.7 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**

Gills Creek A (August 18, 2017 -- September 20, 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:

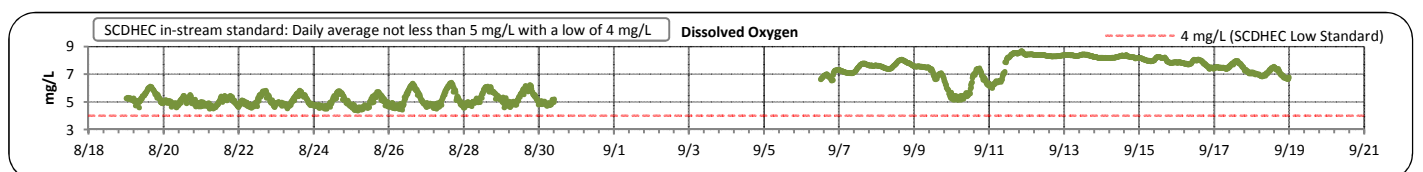
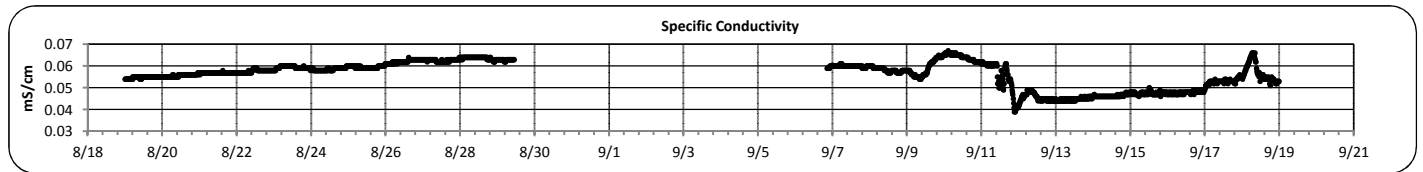
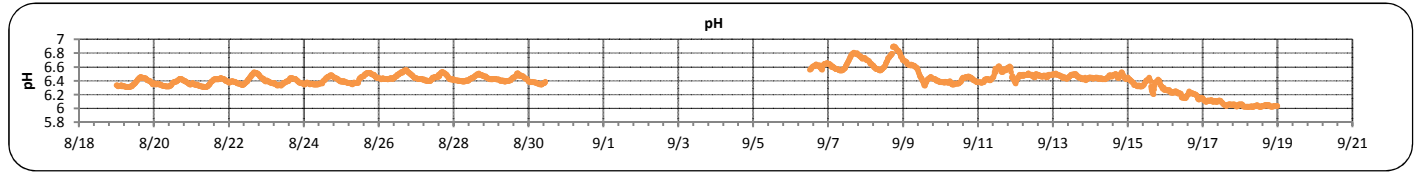
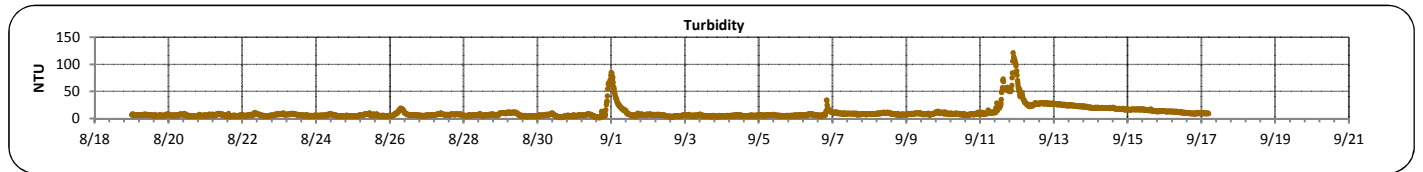
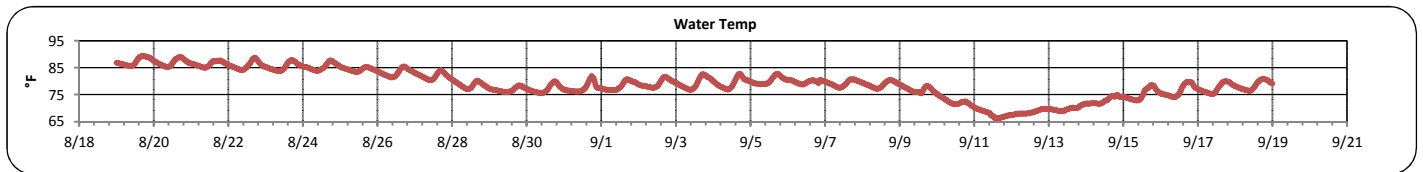
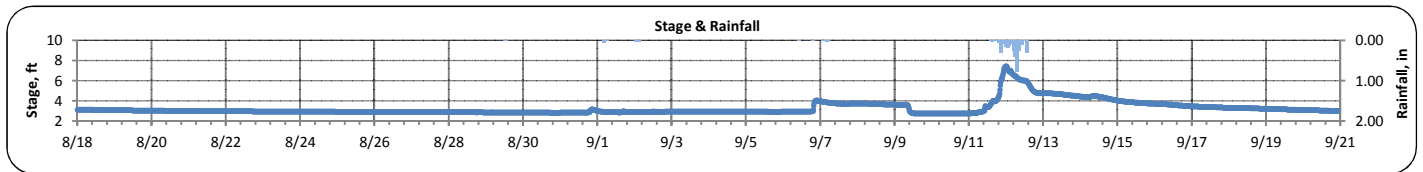
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	9/6/2017							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:45	104						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes: The sample collected on 9/6/2017 was collected during dry weather conditions.

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

Gills Creek B (August 18, 2017 -- September 20, 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):	2.8	7.5	3.0	3.3	0.7
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	66	89	79	79	5
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	2	122	7	11	11
COORDINATES:	33.989656, -80.97433	pH:	6.0	6.9	6.4	6.4	0.2
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.039	0.067	0.058	0.056	0.006
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.4	8.7	6.2	6.4	1.4
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	2						
MAX. DAILY RAINFALL:	3.3 inches						
TOTAL RAINFALL (FOR PERIOD):	3.9 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 (August 18, 2017 -- September 20, 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	
	9/6/2017							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	11:39	220						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

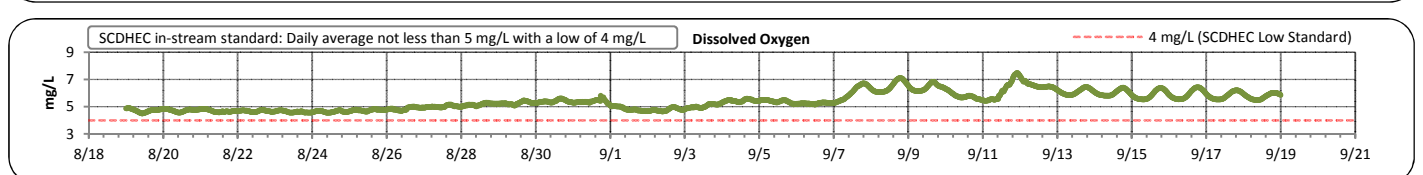
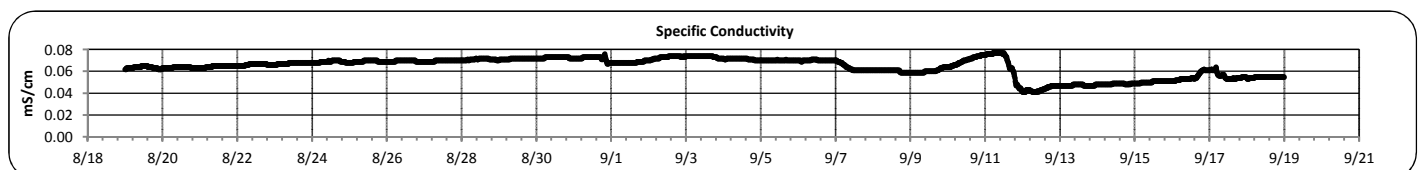
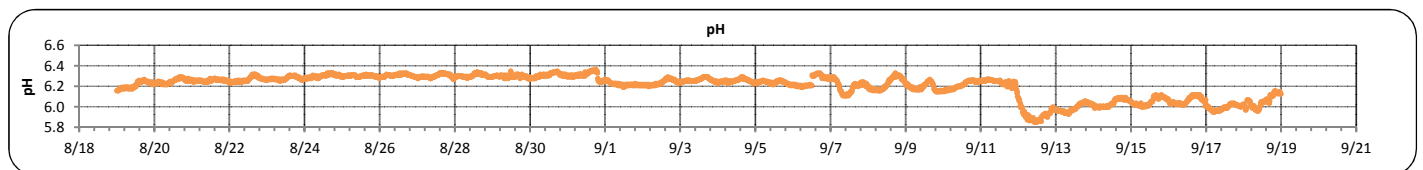
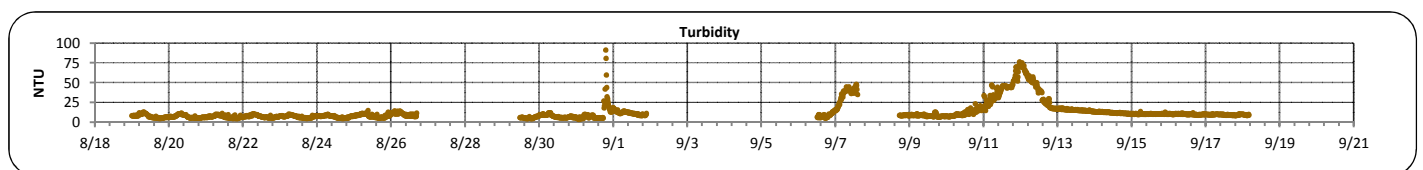
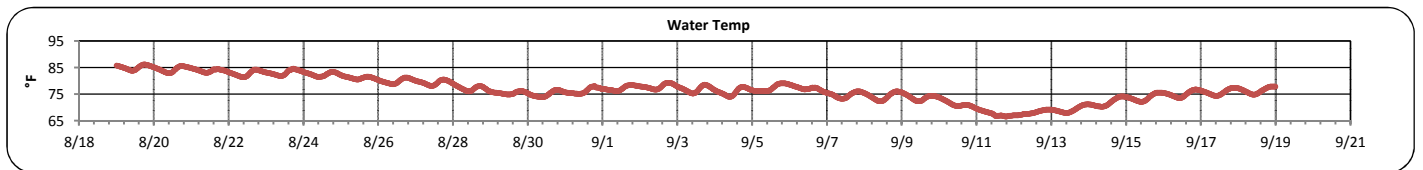
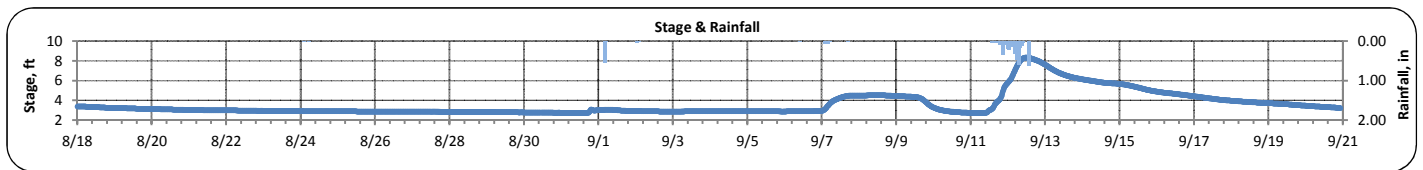
Notes: The sample collected on 9/6/2017 was collected during dry weather conditions.

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

REPORT GENERATED ON 10/3/2017

Gills Creek C (August 18, 2017 -- September 20, 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):	2.7	8.4	3.0	3.6	1.2
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	67	86	77	77	5
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	4	91	10	13	12
COORDINATES:	33.948043, -80.9889	pH:	5.9	6.4	6.3	6.2	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.041	0.077	0.068	0.064	0.009
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.5	7.5	5.3	5.4	0.6
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	3						
MAX. DAILY RAINFALL:	3.19 inches						
TOTAL RAINFALL (FOR PERIOD):	4.6 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**

Gills Creek C (August 18, 2017 -- September 20, 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	
	9/6/2017							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	12:05	126						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes: The sample collected on 9/6/2017 was collected during dry weather conditions.

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

REPORT GENERATED ON 10/3/2017