

Gills Creek Monitoring Sites

Monitoring Data Summary for August 22nd, 2018 – September 26th, 2018

Data Gaps

- The GILA sonde was pulled from the water on September 10th to troubleshoot an issue with the turbidity probe wiper. The turbidity probe was replaced while the malfunctioning probe was sent to the manufacturer for maintenance. The sonde was redeployed on September 11th. All water quality parameters were removed from the dataset during the period when the sonde was not in the water. Wiper malfunctioning caused inaccurate turbidity data, which was removed from August 31st-September 11th.
- The GILB station experienced abnormal specific conductivity and pH readings, most likely the result of sensor fouling. This period of data was removed from the dataset.
- The GILC station did not have any interruptions in the data during this monitoring period.

SCDHEC Standards

- The GILA and GILC stations did not record any pH readings outside of the acceptable SCDHEC range of 6 to 8.5. The GILB station recorded a minimum pH reading of 5.9, which occurred during a large storm event.
- The GILA station recorded an average DO value of 6.9 mg/L and the GILB station recorded an average DO value of 5.3 mg/L, which are both above the SCDHEC daily average DO standard of 5 mg/L. The GILC station recorded a DO average of 4.2 mg/L, which is below the SCDHEC daily average DO standard.
- The GILA, GILB, and GILC stations recorded minimum DO levels of 4.3 mg/L, 1.6 mg/L, and 2.6 mg/L, respectively, during this deployment. The GILA station did not record any DO values below the SCDHEC instantaneous minimum standard of 4.0 mg/L; however, both the GILB and GILC stations did. These low values all occurred during dry periods which may have resulted in low flow/stagnant water, causing the DO to drop.

Storm Events

- The GILA station recorded 5 storm events resulting in approximately 5.7 inches of rainfall. The GILB station recorded 4 storms that resulted in approximately 5.7 inches of rainfall. The GILC station recorded 4 storms that resulted in approximately 5.8 inches of rainfall.
- There were several rain events that took place during this deployment period. The water quality parameters in the Gills Creek watershed displayed typical storm event response patterns for most of the recorded events.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 22.7 days at GILA prior to storm event on September 11th, 24 days at GILB prior to storm event on September 12th, and 26.4 days at GILC prior to the storm event on September 15th.

Potential Illicit Discharges and Abnormal Events

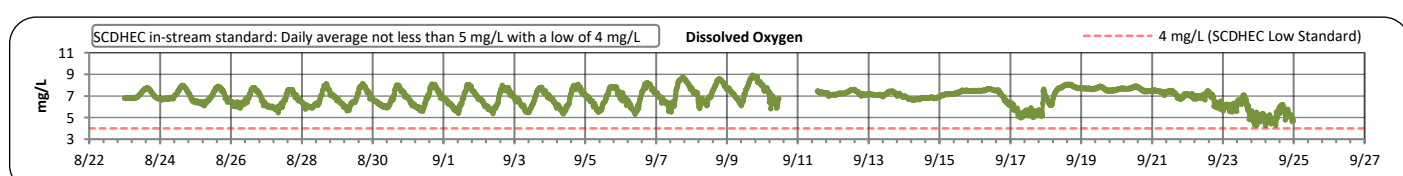
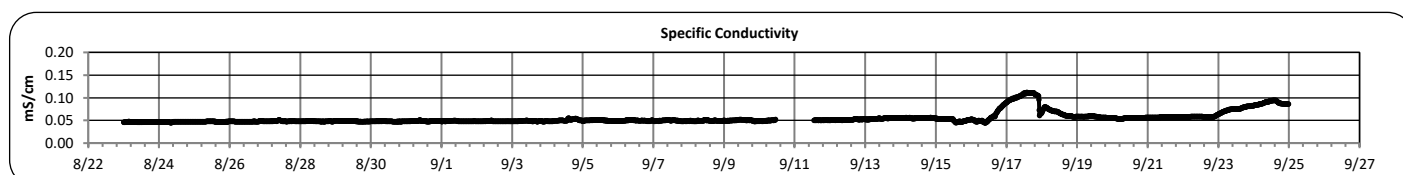
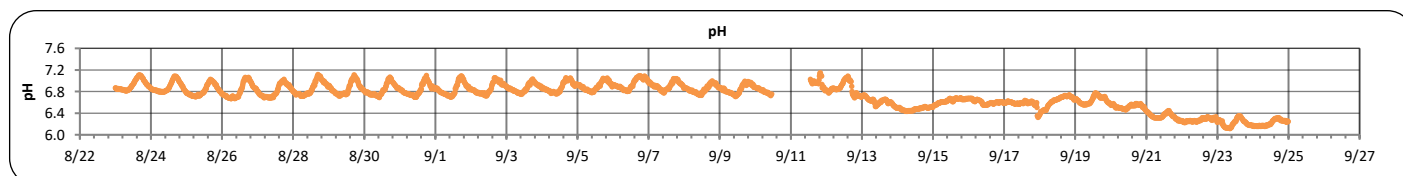
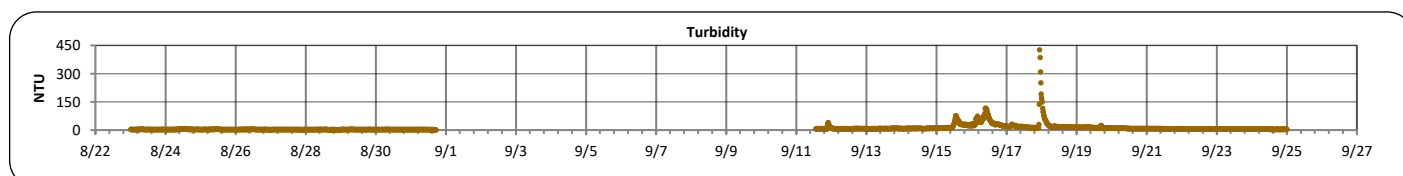
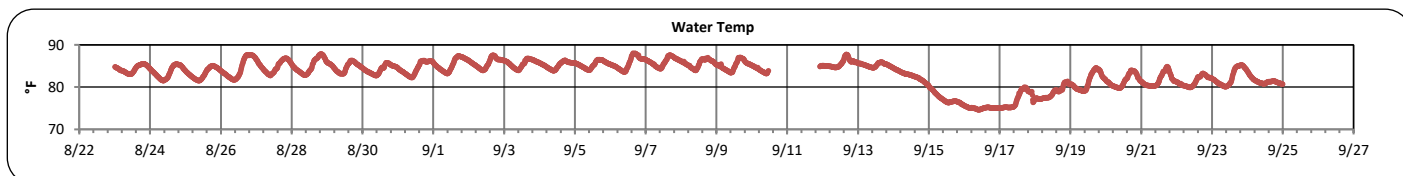
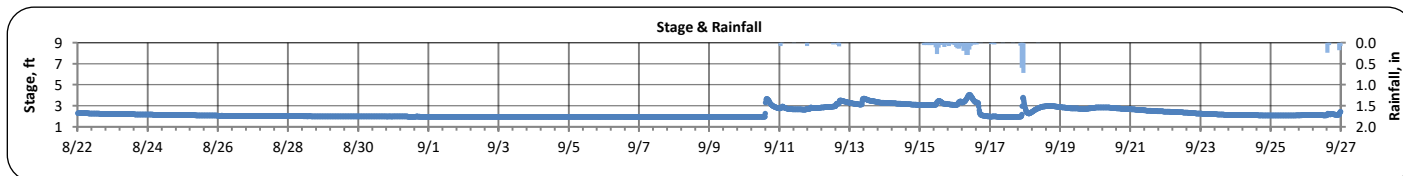
- At GILA, the stage decreased on September 16th-17th and at the end of the deployment period which caused changes in water quality during those times. This was not a rapid decrease in stage, but it caused an evident decrease in DO and increase in specific conductivity.

Flow Measurements

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

Gills Creek A (August 22, 2018 -- September 26, 2018)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	1.9	4.1	2.1	2.3	0.5
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	75	88	84	83	3
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	2	428	6	11	21
COORDINATES:	34.019826, -80.963566	pH:	6.1	7.2	6.8	6.7	0.2
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.045	0.112	0.050	0.055	0.013
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.3	9.0	7.0	6.9	0.8
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	5						
MAX. DAILY RAINFALL:	1.8 inches						
TOTAL RAINFALL (FOR PERIOD):	5.7 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 22, 2018 -- September 26, 2018)

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

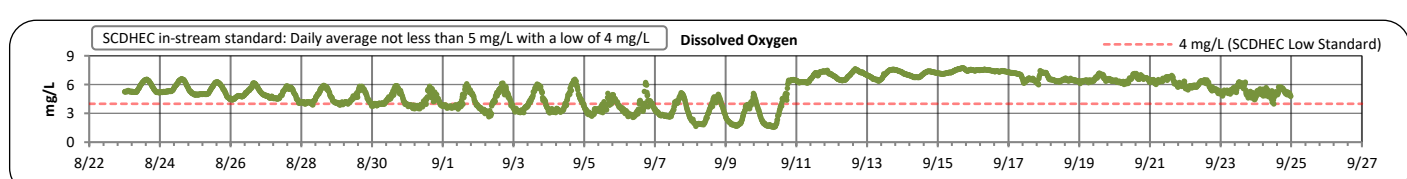
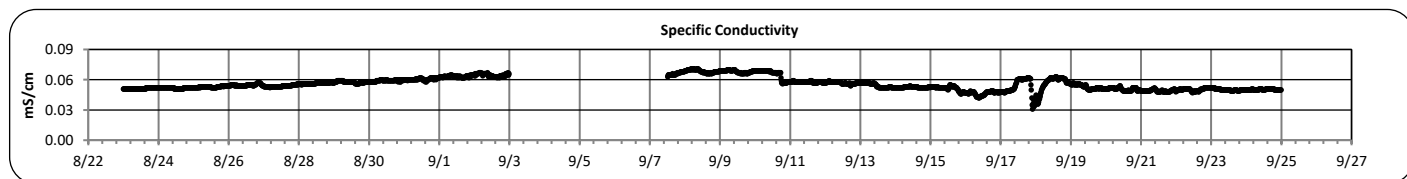
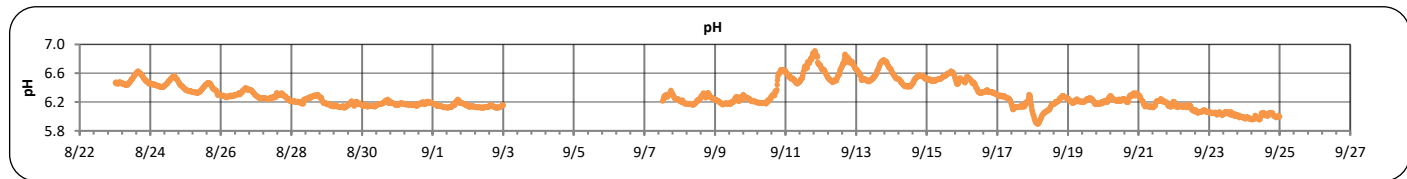
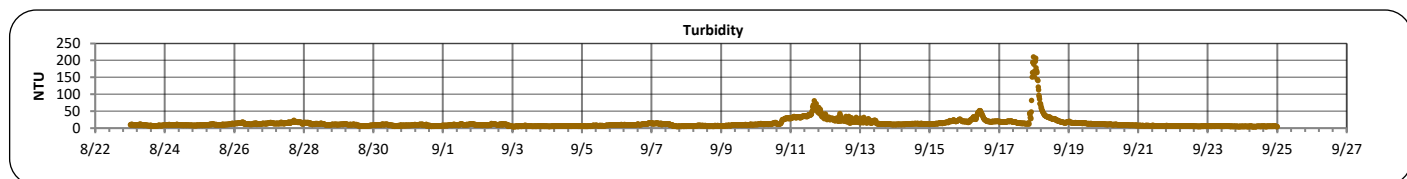
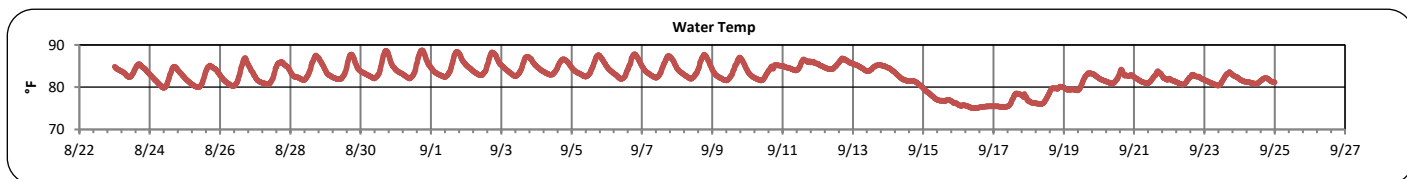
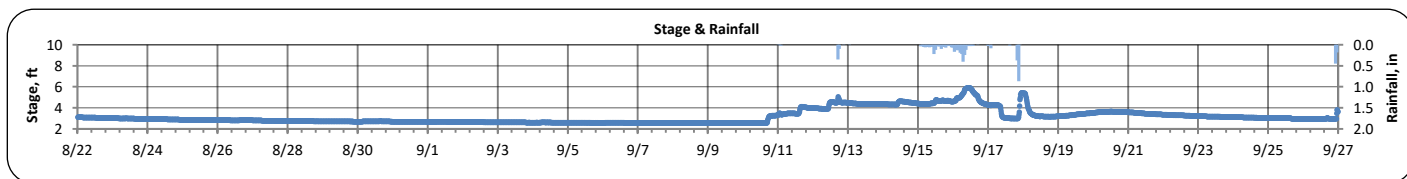
Notes:

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

REPORT GENERATED ON 10/26/2018

Gills Creek B (August 22, 2018 -- September 26, 2018)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	2.6	5.9	3.0	3.2	0.7
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	75	89	83	83	3
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	5	211	11	14	15
COORDINATES:	33.989656, -80.97433	pH:	5.9	6.9	6.2	6.3	0.2
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.031	0.071	0.054	0.056	0.006
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	1.6	7.8	5.4	5.3	1.5
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	4						
MAX. DAILY RAINFALL:	1.9 inches						
TOTAL RAINFALL (FOR PERIOD):	5.7 inches						



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**Continuous Water Quality
Monitoring Periodic Report**

Gills Creek B (August 22, 2018 -- September 26, 2018)

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

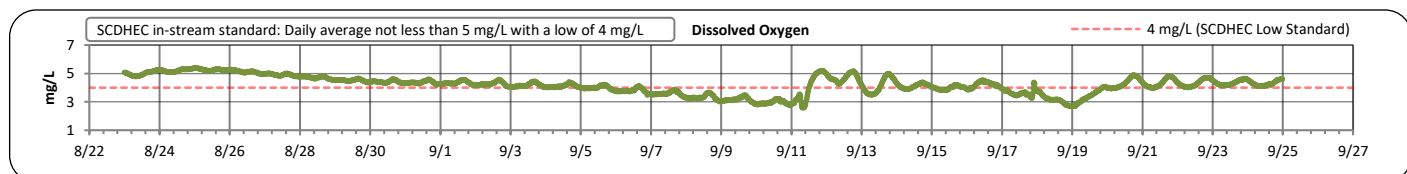
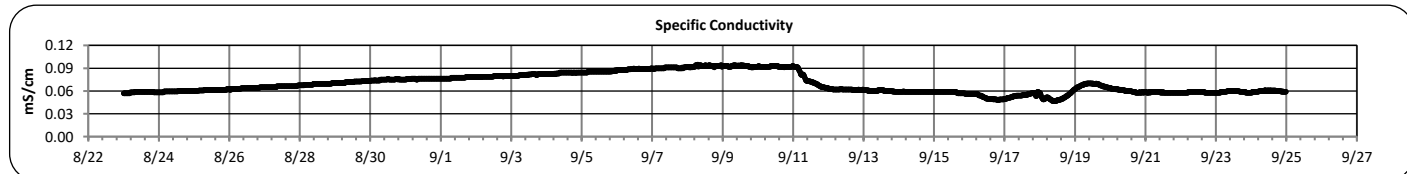
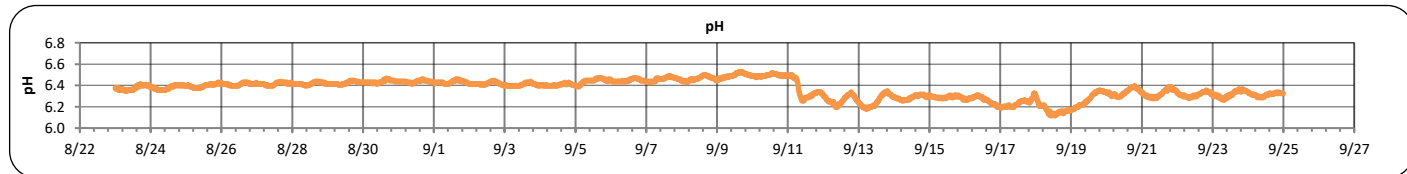
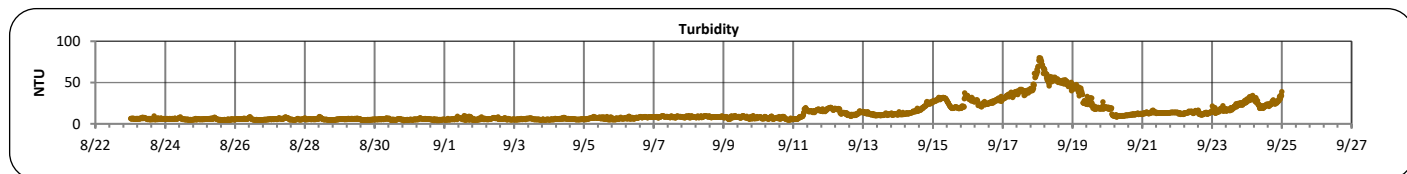
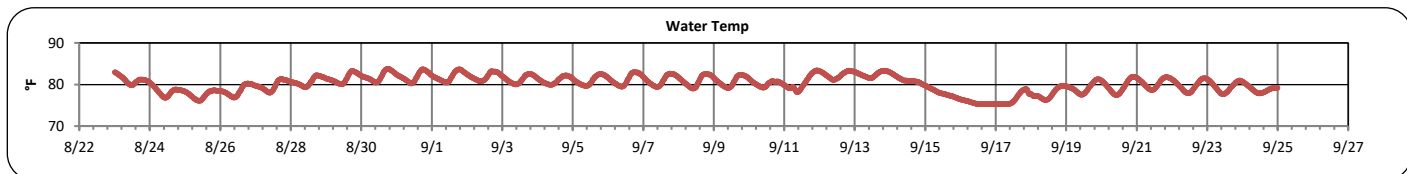
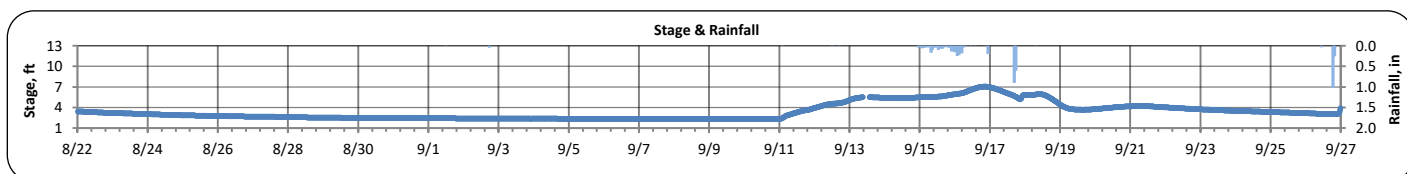
Notes:

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

REPORT GENERATED ON 10/26/2018

Gills Creek C (August 22, 2018 -- September 26, 2018)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	2.3	7.1	3.0	3.4	1.2
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	75	84	80	80	2
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	4	80	8	13	12
COORDINATES:	33.948043, -80.9889	pH:	6.1	6.5	6.4	6.4	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.047	0.095	0.065	0.070	0.013
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	2.6	5.4	4.2	4.2	0.6
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	4						
MAX. DAILY RAINFALL:	1.72 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 C (August 22, 2018 -- September 26, 2018)

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

Notes:

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

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