

# Gills Creek Monitoring Sites

## Monitoring Data Summary for July 19<sup>th</sup>, 2018 – August 21<sup>st</sup>, 2018

### *Data Gaps*

- The GILA station did not experience any interruptions in the data record during this monitoring period.
- For a short period of time on August 9<sup>th</sup>, the GILB sonde was removed from the field due to the DO wiper parking system malfunctioning. After troubleshooting, the sonde was redeployed without the DO sensor. The DO sensor was sent to YSI for maintenance, so GILB does not have any DO data for the remainder of this deployment. All other WQ parameters were removed from the dataset only during the time on August 9<sup>th</sup> when the sonde was not in the field.
- The GILC station experienced fouling turbidity over the weekend of August 18<sup>th</sup>, prior to the week of calibrations, so that period of data was removed from the dataset.

### *SCDHEC Standards*

- The GILA, GILB, and GILC stations did not record any pH readings outside of the acceptable SCDHEC range of 6 to 8.5.
- The GILA station recorded an average DO value of 6.8 mg/L and the GILB station recorded an average DO value of 5.2 mg/L, which are both above the SCDHEC daily average DO standard of 5 mg/L. The GILC station recorded a DO average of 4.6 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, 1.1 mg/L, and 3.4 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 17 storm events resulting in approximately 6.0 inches of rainfall. The GILB station recorded 15 storms that resulted in approximately 7.5 inches of rainfall. The GILC station recorded 13 storms that resulted in approximately 8.8 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 9.4 days at GILA, 9.3 days at GILB, and 4.2 days at GILC, all occurring prior to the July 22<sup>nd</sup> storm event.

### *Potential Illicit Discharges and Abnormal Events*

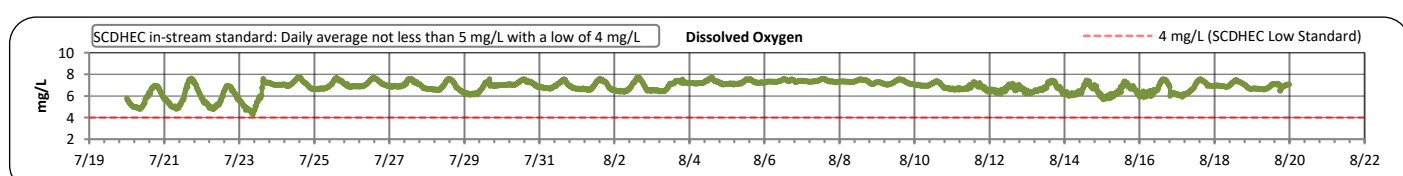
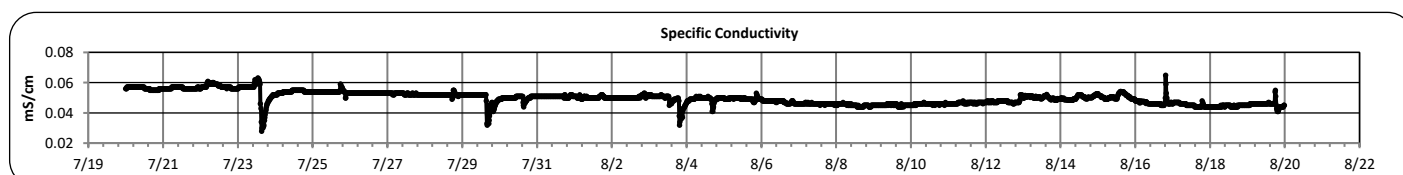
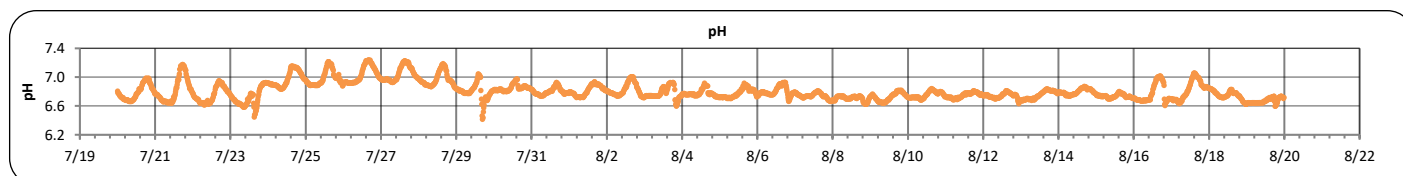
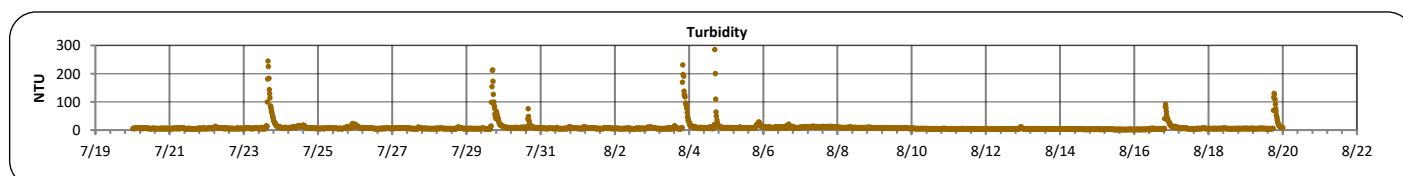
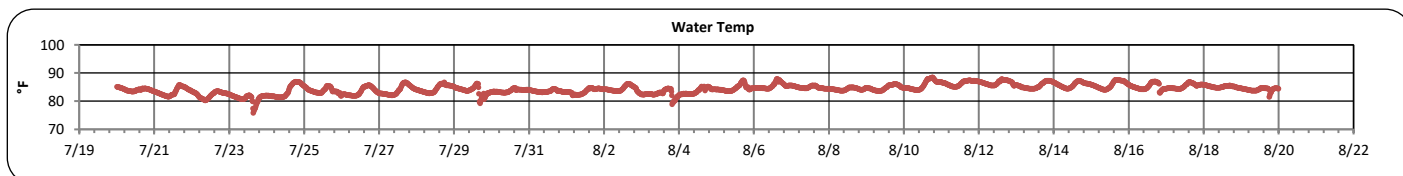
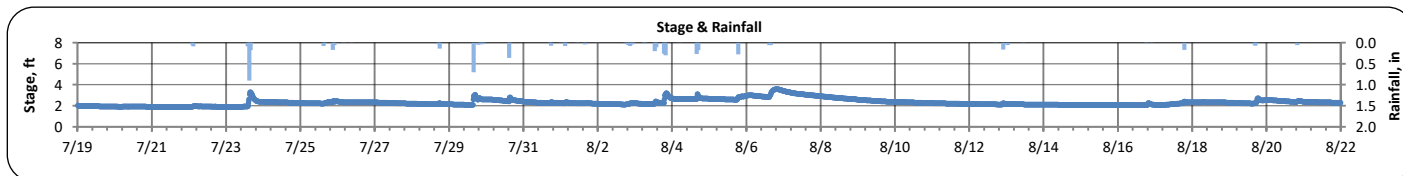
- At GILA, on July 21<sup>st</sup>, there was a slight increase in turbidity and specific conductivity associated with a small increase in stage, but no rainfall was observed.

### *Flow Measurements*

- A low flow measurement was taken at GILC on July 30<sup>th</sup>.

**Gills Creek A (July 19, 2018 -- August 21, 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	3.6	2.3	2.3	0.3
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	76	89	84	84	2
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	2	286	7	10	18
COORDINATES:	34.019826, -80.963566	pH:	6.4	7.2	6.8	6.8	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.028	0.065	0.050	0.050	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.3	7.8	7.0	6.8	0.6
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	17						
MAX. DAILY RAINFALL:	1.2 inches						
TOTAL RAINFALL (FOR PERIOD):	6.0 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 19, 2018 -- August 21, 2018)**

**Explanation of Statistics:**

<b>MINIMUM OBSERVED</b>	The minimum of the values recorded by the datasonde in 15 minute intervals.
<b>MAXIMUM OBSERVED</b>	The maximum of the values recorded by the datasonde in 15 minute intervals.
<b>MEDIAN OBSERVED</b>	The median of all the values recorded by the datasonde in 15 minute intervals.
<b>MEAN OBSERVED</b>	The average of all the values recorded by the datasonde in 15 minute intervals.
<b>STANDARD DEVIATION</b>	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	
	8/17/2018							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	9:47	370						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

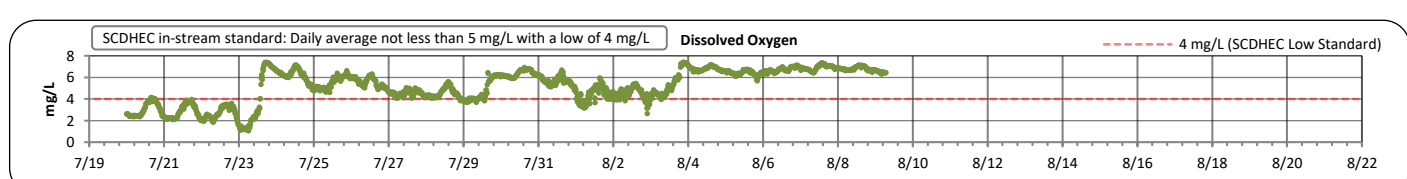
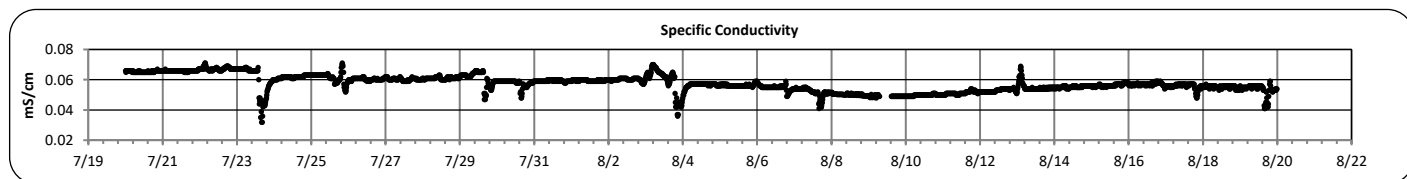
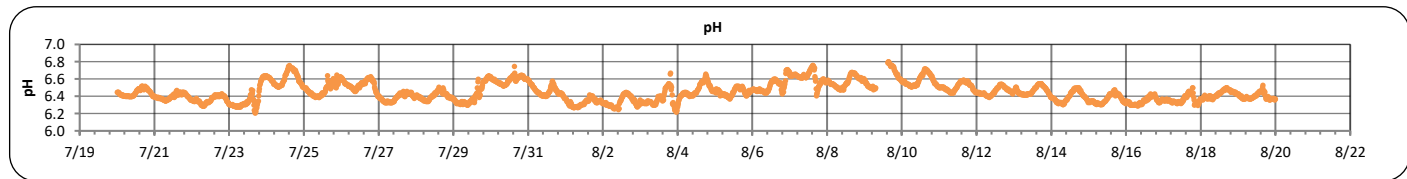
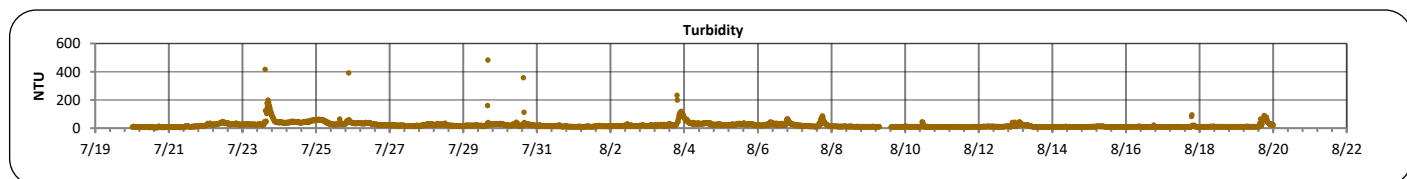
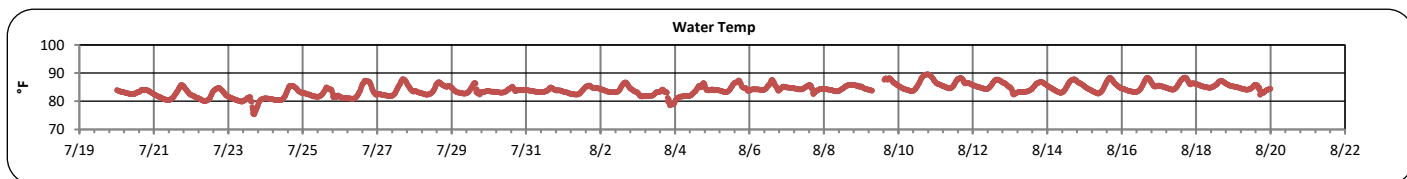
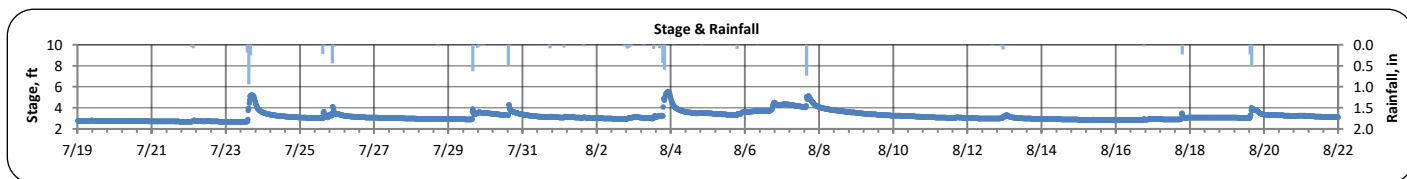
Notes: Both samples collected were collected during dry weather conditions.

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

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**Gills Creek B (July 19, 2018 -- August 21, 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):	2.7	5.5	3.1	3.2	0.4
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	75	90	84	84	2
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	5	483	17	22	23
COORDINATES:	33.989656, -80.97433	pH:	6.2	6.8	6.4	6.5	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.032	0.071	0.057	0.058	0.005
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	1.1	7.4	5.5	5.2	1.5
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	15						
MAX. DAILY RAINFALL:	1.4 inches						
TOTAL RAINFALL (FOR PERIOD):	7.5 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 19, 2018 -- August 21, 2018)**

**Explanation of Statistics:**

<b>MINIMUM OBSERVED</b>	The minimum of the values recorded by the datasonde in 15 minute intervals.
<b>MAXIMUM OBSERVED</b>	The maximum of the values recorded by the datasonde in 15 minute intervals.
<b>MEDIAN OBSERVED</b>	The median of all the values recorded by the datasonde in 15 minute intervals.
<b>MEAN OBSERVED</b>	The average of all the values recorded by the datasonde in 15 minute intervals.
<b>STANDARD DEVIATION</b>	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	
	8/17/2018							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:06	216						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

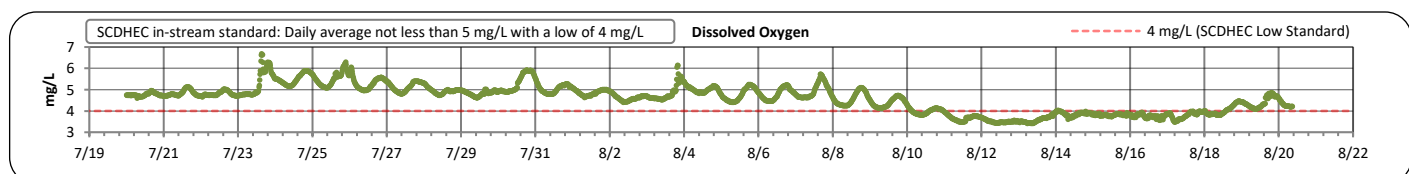
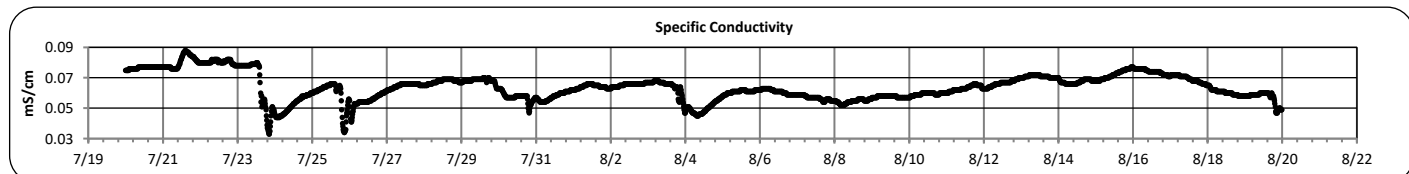
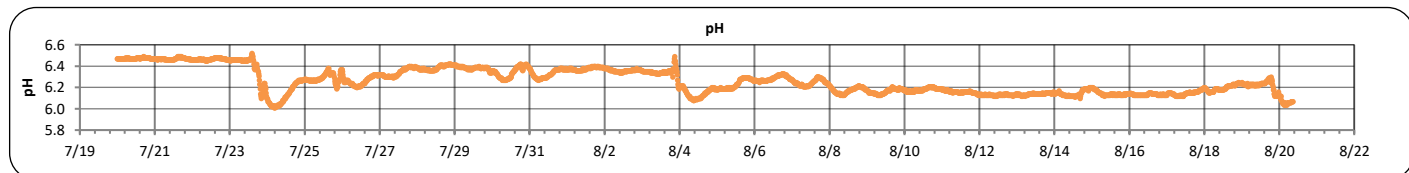
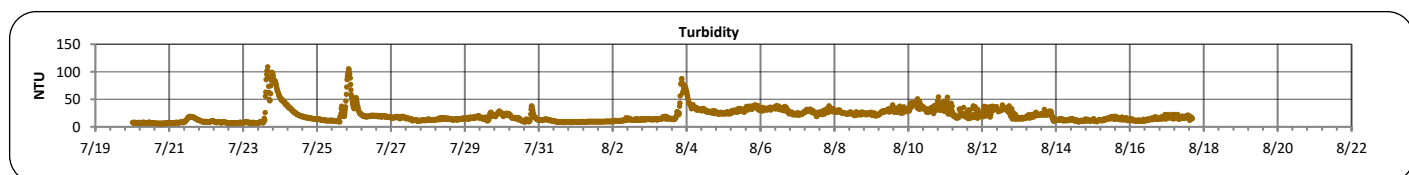
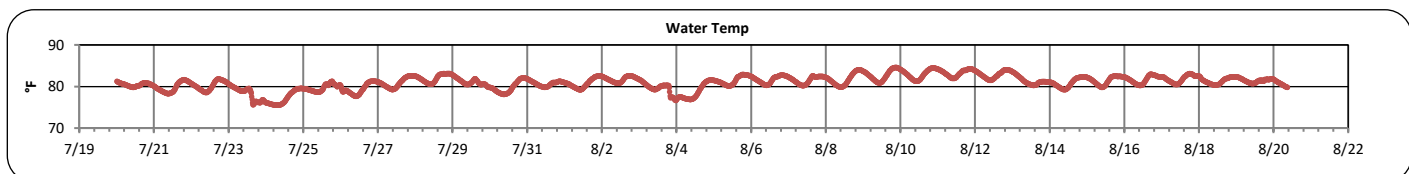
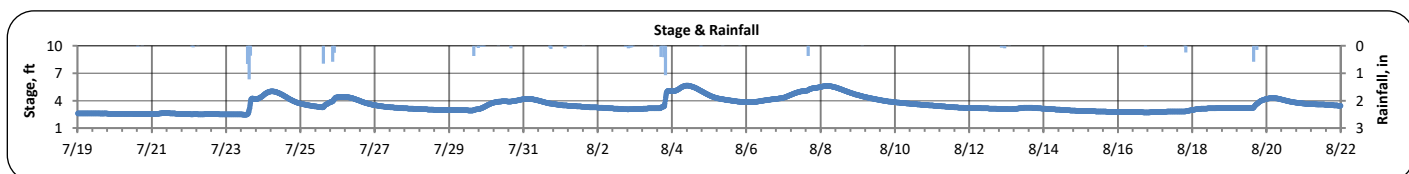
Notes: Both samples collected were collected during dry weather conditions.

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

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**Gills Creek C (July 19, 2018 -- August 21, 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):	2.5	5.7	3.3	3.5	0.8
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	76	85	81	81	2
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	6	109	17	21	13
COORDINATES:	33.948043, -80.9889	pH:	6.0	6.5	6.2	6.3	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.033	0.088	0.064	0.064	0.009
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	3.4	6.7	4.7	4.6	0.6
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	13						
MAX. DAILY RAINFALL:	2.25 inches						
TOTAL RAINFALL (FOR PERIOD):	8.8 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 (July 19, 2018 -- August 21, 2018)**

**Explanation of Statistics:**

<b>MINIMUM OBSERVED</b>	The minimum of the values recorded by the datasonde in 15 minute intervals.
<b>MAXIMUM OBSERVED</b>	The maximum of the values recorded by the datasonde in 15 minute intervals.
<b>MEDIAN OBSERVED</b>	The median of all the values recorded by the datasonde in 15 minute intervals.
<b>MEAN OBSERVED</b>	The average of all the values recorded by the datasonde in 15 minute intervals.
<b>STANDARD DEVIATION</b>	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	
	8/17/2018							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:20	1,130						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes: Both samples collected were 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

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