

Gills Creek Monitoring Sites

Monitoring Data Summary for June 19th, 2019 – July 25th, 2019

Data Gaps

- The GILA station did not have any interruptions in the data during this monitoring period.
- The GILB station experienced turbidity sensor fouling for a brief period on July 20th that was deleted from the dataset.
- The GILC station experienced two brief periods of turbidity sensor fouling occurring from June 30th-July 2nd and from July 6th-8th. These periods of turbidity data were deleted from the dataset.

SCDHEC Standards

- The GILA station did not record any pH readings outside of the acceptable SCDHEC range of 6 to 8.5.
- The GILB and GILC stations both recorded a minimum pH reading of 5.9, which is slightly below the acceptable SCDHEC range.
- The GILA station recorded an average DO value of 6.7 mg/L, the GILB station recorded an average DO value of 5.5 mg/L, and the GILC station recorded an average DO value of 5.0 mg/L, all of which are above or equivalent to the SCDHEC daily average DO standard of 5 mg/L.
- During this deployment period, the GILA, GILB, and GILC stations recorded minimum DO levels of 4.6 mg/L, 1.4 mg/L, and 3.8 mg/L, respectively. The GILA station did not record any DO values below the SCDHEC instantaneous minimum standard of 4 mg/L. The GILB and GILC stations recorded minimum DO values below the SCDHEC standard, which were recorded during storm events.

Storm Events

- The GILA station recorded 9 storm events resulting in approximately 6.0 inches of rainfall. The GILB station recorded 8 storms that resulted in approximately 4.7 inches of rainfall. The GILC station recorded 7 storms that resulted in approximately 5.0 inches of rainfall.
- The monitored water quality parameters in the Gills Creek watershed all displayed typical storm event response patterns during the recorded storm events.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 9.6 days at the GILA and GILB station and approximately 12.4 days at the GILC station, all occurring prior to the July 4th storm event.

Potential Illicit Discharges and Abnormal Events

- It appears that water was released from Lake Katherine, observed at the GILB station, after the storm event on June 23rd and remained open until July 3rd when a sudden drop in stage occurred. The DO was impacted during this time, causing the DO to read values below the SCDHEC instantaneous minimum standard of 4 mg/L.

Flow Measurements

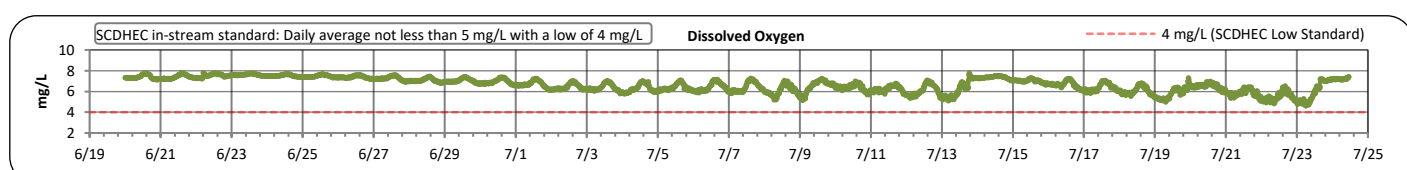
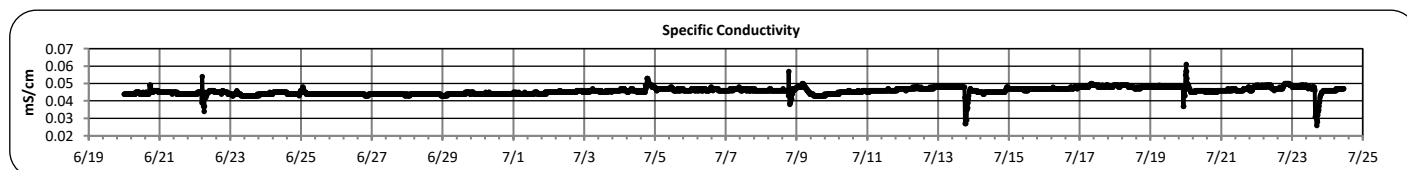
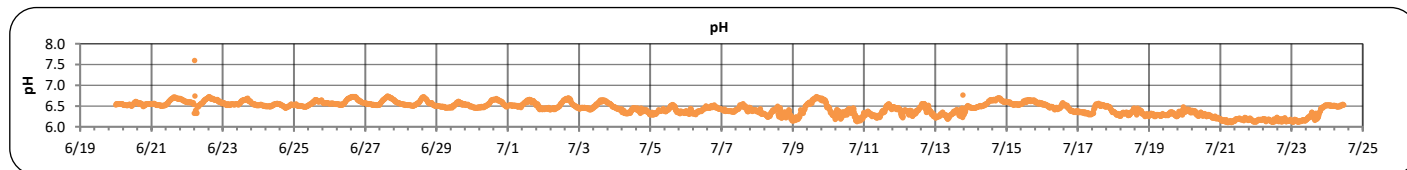
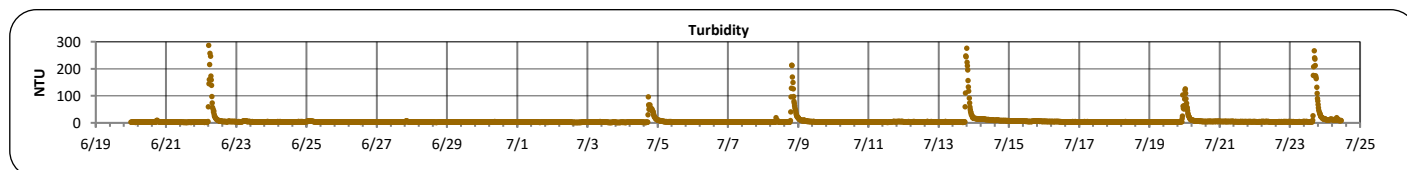
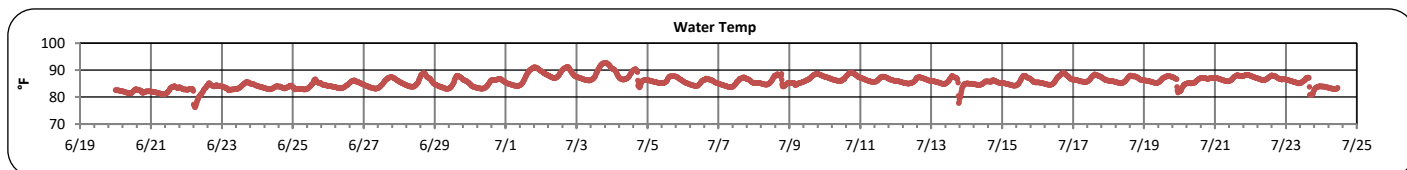
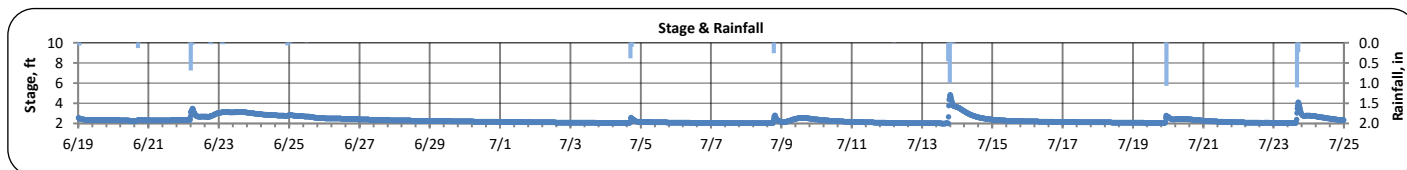
- No flow measurements were taken in Gills Creek during this monitoring period.

Notes

- The GILB CS451 pressure transducer was not recording continuous readings during this deployment period, so the CS451 stage data for this deployment period was deleted. For the periodic report, the discharge data from the USGS 02169570 Gills Creek station was used instead of the CS451 stage data. This USGS station is located directly downstream of the GILB monitoring station.

Gills Creek A (June 19, 2019 -- July 25, 2019)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	2.0	4.9	2.2	2.3	0.3
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	76	93	86	86	2
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	2	287	4	8	22
COORDINATES:	34.019826, -80.963566	pH:	6.1	7.6	6.5	6.4	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.026	0.061	0.046	0.046	0.002
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.6	7.8	6.8	6.7	0.7
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	9						
MAX. DAILY RAINFALL:	1.5 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 (June 19, 2019 -- July 25, 2019)

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.

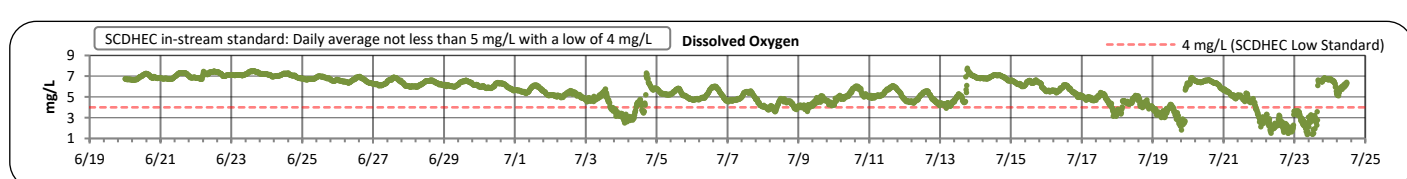
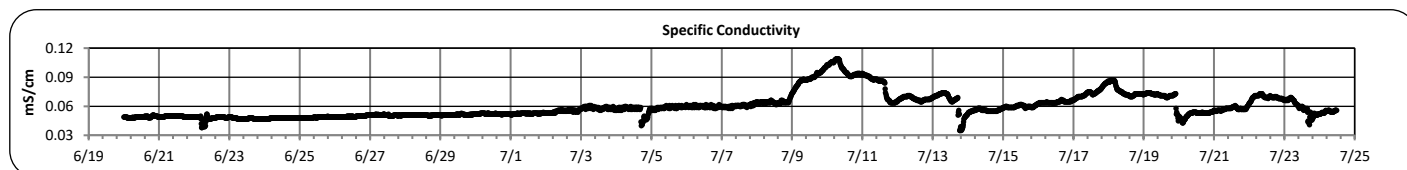
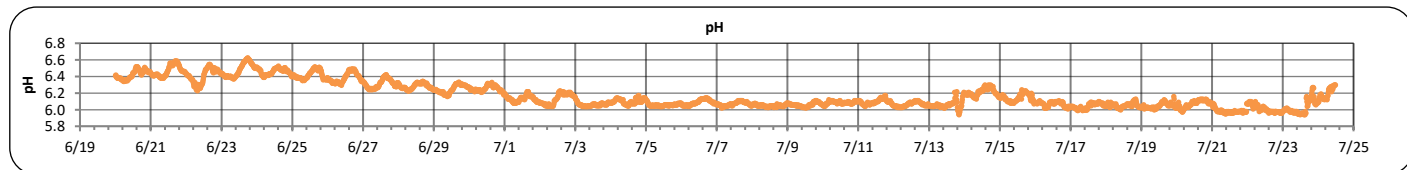
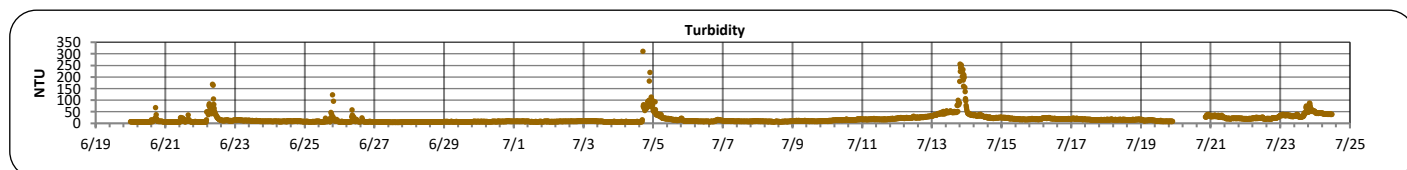
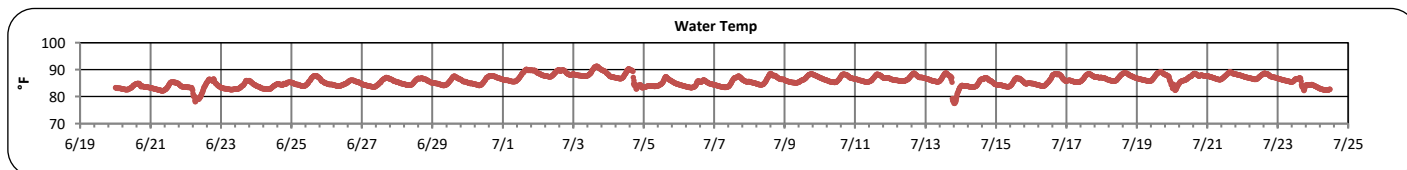
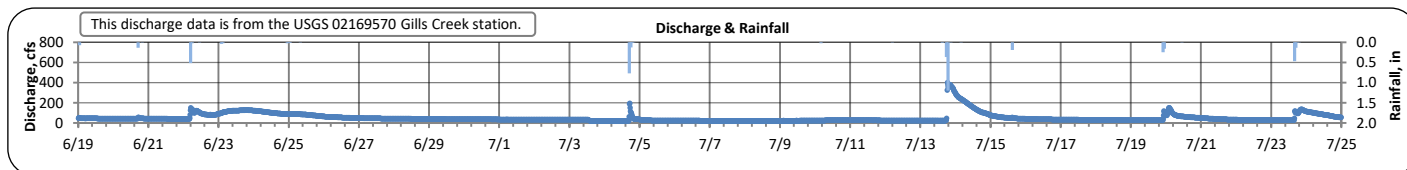
Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	6/20/2019		7/12/2019					
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:10	1366	10:22	296				
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes: This sample was collected during dry weather conditions.

Gills Creek B (June 19, 2019 -- July 25, 2019)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	DISCHARGE (CFS):	21.2	403.0	37.6	51.4	42.7
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	78	91	86	86	2
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	5	311	12	18	21
COORDINATES:	33.989656, -80.97433	pH:	5.9	6.6	6.1	6.2	0.2
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.035	0.109	0.057	0.060	0.013
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	1.4	7.8	5.7	5.5	1.3
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	8						
MAX. DAILY RAINFALL:	1.6 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 B (June 19, 2019 -- July 25, 2019)

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.

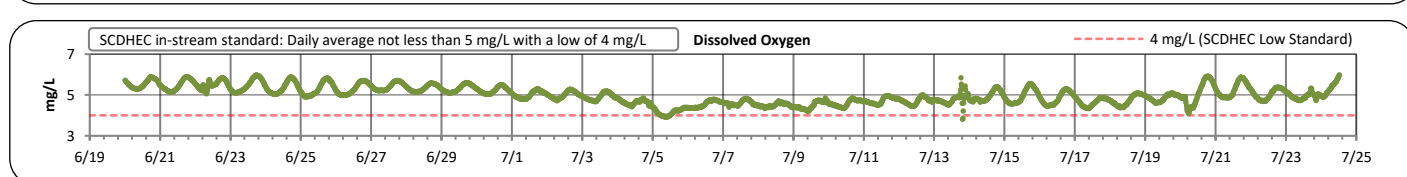
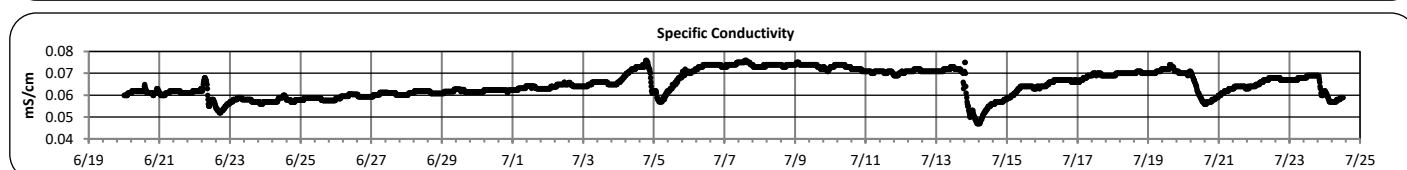
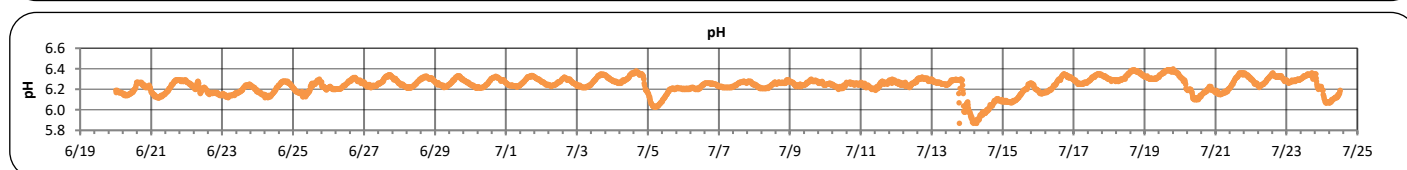
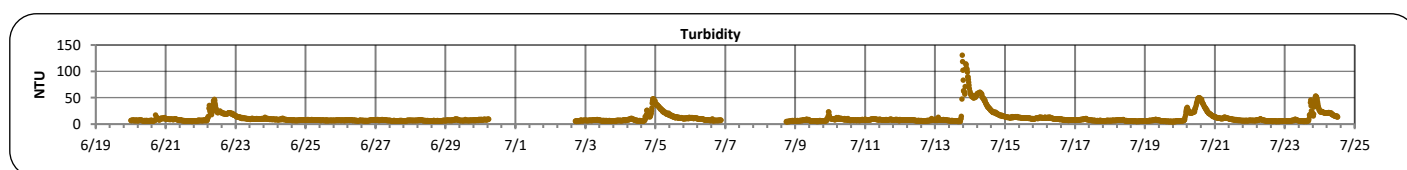
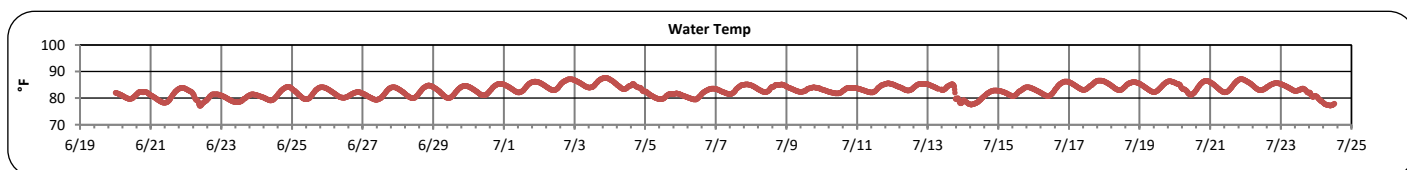
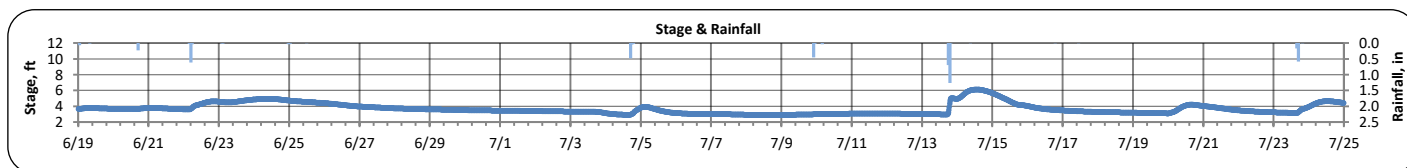
Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	6/19/2019		6/21/2019		7/22/2019			
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:55	218	9:47	104	10:15	576		
Total Suspended Solids (mg/L)	10:55	9.1	9:47	8.6	10:15	8.2		
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes: Sample 1 was collected during wet weather conditions. Sample 2 and Sample 3 were collected during dry conditions.

Gills Creek C (June 19, 2019 -- July 25, 2019)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	2.9	6.1	3.5	3.7	0.7
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	77	88	83	83	2
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	5	131	8	12	11
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):	0.047	0.076	0.064	0.065	0.006
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	3.8	6.0	5.0	5.0	0.4
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	7						
MAX. DAILY RAINFALL:	1.97 inches						
TOTAL RAINFALL (FOR PERIOD):	5.0 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 C (June 19, 2019 -- July 25, 2019)

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	
	6/19/2019		7/21/2019		7/22/2019			
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	12:15	1412	9:20	242	10:45	104		
Total Suspended Solids (mg/L)	12:15	6.8	9:20	6.2	10:45	6.6		
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes: Sample 1 was collected during wet weather conditions. Sample 2 and Sample 3 were collected during dry conditions.