

Gills Creek Monitoring Sites

Monitoring Data Summary for March 26th, 2020 – April 29th, 2020

Data Gaps

- None of the Gills Creek stations experienced any interruptions in the data during this monitoring period.

SCDHEC Standards

- None of the Gills Creek monitoring stations recorded any pH readings outside of the acceptable SCDHEC range of 6 to 8.5
- The GILA station recorded an average DO value of 8.8 mg/L, the GILB station recorded an average DO value of 8.2 mg/L, and the GILC station recorded an average DO value of 7.3 mg/L, all of which are above 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 8 mg/L, 7.5 mg/L, and 5.6 mg/L, respectively. All the stations in the Gills Creek watershed recorded DO values above the SCDHEC instantaneous minimum standard of 4 mg/L.

Storm Events

- The GILA station recorded 5 storm events resulting in approximately 2.5 inches of rainfall. The GILB station recorded 5 storms that resulted in approximately 2.7 inches of rainfall. The GILC station recorded 6 storms that resulted in approximately 2.8 inches of rainfall.
- The monitored water quality parameters all displayed typical storm event response patterns during the recorded storm events in the Gills Creek watershed.
- At all three of the Gills Creek stations, the specific conductivity increased during the storm event on March 31st, which is not the typical storm response pattern for specific conductivity. This occurrence may have been the result of an illicit discharge.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 11.9 days at each of the Gills Creek stations, occurring prior to the April 12th storm event.

Potential Illicit Discharges and Abnormal Events

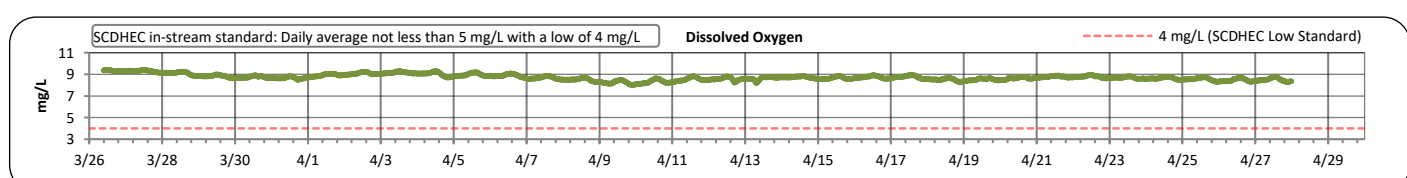
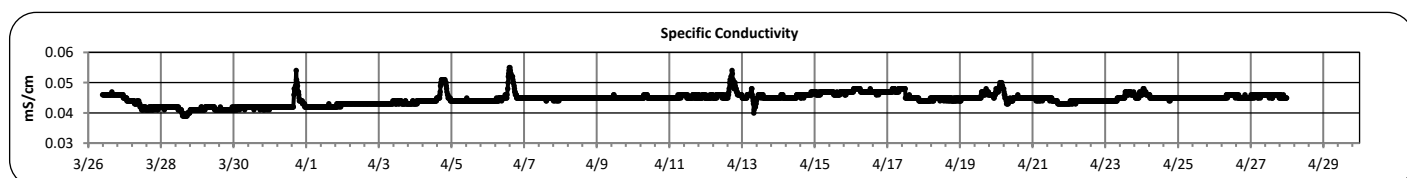
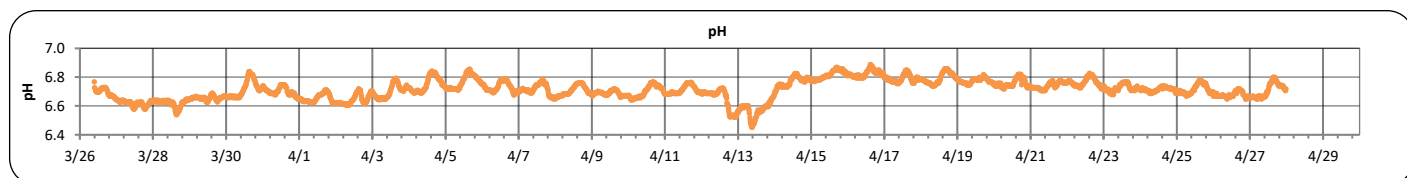
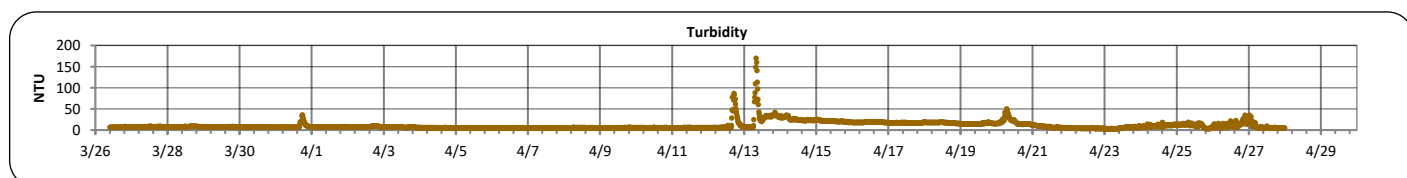
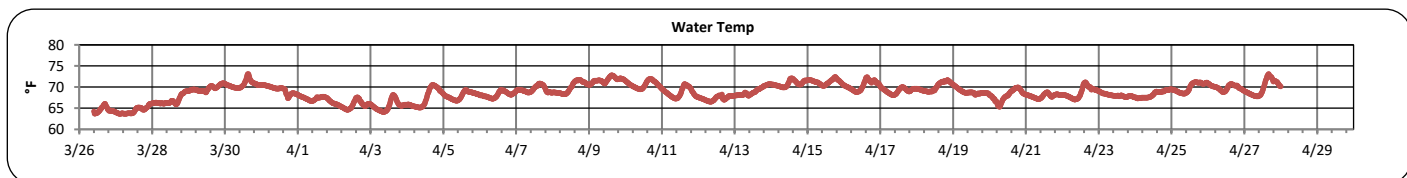
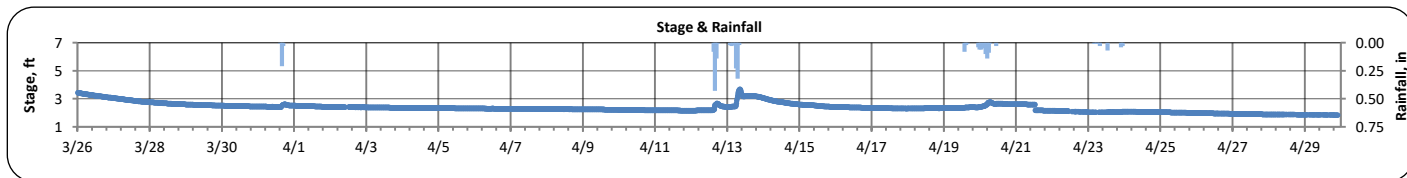
- At the GILA station, the specific conductivity increased several times during this deployment period. These specific conductivity spikes occurred on the following dates: March 31st, April 4th, April 6th, April 12th, April 20th, and April 24th.

Flow Measurements

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

Gills Creek A (March 26, 2020 - April 29, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	1.8	3.7	2.4	2.4	0.3
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	64	73	69	69	2
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	3	170	8	11	10
COORDINATES:	34.019826, -80.963566	pH:	6.5	6.9	6.7	6.7	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.039	0.055	0.045	0.045	0.002
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	8.0	9.4	8.7	8.8	0.3
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	5						
MAX. DAILY RAINFALL:	0.7 inches						
TOTAL RAINFALL (FOR PERIOD):	2.5 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 A (March 26, 2020 - April 29, 2020)

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	
	4/13/2020							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	9:45	4764						
Total Suspended Solids (mg/L)	9:45	65.6						
Total Phosphorus (mg/L)	9:45	0.17						
Total Nitrogen (mg/L)	9:45	1.12						

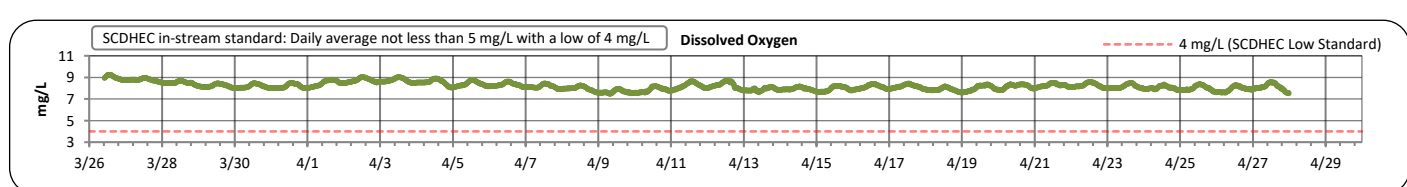
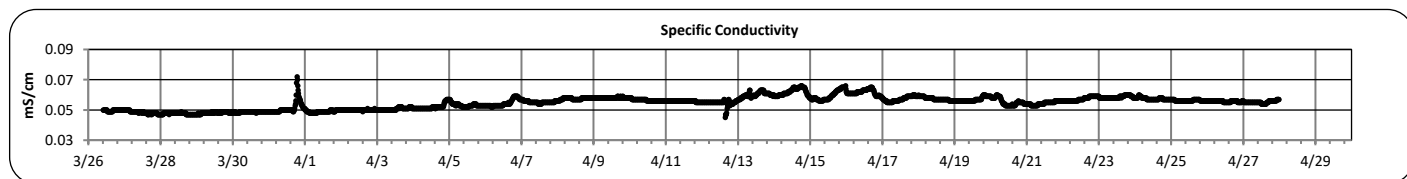
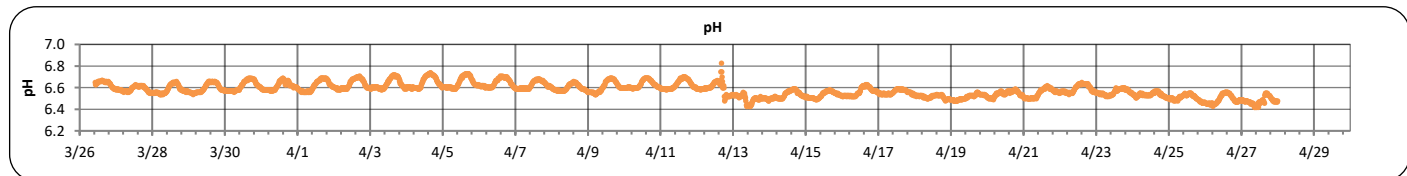
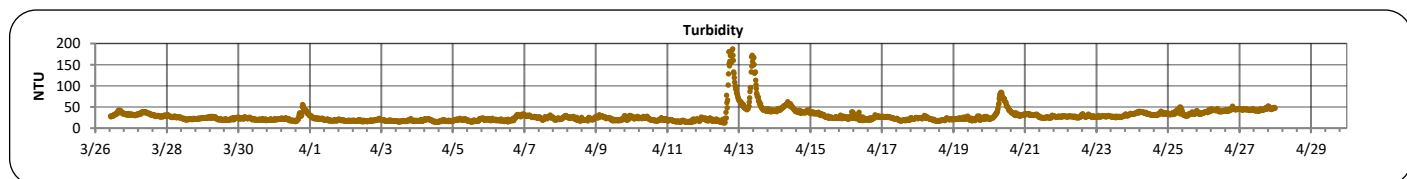
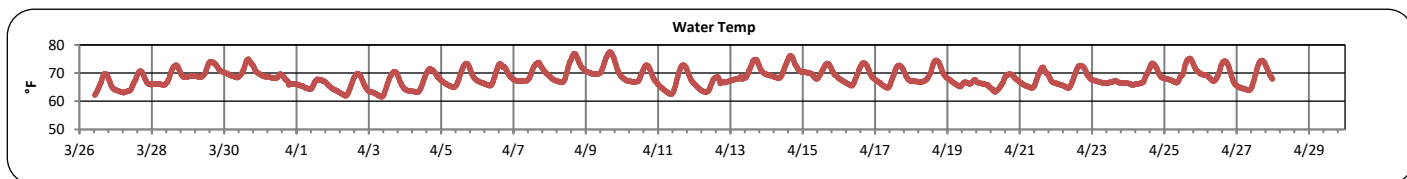
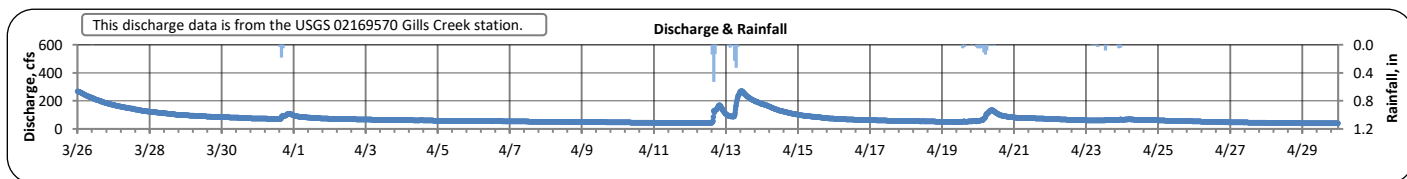
Notes: All samples were taken during wet weather conditions.

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 (March 26, 2020 - April 29, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	DISCHARGE (CFS):	40.5	271.0	63.4	77.0	41.7
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	62	77	68	68	3
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	13	187	25	29	17
COORDINATES:	33.989656, -80.97433	pH:	6.4	6.8	6.6	6.6	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.045	0.072	0.056	0.055	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	7.5	9.3	8.2	8.2	0.3
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	5						
MAX. DAILY RAINFALL:	0.8 inches						
TOTAL RAINFALL (FOR PERIOD):	2.7 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 (March 26, 2020 - April 29, 2020)

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	
	4/13/2020		4/20/2020					
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:15	5,190	9:42	5,702				
Total Suspended Solids (mg/L)	10:15	156	9:42	68.4				
Total Phosphorus (mg/L)	10:15	0.32						
Total Nitrogen (mg/L)	10:15	1.56						

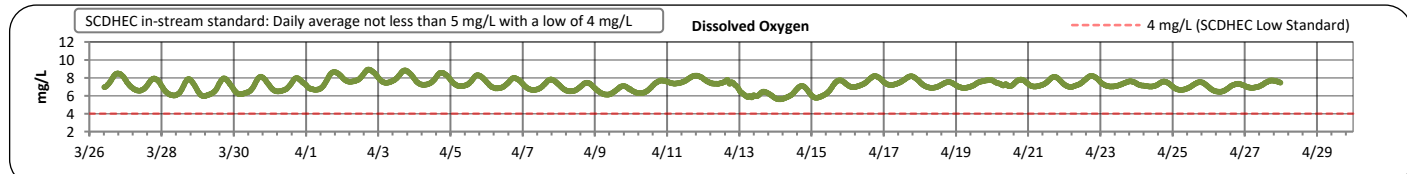
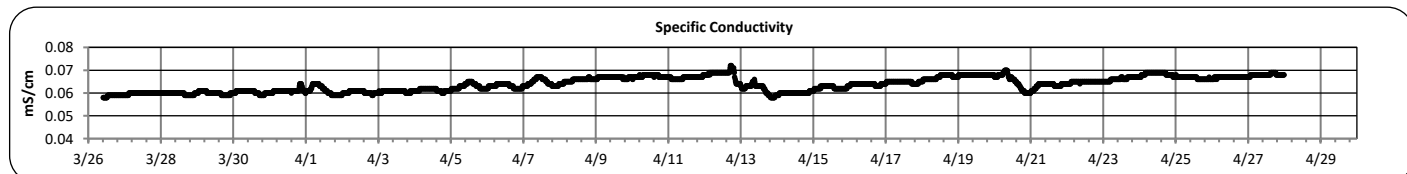
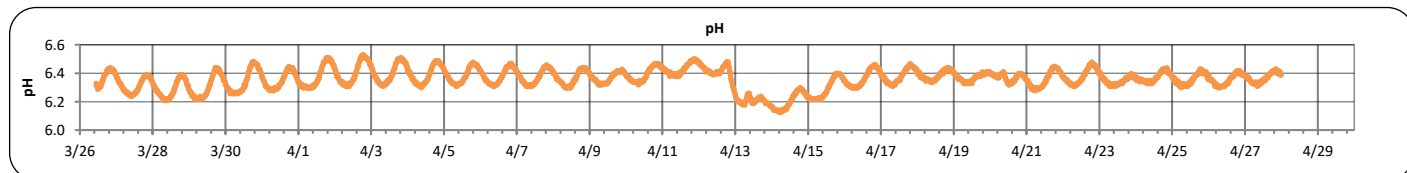
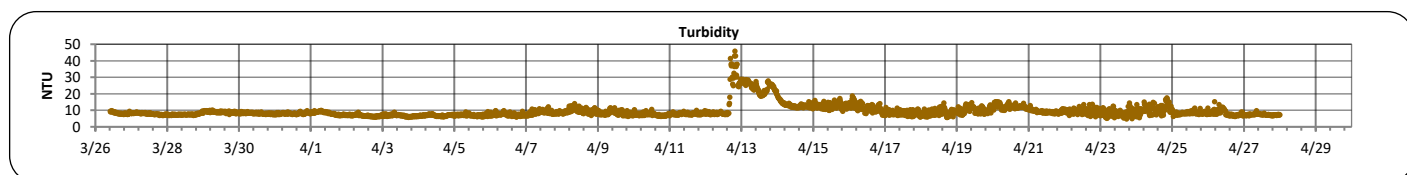
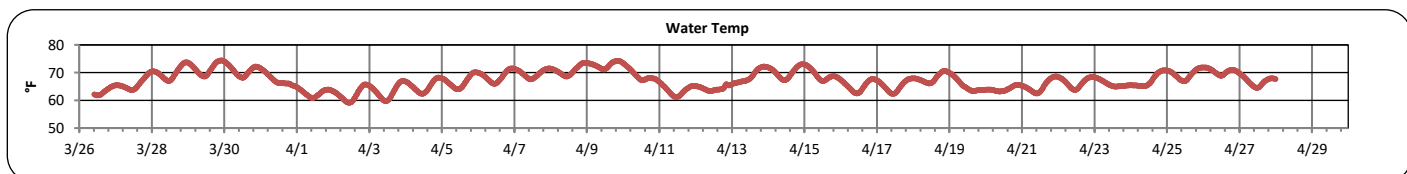
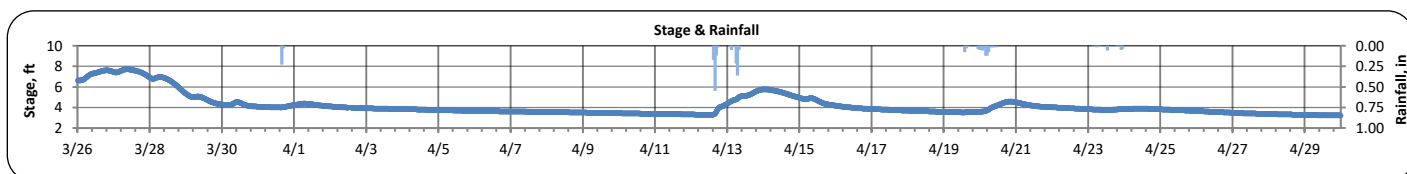
Notes: All samples were taken during wet weather conditions.

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

REPORT GENERATED ON 6/2/2020

Gills Creek C (March 26, 2020 - April 29, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	3.3	7.7	3.8	4.2	1.0
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	59	74	67	67	3
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	5	46	8	10	4
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):	0.058	0.072	0.064	0.064	0.003
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.6	9.0	7.3	7.3	0.6
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	6						
MAX. DAILY RAINFALL:	0.86 inches						
TOTAL RAINFALL (FOR PERIOD):	2.8 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 (March 26, 2020 - April 29, 2020)

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	
	4/13/2020		4/20/2020					
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:35	4,978	10:30	828				
Total Suspended Solids (mg/L)	10:35	19.8	10:30	16.6				
Total Phosphorus (mg/L)	10:35	0.12						
Total Nitrogen (mg/L)	10:35	1						

Notes: All samples were taken during wet 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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