

# Gills Creek Monitoring Sites

## Monitoring Data Summary for February 18<sup>th</sup>, 2021 – March 23<sup>rd</sup>, 2021

### *Data Gaps*

- The GILA and GILC stations did not experience any interruptions in the data during this monitoring period.
- At the GILB station, the sonde was buried from February 19<sup>th</sup> to February 22<sup>nd</sup>, so those periods of pH, turbidity, specific conductivity, and DO data were removed from the dataset. The DO sensor was fouled from March 15<sup>th</sup> to March 17<sup>th</sup>, so that period of DO data was also removed from the dataset.

### *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 10.3 mg/L, the GILB station recorded an average DO value of 9.3 mg/L, and the GILC station recorded an average DO value of 9.4 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 8.9 mg/L, 4.8 mg/L, and 7.1 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 4.6 inches of rainfall. The GILB station recorded 6 storms that resulted in approximately 4.4 inches of rainfall. The GILC station recorded 5 storms that resulted in approximately 5.5 inches of rainfall.
- The monitored water quality parameters all displayed typical storm event response patterns during the recorded storm events at the GILA and GILC stations.
- At the GILB station, the DO decreased suddenly during the storm event on March 3<sup>rd</sup>, which did not follow the typical storm response. During all other storm events the monitored water quality parameters displayed typical response patterns.

### *Potential Illicit Discharges and Abnormal Events*

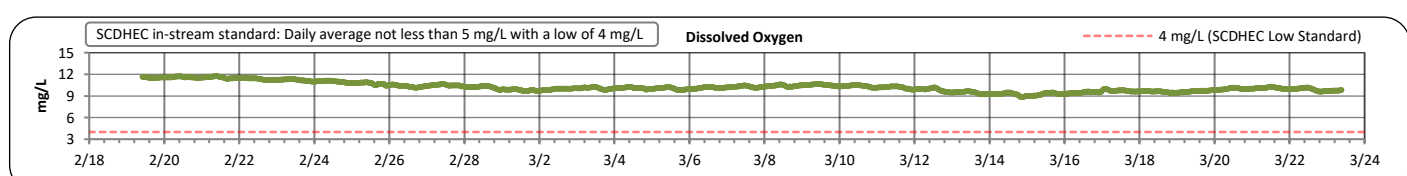
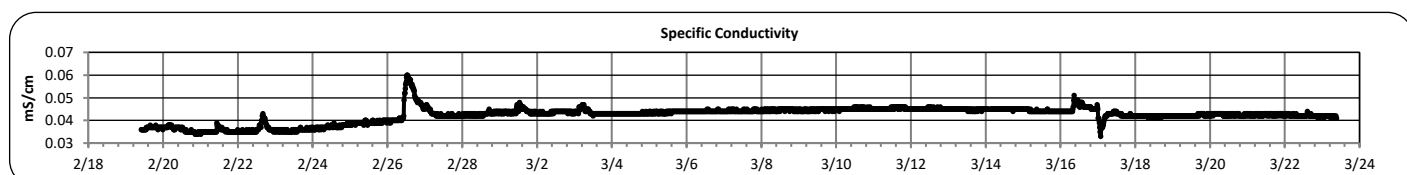
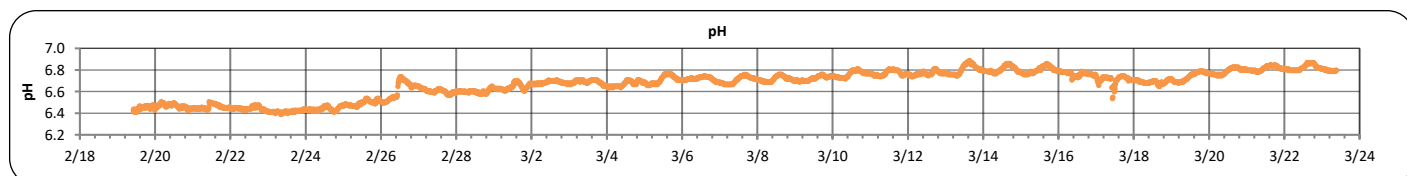
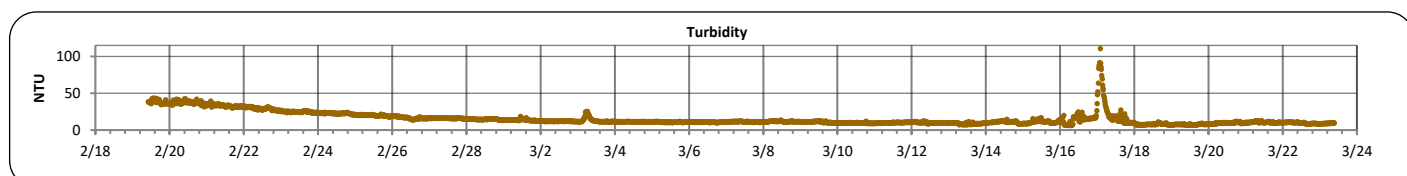
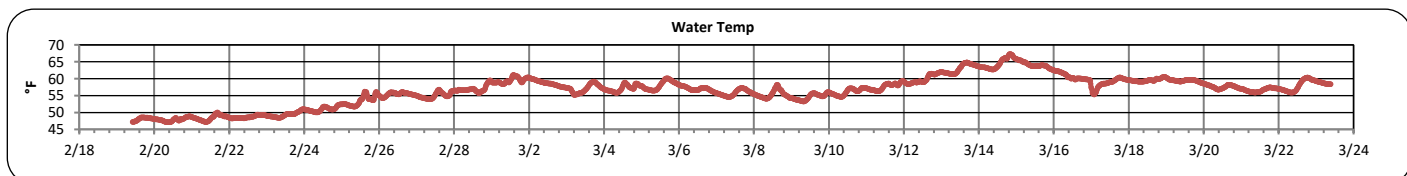
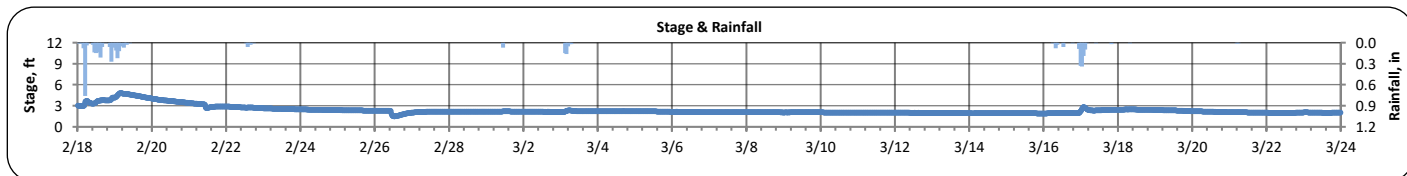
- At the GILA station, the specific conductivity and pH increased on February 26<sup>th</sup> and March 16<sup>th</sup>.
- At the GILB station, the DO decreased during the storm event on March 3<sup>rd</sup>.
- At the GIL C station, the specific conductivity increased on March 3<sup>rd</sup> and March 17<sup>th</sup>.

### *Flow Measurements*

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

Gills Creek A (February 18, 2021 - March 23, 2021)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	1.5	4.8	2.2	2.4	0.6
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	47	67	57	57	4
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	6	111	12	16	9
COORDINATES:	34.019826, -80.963566	pH:	6.4	6.9	6.7	6.7	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.033	0.060	0.043	0.042	0.003
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	8.9	11.8	10.2	10.3	0.6
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	5						
MAX. DAILY RAINFALL:	2.1 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 A (February 18, 2021 - March 23, 2021)**

**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	
	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)								

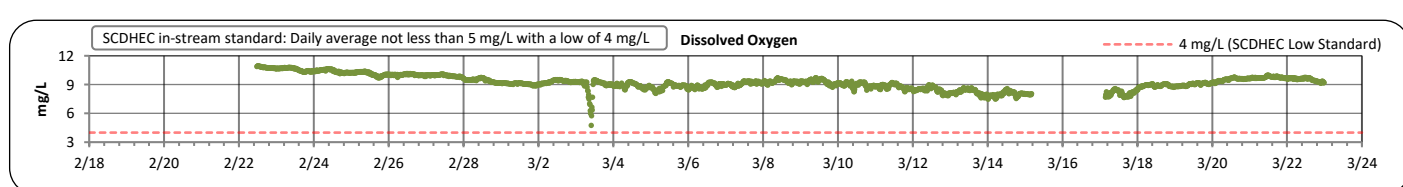
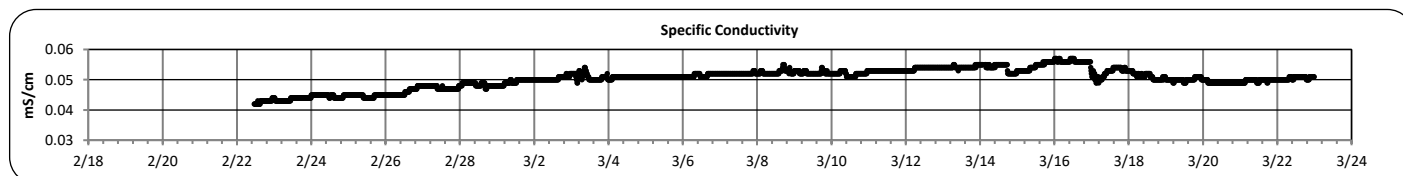
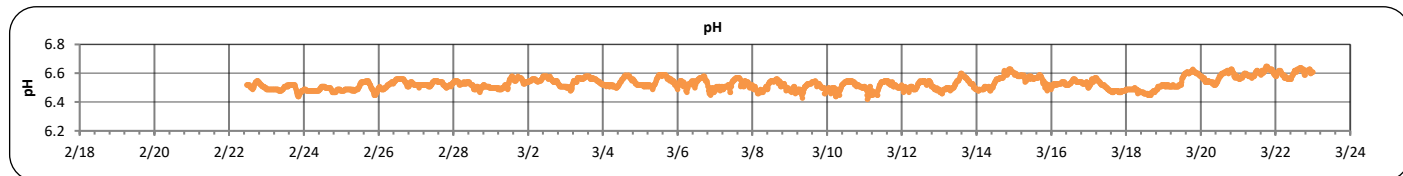
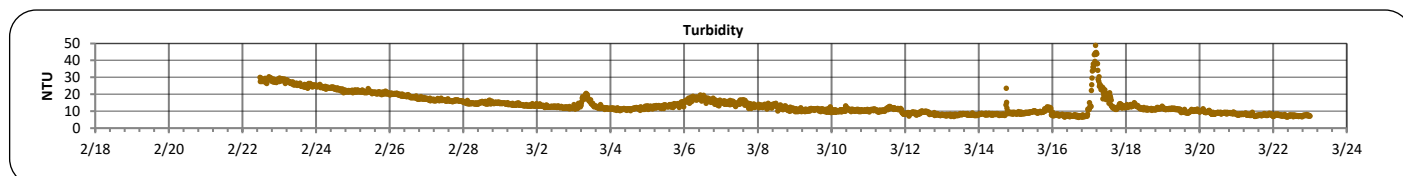
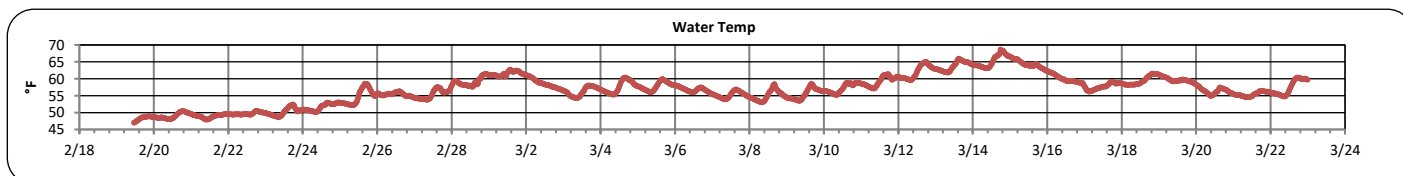
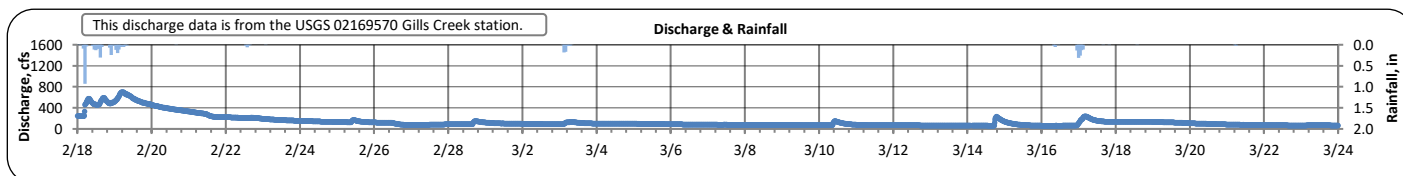
Notes: No samples were collected during this monitoring period.

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 (February 18, 2021 - March 23, 2021)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	DISCHARGE (CFS):	62.6	701.0	97.4	141.4	118.3
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	47	69	57	57	4
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	7	49	12	14	6
COORDINATES:	33.989656, -80.97433	pH:	6.4	6.7	6.5	6.5	0.0
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.042	0.057	0.051	0.050	0.003
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	4.8	11.0	9.2	9.3	0.7
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	6						
MAX. DAILY RAINFALL:	2.2 inches						
TOTAL RAINFALL (FOR PERIOD):	4.4 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 (February 18, 2021 - March 23, 2021)**

**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	
	2/22/2021		3/22/2021					
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:03	62	12:02	ND				
Total Suspended Solids (mg/L)	10:03	16.9	12:02	3.2				
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

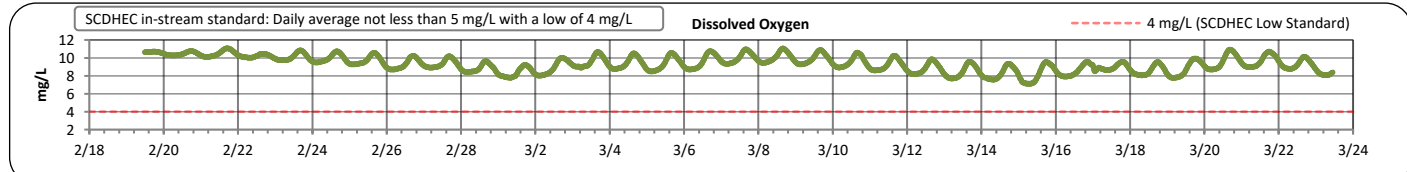
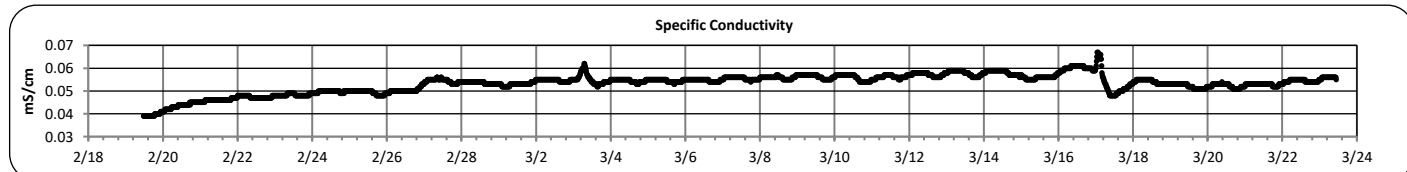
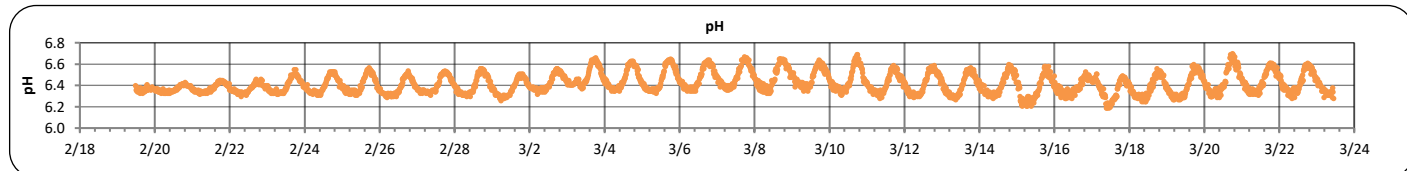
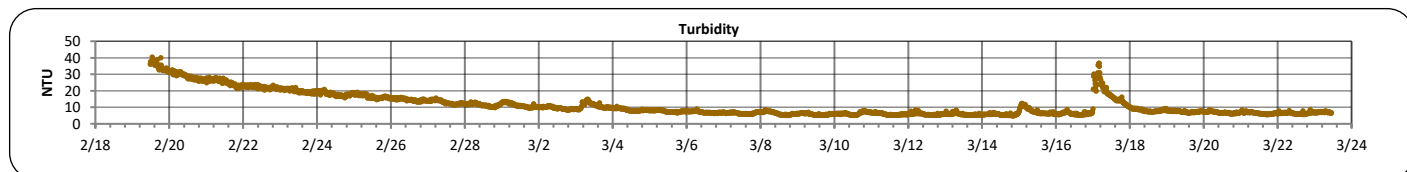
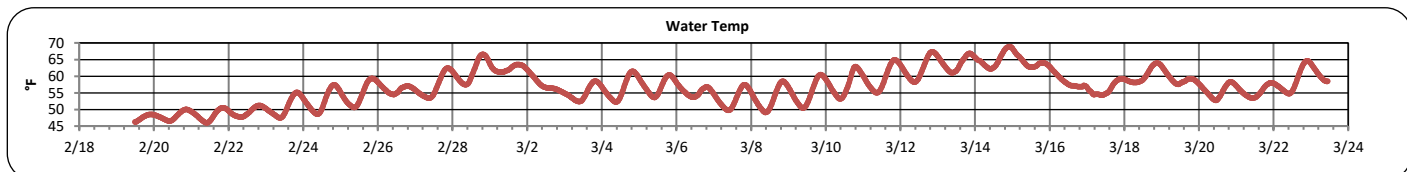
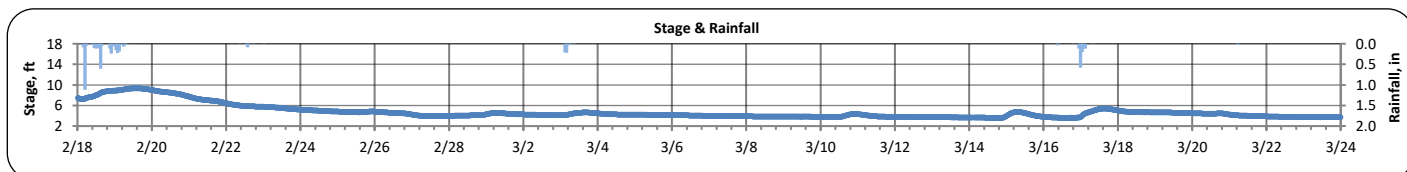
Notes: Samples 1 and 2 were collected during dry weather conditions.

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 (February 18, 2021 - March 23, 2021)**

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	3.6	9.4	4.2	4.8	1.4
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	46	69	57	57	5
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	5	41	8	11	7
COORDINATES:	33.948043, -80.9889	pH:	6.2	6.7	6.4	6.4	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.039	0.067	0.054	0.053	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	7.1	11.1	9.4	9.4	0.9
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	5						
MAX. DAILY RAINFALL:	2.84 inches						
TOTAL RAINFALL (FOR PERIOD):	5.5 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 C (February 18, 2021 - March 23, 2021)**

**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	
	2/22/2021		3/22/2021					
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	10:42	62	12:32	ND				
Total Suspended Solids (mg/L)	10:42	11.2	12:32	3.6				
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes: Samples 1 and 2 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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