Gills Creek Monitoring Sites
Monitoring Data Summary for
January 10th, 2019 – February 13th, 2019

Data Gaps

- The GILA station experienced a brief period of fouling turbidity from February 11th until the sonde was pulled from the field for calibrations on February 13th. This period of turbidity data was removed from the dataset.
- The GILB station experienced turbidity fouling on February 4th, which cleared up after a field visit on February 5th. This period of fouling turbidity data from February 4th-5th was removed from the dataset.
- The GILC station did not have any interruptions in the data during this monitoring period.

SCDHEC Standards

- None of the Gills Creek stations recorded a pH reading outside of the acceptable SCDHEC range of 6 to 8.5.
- The GILA station recorded an average DO value of 11 mg/L, the GILB station recorded an average DO value of 10.5 mg/L, and the GILC station recorded an average DO value of 10.2 mg/L which are all 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 9.8 mg/L, 9.4 mg/L, and 8.4 mg/L, respectively. None of the Gills Creek stations recorded any DO values below the SCDHEC instantaneous minimum standard of 4.0 mg/L.

Storm Events

- The GILA station recorded 3 storm events resulting in approximately 2.7 inches of rainfall. The GILB station recorded 4 storms that resulted in approximately 2.8 inches of rainfall. The GILC station recorded 3 storms that resulted in approximately 2.6 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 21.7 days at both the GILA and GILC stations, occurring after the January 24th storm event until the end of the deployment period. The maximum antecedent dry time at the GILB station was approximately 17.8 days, occurring prior to the storm event on February 11th.

Potential Illicit Discharges and Abnormal Events

- Activity at Forest Lake caused a notable increase in stage at the GILA station from February 3rd-9th. This period of increased stage was also observed at the GILB and GILC stations. The monitored water quality parameters were slightly impacted by this activity at each of the stations.
- At the GILB station, potential illicit discharges occurred on January 16th and 18th-19th in which turbidity levels increased.
- At the GILC station, potential illicit discharges occurred on January 14th, 16th, and 17th in which turbidity levels increased.

Flow Measurements

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

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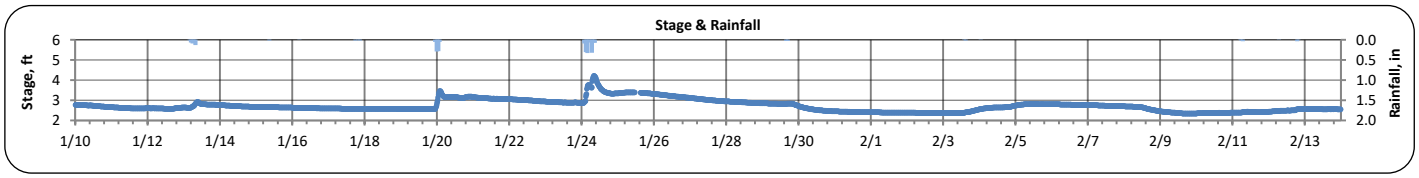
Continuous Water Quality Monitoring Periodic Report

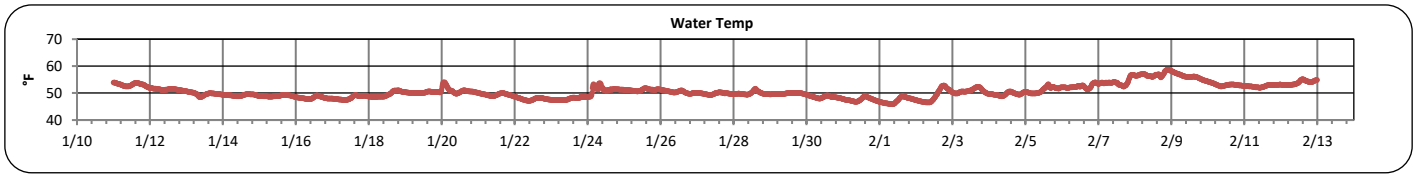
WOOLPERT

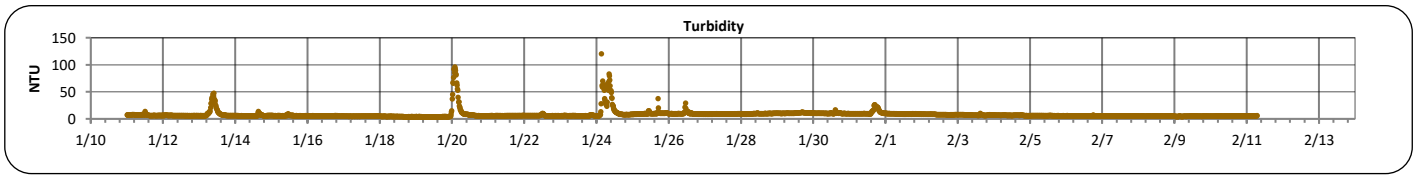
Gills Creek A (January 10, 2019 -- February 13, 2019)

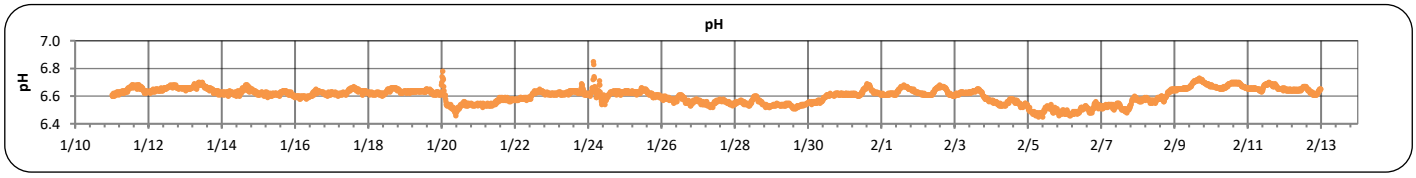
PARAMETER	DESCRIPTION
STREAM NAME:	Gills Creek
LOCATION:	Forest Drive Bridge
ADDRESS:	4840 Forest Drive, Columbia, SC 29206
COORDINATES:	34.019826, -80.963566
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen
NEIGHBORING LANDUSE:	Residential and commercial
APPROX. DRAINAGE AREA:	48 square miles
SPATIAL LOCATION:	Most upstream site
TOTAL NO. STORMS OVER 0.1 INCH:	3
MAX. DAILY RAINFALL:	1.3 inches
TOTAL RAINFALL (FOR PERIOD):	2.7 inches

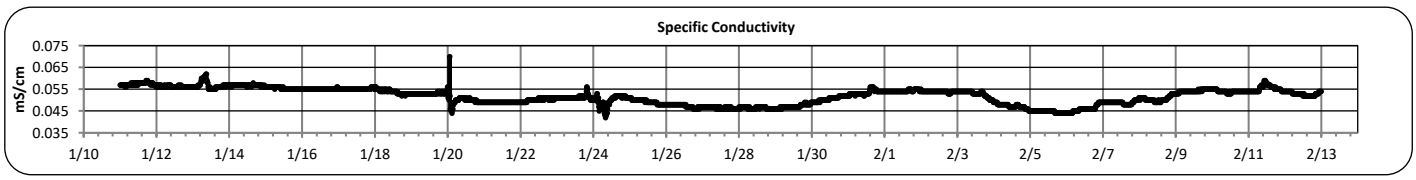
CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STAGE (FT):	2.4	4.2	2.7	2.7	0.3
TEMPERATURE (°F):	46	59	50	51	2
TURBIDITY (NTU):	4	121	6	8	8
pH:	6.5	6.9	6.6	6.6	0.1
SPECIFIC CONDUCTIVITY (mS/cm):	0.042	0.07	0.053	0.052	0.004
DISSOLVED OXYGEN (mg/L):	9.8	11.7	11.0	11.0	0.3

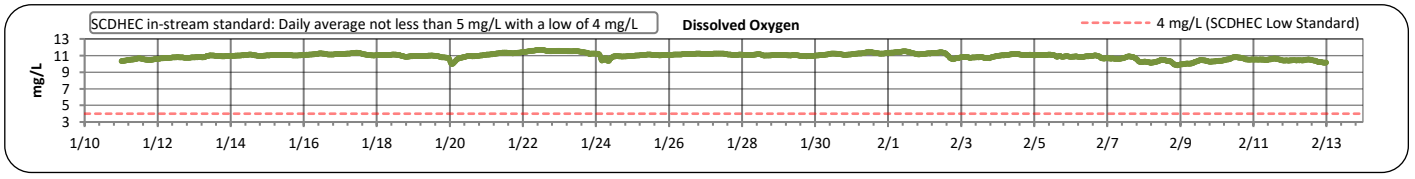












Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

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Continuous Water Quality
Monitoring Periodic Report

Gills Creek A (January 10, 2019 -- February 13, 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	
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (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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Continuous Water Quality Monitoring Periodic Report

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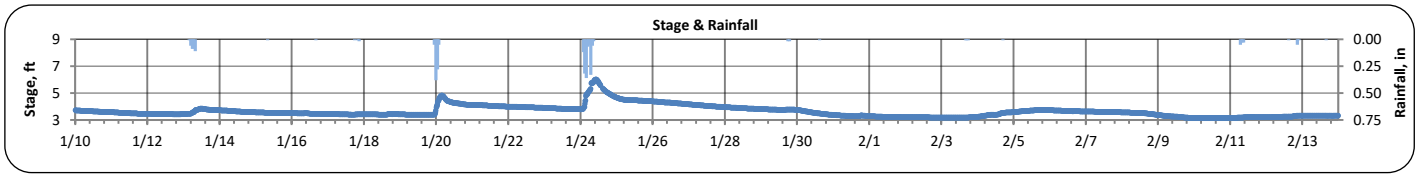
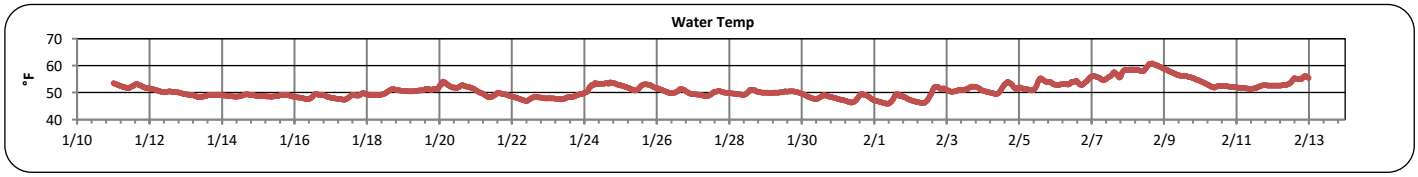
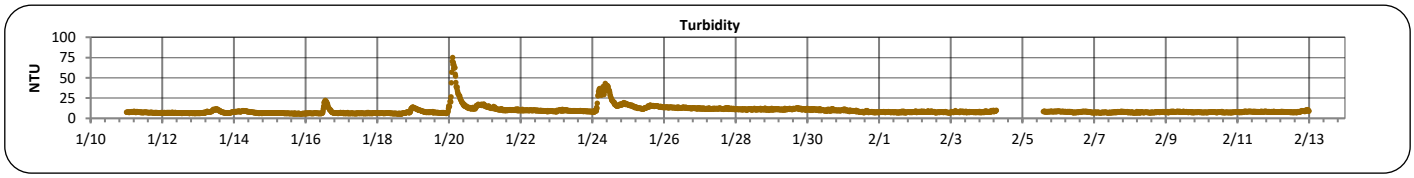
Gills Creek B (January 10, 2019 -- February 13, 2019)

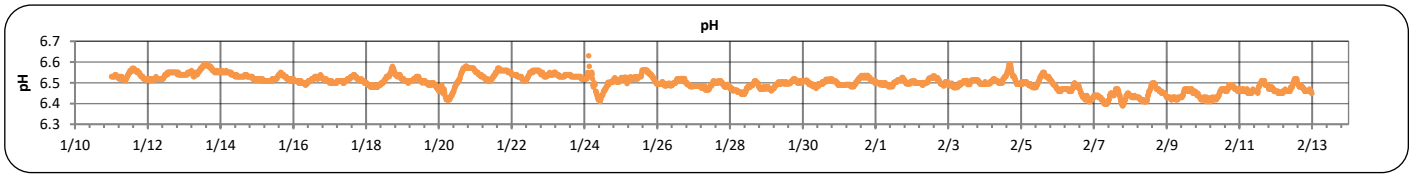
PARAMETER	DESCRIPTION
STREAM NAME:	Gills Creek
LOCATION:	Devine Street bridge
ADDRESS:	4716 Devine Street Columbia, SC 29209
COORDINATES:	33.989656, -80.97433
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen
NEIGHBORING LANDUSE:	Residential and commercial
APPROX. DRAINAGE AREA:	59 square miles
SPATIAL LOCATION:	Middle site
TOTAL NO. STORMS OVER 0.1 INCH:	4
MAX. DAILY RAINFALL:	1.3 inches
TOTAL RAINFALL (FOR PERIOD):	2.8 inches

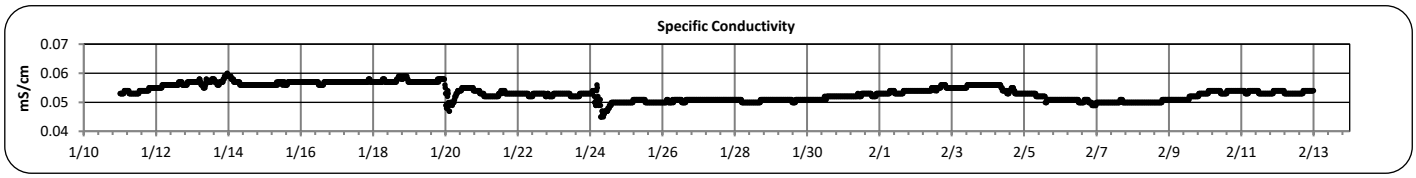
CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STAGE (FT):	3.2	6.0	3.6	3.6	0.4
TEMPERATURE (°F):	46	61	51	51	3
TURBIDITY (NTU):	5	75	8	10	5
pH:	6.4	6.6	6.5	6.5	0.0
SPECIFIC CONDUCTIVITY (mS/cm):	0.045	0.060	0.053	0.053	0.003
DISSOLVED OXYGEN (mg/L):	9.4	11.3	10.6	10.5	0.4

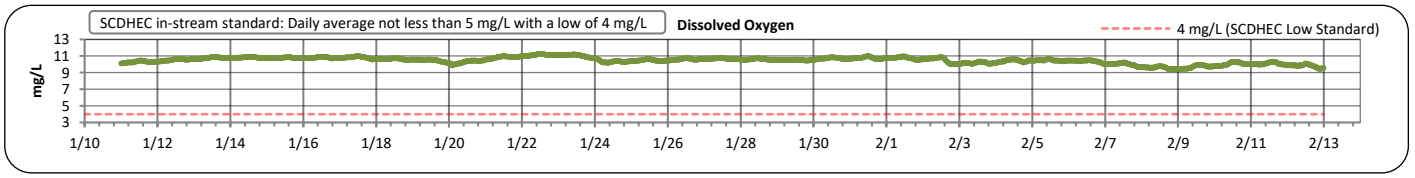












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Continuous Water Quality
Monitoring Periodic Report

Gills Creek B (January 10, 2019 -- February 13, 2019)

Explanation of Statistics:

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Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (MPN/100mL)								
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes:

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City of Columbia, SC Stormwater Management
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Continuous Water Quality Monitoring Periodic Report

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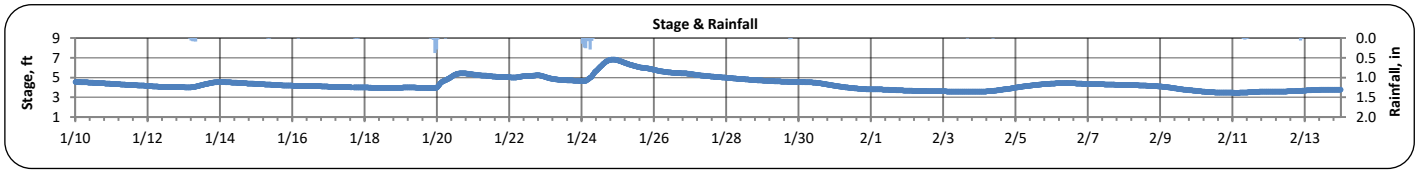
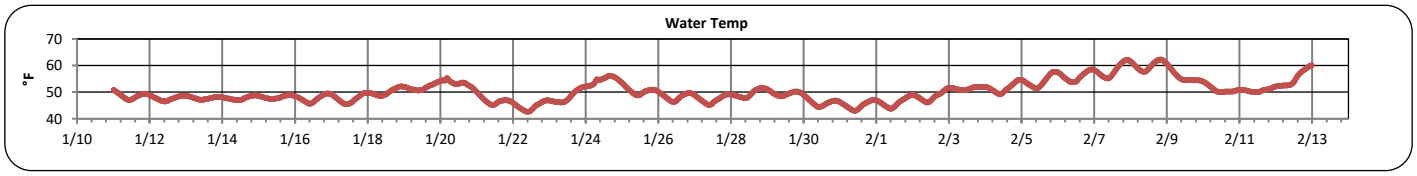
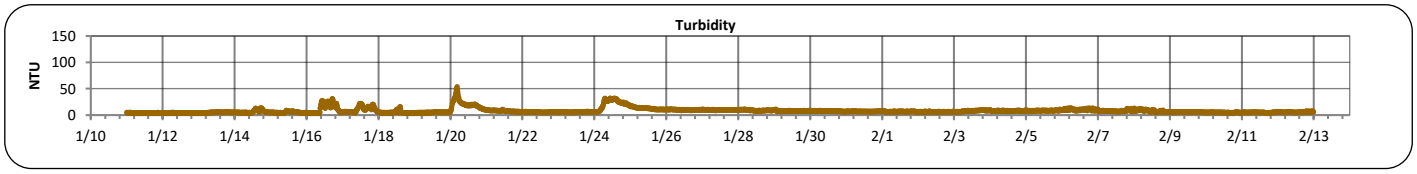
Gills Creek C (January 10, 2019 -- February 13, 2019)

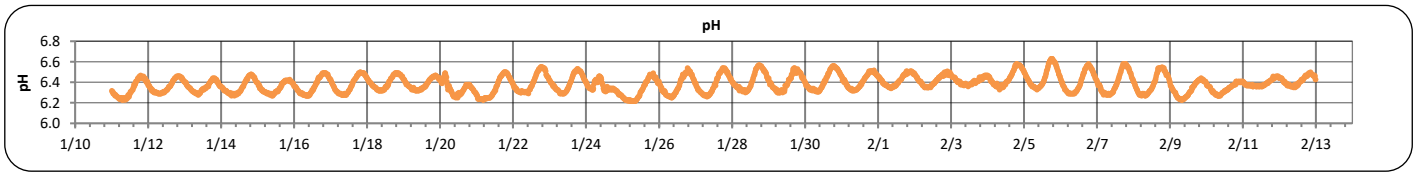
PARAMETER	DESCRIPTION
STREAM NAME:	Gills Creek
LOCATION:	Bluff Road bridge
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209
COORDINATES:	33.948043, -80.9889
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen
NEIGHBORING LANDUSE:	Residential and commercial
APPROX. DRAINAGE AREA:	64 square miles
SPATIAL LOCATION:	Most downstream site
TOTAL NO. STORMS OVER 0.1 INCH:	3
MAX. DAILY RAINFALL:	1.17 inches
TOTAL RAINFALL (FOR PERIOD):	2.6 inches

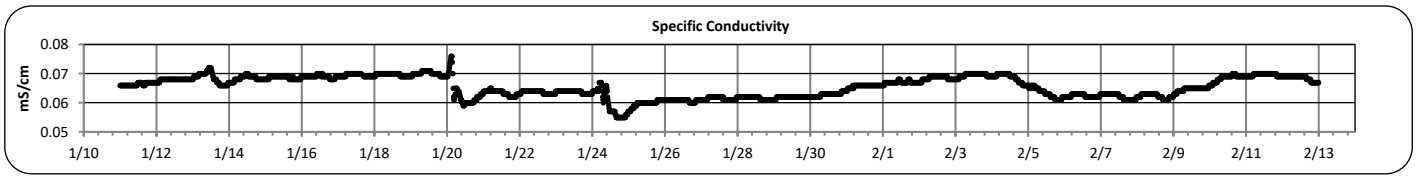
CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STAGE (FT):	3.5	6.8	4.2	4.4	0.7
TEMPERATURE (°F):	43	62	49	50	4
TURBIDITY (NTU):	4	54	7	8	5
pH:	6.2	6.6	6.4	6.4	0.1
SPECIFIC CONDUCTIVITY (mS/cm):	0.055	0.076	0.066	0.065	0.004
DISSOLVED OXYGEN (mg/L):	8.4	12.0	10.2	10.2	0.7

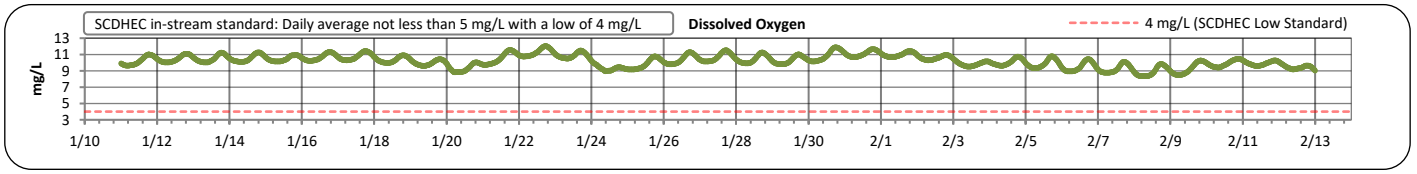












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Continuous Water Quality
Monitoring Periodic Report

Gills Creek C (January 10, 2019 -- February 13, 2019)

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Sampled Data:

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

Notes:

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