Gills Creek Monitoring Sites Monitoring Data Summary for February 15th, 2019 – March 19th, 2019

Data Gaps

- The GILA station experienced a brief period of fouling turbidity from March 17th until the end of the monitoring period. This period of turbidity data was removed from the dataset.
- The GILA station experienced pH fouling, likely due to a buildup of pollen. Pollen accumulation during the spring months has significant impacts on sensor fouling. The fouling pH data was removed from March 6th until the end of the monitoring period.
- The GILB station experienced turbidity fouling for two brief periods that 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 10.1 mg/L, the GILB station recorded an average DO value of 9.5 mg/L, and the GILC station recorded an average DO value of 9 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 9.1 mg/L, 7.6 mg/L, and 7 mg/L, respectively. None of the Gills Creek stations recorded any DO values below the SCDHEC instantaneous minimum standard of 4 mg/L.

Storm Events

- The GILA station recorded 10 storm events resulting in approximately 4.1 inches of rainfall. The GILB station recorded 9 storms that resulted in approximately 3.4 inches of rainfall. The GILC station recorded 10 storms that resulted in approximately 4 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 10.7 days at each of the Gills Creek stations, occurring after the March 9th storm event until the end of the monitoring period.

Potential Illicit Discharges and Abnormal Events

- Activity at Forest Lake, upstream of the GILA station, caused abrupt stage increases on March 15th and 16th at all three of the Gills Creek stations. Slight impacts to each of the monitored water quality parameters were observed by this activity at each of the stations.
- At the GILA station, several periods of slightly elevated specific conductivity were observed on: February 16th, 18th, 25th, 27th, 28th, March 3rd, and 8th.
- At the GILC station, the stage significantly increased on February 22nd without rainfall, returning to typical base flow stage conditions on February 27th. The cause of this stage increase is unknown. There was no water quality impact during this time.

Flow Measurements

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





Gills Creek A (February 15, 2019 -- March 19, 2019)

		CONTINUOUS SUMMARY STATISTICS			TICS			
PARAMETER	DESCRIPTION	N WATER QUALITY MINIMUM PARAMETERS: OBSERVED		MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION	
STREAM NAME:	Gills Creek	STAGE (FT):	2.2	5.6	2.6	2.8	0.6	
LOCATION:	Forest Drive Bridge	TEMPERATURE						
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	(°F):	52	64	56	57	3	
COORDINATES:	34.019826, -80.963566		3	459	9	10	22	
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	ronolonn (nroj)	Ŭ	100	Ŭ	10		
NEIGHBORING LANDUSE:	Residential and commercial		6.3	73	6.6	6.6	0.1	
APPROX. DRAINAGE AREA:	48 square miles	pn.	0.5	7.5	0.0	0.0	0.1	
SPATIAL LOCATION:	Most upstream site	SPECIFIC						
TOTAL NO. STORMS OVER 0.1 INCH:	10	CONDUCTIVITY (mS/cm):	0.033	0.057	0.048	0.047	0.004	
MAX. DAILY RAINFALL:	1.1 inches	DISSOLVED	0.1	10.0	10.1	10.1	0.2	
TOTAL RAINFALL (FOR PERIOD):	4.1 inches	OXYGEN (mg/L):	9.1	10.8	10.1	10.1	0.3	
		Stage & Rair	nfall					
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2/15 2/17 2/19	2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3/11	L 3/13 3,	/15 3/17	3/19	
Water Temp								
4 60 50 50 50 50 50 50 50 50					~~~			
2/15 2/17 2/19	2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3/2	11 3/13	3/15 3/17	3/19	
500		Turbidi	ŧy					









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

Gills Creek A (February 15, 2019 -- March 19, 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:

	Sam	ple 1	Sam	ple 2	Sample 3 Sample 4		ple 4	
Analyte (units)	3/1/2019		3/1/2019					
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (MPN/100mL)	11:10	456	12:36	2224				
Total Suspended Solids (mg/L)	11:10	12.8	12:36	13.9				
Total Phosphorus (mg/L)	11:10	0.031	12:36	0.031				
Total Nitrogen (mg/L)	11:10	1.41	12:36	0.54				

Notes:





Gills Creek B (February 15, 2019 -- March 19, 2019)

		CONTINUOUS	SUMMARY STATISTICS					
PARAMETER	DESCRIPTION	PARAMETERS:	MINIMUM	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION	
STREAM NAME:	Gills Creek	STAGE (FT):	3.2	6.5	3.5	3.8	0.7	
LOCATION:	Devine Street bridge	TEMPERATURE		05	57		2	
ADDRESS:	4716 Devine Street Columbia, SC 29209	(°F):	51	60	57	57	3	
COORDINATES:	33.989656, -80.97433		F	221	10	16	10	
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen		5	221	10	10	10	
NEIGHBORING LANDUSE:	Residential and commercial	nH-	63	6.6	6.5	65	0.1	
APPROX. DRAINAGE AREA:	59 square miles	pri.	0.0	0.0	0.5	0.5	0.1	
SPATIAL LOCATION:	Middle site	SPECIFIC						
TOTAL NO. STORMS OVER 0.1 INCH:	9	CONDUCTIVITY (mS/cm):	0.042	0.057	0.049	0.049	0.004	
MAX. DAILY RAINFALL:	0.8 inches	DISSOLVED		40.5		0.5		
TOTAL RAINFALL (FOR PERIOD):	3.4 inches	OXYGEN (mg/L):	7.6	10.5	9.6	9.5	0.6	
		Stage & Rain	fall					
2/15 2/17 2/19	2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3/11	3/13 3/	/15 3/17	0.00 0.25 .: 0.50 pitu 0.75 iii 0.75 iiii 1.00 3/19	
70		Water Ter	np)	
÷ 60					~~~			
2/15 2/17 2/19	2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3/1	1 3/13 3	3/15 3/17	3/19	
		Turbidity	/					
225 PE 150 75								







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

Gills Creek B (February 15, 2019 -- March 19, 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:

	Sam	ple 1	Sam	ple 2	Sample 3 Sample		ple 4	
Analyte (units)	3/1/	2019	3/1/2019					
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (MPN/100mL)	11:33	220	13:03	466				
Total Suspended Solids (mg/L)	11:33	6.5	13:03	8.2				
Total Phosphorus (mg/L)	11:33	0.03	13:03	ND				
Total Nitrogen (mg/L)	11:33	0.71	13:03	0.63				

Notes:





Gills Creek C (February 15, 2019 -- March 19, 2019)

		CONTINUOUS	SUMMARY STATISTICS				
PARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	3.6	9.0	4.4	5.0	1.3
LOCATION:	Bluff Road bridge	TEMPERATURE	40	<u></u>	57	67	4
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	(°F):	49	68	57	57	4
COORDINATES:	33.948043, -80.9889		_	57	8	8	_
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	TURBIDITY (NTU):	3				5
NEIGHBORING LANDUSE:	Residential and commercial		6.1	6.6	6.2	6.2	0.1
APPROX. DRAINAGE AREA:	64 square miles	pn.	0.1	0.0	0.3	0.5	0.1
SPATIAL LOCATION:	Most downstream site	SPECIFIC					
TOTAL NO. STORMS OVER 0.1 INCH:	10	CONDUCTIVITY (mS/cm):	0.051	0.074	0.06	0.060	0.005
MAX. DAILY RAINFALL:	0.98 inches	DISSOLVED	7.0	11.0			0.0
TOTAL RAINFALL (FOR PERIOD):	4.0 inches	OXYGEN (mg/L):	7.0	11.0	0.9	9.0	0.8













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

Gills Creek C (February 15, 2019 -- March 19, 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:

	Sam	ple 1	Sam	ple 2	Sample 3 Sample 4		ple 4	
Analyte (units)	3/1/	2019	3/1/2019					
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	11:54	220	13:25	220				
Total Suspended Solids (mg/L)	11:54	6.1	13:25	5.0				
Total Phosphorus (mg/L)	11:54	0.032	13:25	0.033				
Total Nitrogen (mg/L)	11:54	0.94	13:25	0.64				

Notes: