## Gills Creek Monitoring Sites

Monitoring Data Summary for March 26<sup>th</sup>, 2020 – April 29<sup>th</sup>, 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 12<sup>th</sup> 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 31<sup>st</sup>, April 4<sup>th</sup>, April 6<sup>th</sup>, April 12<sup>th</sup>, April 20<sup>th</sup>, and April 24<sup>th</sup>.

#### Flow Measurements

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





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

		CONTINUOUS	SUMMARY STATISTICS					
PARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDAR DEVIATION	
STREAM NAME:	Gills Creek	STAGE (FT):	1.8	3.7	2.4	2.4	0.3	
LOCATION:	Forest Drive Bridge							
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TEMPERATURE (°F):	64	73	69	69	2	
COORDINATES:	34.019826, -80.963566	TURBIDITY (NTU):	3	170	8	11	10	
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	TORBIDITY (NYO).		170		11	10	
NEIGHBORING LANDUSE:	Residential and commercial	pH:	6.5	6.9	6.7	6.7	0.1	
APPROX. DRAINAGE AREA:	48 square miles							
SPATIAL LOCATION:	Most upstream site	SPECIFIC						
TOTAL NO. STORMS OVER 0.1 INCH:	5	CONDUCTIVITY (mS/cm):	0.039	0.055	0.045	0.045	0.002	
MAX. DAILY RAINFALL:	0.7 inches	DICCOL VED						
TOTAL RAINFALL (FOR PERIOD):	2.5 inches	DISSOLVED OXYGEN (mg/L):	8.0	9.4	8.7	8.8	0.3	
		Stage & Rain	ıfall					
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3/26 3/28 3/30	4/1 4/3 4/5 4	/7 4/9 4/11 4/	/13 4/15	4/17 4/19	4/21 4/23	4/25 4/27	4/29	
SCDHEC in-stream stand	dard: Daily average not less than 5 mg/L wi	th a low of 4 mg/L Dissolve	ed Oxygen			- 4 mg/L (SCDHEC Lo	ow Standard)	
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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 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:

	Sam	ple 1	Sample		Sample 3		Sample 4	
Analyte (units)	4/13,	/2020						
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (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						

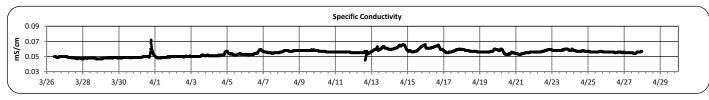
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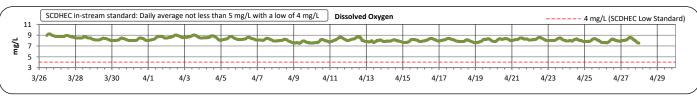
All samples were taken during wet weather conditions.





PARAMETER		CONTINUOUS	SUMMARY STATISTICS					
PARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARI 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	12 2.01.01.2 (1).	02			00		
COORDINATES:	33.989656, -80.97433	TURBIDITY (NTU):	13	187	25	29	17	
IMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen							
_ANDUSE: APPROX. DRAINAGE	Residential and commercial	pH:	6.4	6.8	6.6	6.6	0.1	
AREA:	59 square miles							
SPATIAL LOCATION: TOTAL NO. STORMS	Middle site	SPECIFIC CONDUCTIVITY	0.045	0.072	0.056	0.055	0.004	
OVER 0.1 INCH:	5	(mS/cm):						
MAX. DAILY RAINFALL: TOTAL RAINFALL (FOR	0.8 inches	DISSOLVED OXYGEN (mg/L):	7.5	9.3	8.2	8.2	0.3	
PERIOD):	2.7 inches	OX102.1 (g/2/.						
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70 60 50 3/26 3/28 3/30	4/1 4/3 4/5 4/7	4/9 4/11 4/13	4/15 4/15	17 4/19 4	/21 4/23	4/25 4/27	4/29	
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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:

	Sam	ple 1	Sam	ple 2	Sample 3 Sample 4			ple 4	
Analyte (units)	4/13,	/2020	4/20,	/2020					
	Time	Results	Time	Results	Time	Results	Time	Results	
Escherichia coli (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.





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

		CONTINUOUS	SUMMARY STATISTICS					
PARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARI DEVIATION	
STREAM NAME:	Gills Creek	STAGE (FT):	3.3	7.7	3.8	4.2	1.0	
LOCATION:	Bluff Road bridge			_,	.=			
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TEMPERATURE (°F):	59	74	67	67	3	
COORDINATES:	33.948043, -80.9889		_					
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	TURBIDITY (NTU):	5	46	8	10	4	
NEIGHBORING LANDUSE:	Residential and commercial	pH:	6.1	6.5	6.4	6.4	0.1	
APPROX. DRAINAGE AREA:	64 square miles	p	0.1	0.5	0.4	0.4	0.1	
SPATIAL LOCATION:	Most downstream site	SPECIFIC						
TOTAL NO. STORMS OVER 0.1 INCH:	6	CONDUCTIVITY (mS/cm):	0.058	0.072	0.064	0.064	0.003	
MAX. DAILY RAINFALL: TOTAL RAINFALL (FOR	0.86 inches	DISSOLVED OXYGEN (mg/L):	5.6	9.0	7.3	7.3	0.6	
PERIOD):	2.8 inches	OXTGEN (IIIg/L).						
		Stage & Rain	fall					
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SCDHEC in-stream standa	ard: Daily average not less than 5 mg/L with	n a low of 4 mg/L Discolute	ed Oxygen			4 mg/L (SCDHEC Low	/ Standard\	
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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:

	Sample 1		Sam	Sample 2		nple 3 Sample 4		ple 4
Analyte (units)	4/13,	/2020	4/20,	/2020				
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (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.