Gills Creek Monitoring Sites

Monitoring Data Summary for July 26th, 2019 – August 28th, 2019

Data Gaps

- The GILA and GILC stations did not have any interruptions in the data during this monitoring period.
- The GILB station experienced turbidity sensor fouling from August 14th-16th and this period of turbidity data was removed from the dataset.

SCDHEC Standards

- The GILA and GILC stations did not record any pH readings outside of the acceptable SCDHEC range of 6 to 8.5.
- The GILB station recorded a minimum pH value of 5.9 which is slightly below the acceptable SCDHEC range.
- The GILA station recorded an average DO value of 5.7 mg/L, the GILB station recorded an average DO value of 3.9 mg/L, and the GILC station recorded an average DO value of 5.2 mg/L. The GILA and GILC station are above the SCDHEC daily average DO standard of 5 mg/L. The GILB station is slightly below this standard.
- During this deployment period, the GILA, GILB, and GILC stations recorded minimum DO levels of 2.0 mg/L, 0.5 mg/L, and 3.9 mg/L, respectively. All of the Gills Creek stations recorded minimum DO values below the SCDHEC instantaneous minimum standard of 4 mg/L. These low values are likely due to the combination of warm temperatures and low to stagnant flow in the creek during this monitoring period.

Storm Events

- The GILA station recorded 4 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 7 storms that resulted in approximately 3.2 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 22.2 days at the GILA station occurring prior to the August 14th storm event, approximately 9.7 days at the GILB station occurring prior to the August 15th storm event, and 12.2 days occurring prior to the August 14th storm event.

Potential Illicit Discharges and Abnormal Events

• There were no potential illicit discharges or abnormal events observed in the Gills Creek watershed during this monitoring period.

Flow Measurements

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

Notes

• The GILB CS451 pressure transducer was not recording continuous readings during this deployment period, so the CS451 stage data for this deployment period was deleted. For the periodic report, the discharge data from the USGS 02169570 Gills Creek station was used instead of the CS451 stage data. This USGS station is located directly downstream of the GILB monitoring station.





Gills Creek A (July 26, 2019 -- August 28, 2019)

		CONTIN		SUMMARY STATISTICS					
PARAMETER	DESCRIPTION		QUALITY ETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION	
STREAM NAME:	Gills Creek	(FT):	1.8	2.4	2.0	2.0	0.1		
LOCATION:	Forest Drive Bridge	TEMPE	RATURE						
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	(°F):		79	91	85	85	2	
COORDINATES:	34.019826, -80.963566	TURRIC	DITY (NTU):	2	77	5	5	4	
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	TONDIE	(N10).	2		J	3	-	
NEIGHBORING LANDUSE:	Residential and commercial	pH:		6.1	7.0	6.4	6.4	0.2	
APPROX. DRAINAGE AREA:	48 square miles	ph.		0.1	7.0	0.4	0.4	0.2	
SPATIAL LOCATION:	Most upstream site	SPECIF							
TOTAL NO. STORMS OVER 0.1 INCH:	4	CONDU (mS/cm	CTIVITY):	0.046	0.087	0.050	0.055	0.010	
MAX. DAILY RAINFALL: TOTAL RAINFALL	1.4 inches	DISSOL	.VED N (mg/L):	2.0	8.0	6.2	5.7	1.4	
(FOR PERIOD):	2.5 inches	J OX. GE	(g/ = /.						
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Gills Creek A (July 26, 2019 -- August 28, 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:

	Sample 1		Sample 2		Sample 3		Sample 4	
Analyte (units)	8/17/2019							
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (MPN/100mL)	9:47	370						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes: This sample was collected during dry weather conditions.





Gills Creek B (July 26, 2019 -- August 28, 2019)

DADAMETER	D=00-	IDTION		TINUOUS	SUMMARY STATISTICS						
PARAMETER	DESCRIPTION			ER QUALITY AMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION		
STREAM NAME:	Gills (Creek	STA	GE (FT):	15.7	213.0	20.6	21.5	7.9		
LOCATION:	Devine Str	eet bridge	TEM	PERATURE	77	90	0.5	0.5	2		
ADDRESS:	4716 Devi Columbia,		(°F):		//	90	85	85	2		
COORDINATES:	33.989656,	-80.97433	TUR	BIDITY (NTU):	5	116	13	20	16		
TMDL/IMPAIRMENT:	Fecal & Disso	olved Oxygen									
NEIGHBORING _ANDUSE:	Residential an	d commercial	pH:		5.9	6.7	6.1	6.2	0.2		
APPROX. DRAINAGE AREA:	59 squa	re miles	Pi		0.0	0.1	0.1	0.2	0.2		
SPATIAL LOCATION:	Middle	e site	SPE	CIFIC							
OTAL NO. STORMS OVER 0.1 INCH:	5	5	CON (mS/	DUCTIVITY cm):	0.033	0.073	0.06	0.059	0.005		
MAX. DAILY RAINFALL:	0.9 in	ches	DISS	SOLVED							
TOTAL RAINFALL (FOR PERIOD):	2.7 ir	iches		GEN (mg/L):	0.5 7.2		4.0	3.9	1.4		
This discharge data is fr	om the USGS 021695	70 Gills Creek statio	n.	Stage & Ra	infall				0.0		
± 200 − −		r				•			0.5		
100									0.5 1.0 1.5		
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80											
7/26 7/28 7/30	8/1 8	8/3 8/5	8/7	8/9 8/11	8/13 8/1	5 8/17 8/1	19 8/21	8/23 8/25	8/27		
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1/20 1/20 1/3	80 8/1	8/3 8/5	8/7	8/9 8/11	8/13 8/2	15 8/17 8/	/19 8/21	8/23 8/25	8/27		
SCDHEC in-stream sta	ndard: Daily average	not less than 5 mg/L	with a low o	of 4 mg/L Dissolv	ed Oxygen			4 mg/L (SCDHE	C Low Standard)		
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Gills Creek B (July 26, 2019 -- August 28, 2019)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
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STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

Sampled Data:

	Sam	ple 1	Sample 2		Sample 3		Sample 4	
Analyte (units)								
	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:





Gills Creek C (July 26, 2019 -- August 28, 2019)

		CONTINUOUS	SUMMARY STATISTICS					
PARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARI DEVIATION	
STREAM NAME:	Gills Creek	STAGE (FT):	2.8	4.0	2.9	3.0	0.2	
LOCATION:	Bluff Road bridge	TEMPERATURE	75	87	82	82	2	
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	(°F):	70	01	02	02		
COORDINATES:	33.948043, -80.9889	TURBIDITY (NTU):	2	69	6	7	5	
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	TOKBIDITT (NTO).	2	09	O	,	3	
NEIGHBORING LANDUSE:	Residential and commercial	pH:	6.0	6.4	6.3	6.3	0.1	
APPROX. DRAINAGE AREA:	64 square miles	pri.	0.0	0.4	0.3	0.3	0.1	
SPATIAL LOCATION:	Most downstream site	SPECIFIC						
OTAL NO. STORMS OVER 0.1 INCH:	7	CONDUCTIVITY (mS/cm):	0.046	0.08	0.072	0.070	0.005	
IAX. DAILY RAINFALL:	0.76 inches	DISSOLVED	3.9	6.1	5.2	5.2	0.4	
OTAL RAINFALL (FOR PERIOD):	3.2 inches	OXYGEN (mg/L):	0.5	0.1	0.2	5.2	0.4	
		Stage & Rai	nfall	•	•	•	<u>-</u>	
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6 4							1.0	
2							1.5	
7/26 7/28 7/30	8/1 8/3 8/5	8/7 8/9 8/11	8/13 8/15	8/17 8/19	9 8/21 8	3/23 8/25	8/27	
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SCDHEC in-stream stan	ndard: Daily average not less than 5 mg/L	with a low of 4 mg/L Dissol	ved Oxygen			4 mg/L (SCDHEC Lov	v Standard)	
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7/26 7/28 7/3								

Gills Creek C (July 26, 2019 -- August 28, 2019)

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Sampled Data:

	Sam	ple 1	Sample 2		Sample 3		Sample 4	
Analyte (units)								
	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: