# 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.

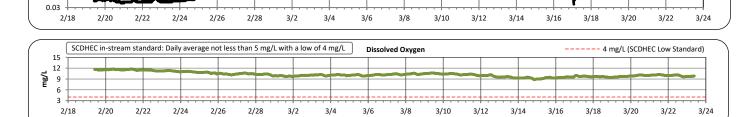


0.06 mS/cm 0.05 0.04

### **Continuous Water Quality Monitoring Periodic Report**



	ARAMETER DESCRIPTION		CONTINUOUS	SUMMARY STATISTICS					
PARAMETER			WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARI DEVIATION	
STREAM NAME:	Gills Creek	1	STAGE (FT):	1.5	4.8	2.2	2.4	0.6	
OCATION:	Forest Drive Bridge								
ADDRESS:	4840 Forest Drive, Columbia, SC 29206		TEMPERATURE (°F	<b>i):</b> 47	67	57	57	4	
COORDINATES:	34.019826, -80.963566		TURBIDITY (NTU):	6	111	12	16	9	
MDL/IMPAIRMENT:	Fecal & Dissolved Oxygen		TORBIBITT (NTO).		'''	12			
ieighboring .anduse:	Residential and commercial		pH:	6.4	6.4 6.9		6.7	0.1	
APPROX. DRAINAGE AREA:	48 square miles		<b>-</b>	9.1	0.0	6.7	0.7	0.1	
SPATIAL LOCATION:	Most upstream site		SPECIFIC			0.043			
OTAL NO. STORMS OVER 0.1 INCH:	5		CONDUCTIVITY (mS/cm):	0.033	0.033 0.060		0.042	0.003	
MAX. DAILY RAINFALL:	2.1 inches	1	DISSOLVED						
OTAL RAINFALL FOR PERIOD):	4.6 inches		OXYGEN (mg/L):	8.9	11.8	10.2	10.3	0.6	
2/18 2/20 2/22	2/24 2/26 2/28	3/2		3/8 3/10	3/12 3/14	3/16 3/18	3/20 3/22	3/24	
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55 50			7000	~~~					
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45	2/24 2/26 2/28	3/	/2 3/4 3/6 Turbio		3/12 3/14	3/16 3/18	5/20 5/2	22 3/24	
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100 2/18 2/20 2/22 7.0		-	Turbii	3/8 3/10		بانم ب			



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

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

# **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)								
	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: No samples were collected during this monitoring period.





### Gills Creek B (February 18, 2021 - March 23, 2021)

DADAMETER	DESCRIPTION			ITINUOUS	SUMMARY STATISTICS						
PARAMETER	DESCR	RIPTION		ER QUALITY AMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARI DEVIATION		
STREAM NAME:	Gills	Creek	DISC	CHARGE (CFS):	62.6	701.0	97.4	141.4	118.3		
LOCATION:		reet bridge	TEM	PERATURE (°F):	47	69	57	57	4		
ADDRESS:		vine Street , SC 29209	I EIV	PERATURE ( F).	47	69	57	57	4		
COORDINATES:		5, -80.97433	TUD	DIDITY (NTII).	7	49	40	14	6		
TMDL/IMPAIRMENT:	Fecal & Diss	olved Oxygen	IUK	BIDITY (NTU):	/	49	12	14	6		
NEIGHBORING LANDUSE:	Residential a	nd commercial									
APPROX. DRAINAGE AREA:	59 squa	are miles	pH:		6.4	6.7	6.5	6.5	0.0		
SPATIAL LOCATION:	Midd	le site		CIFIC							
TOTAL NO. STORMS OVER 0.1 INCH:	1	6		IDUCTIVITY /cm):	0.042	0.057	0.051	0.050	0.003		
MAX. DAILY RAINFALL:	2.2 ir	nches	DISS	SOLVED							
TOTAL RAINFALL (FOR PERIOD):	4.4 i	nches		GEN (mg/L):	4.8	11.0	9.2	9.3	0.7		
This discharge data is fro	om the USGS 02169	570 Gills Creek station.		Discharge & F	Rainfall						
1600 21200 28 800 28 400				0.5.			T		0.0		
800									0.5 1.0 1.5		
0							3/16 3/18	3/20 3/22	2.0		
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70 65 65 50 45	~~~			Water Ten	mp 3/8 3/10	<b>,,,,</b>					
70 65 65 50 45 2/18 2/20 2/22	~~~			Water Ten	mp 3/8 3/10	<b>,,,,</b>					
70 65 65 55 50 45 2/18 2/20 2/22	~~~			Water Ten	mp 3/8 3/10	<b>,,,,</b>	3/16 3/18				
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70 65 65 55 50 45 2/18 2/20 2/22	2/24 2/	(26 2/28 3	3/2	Water Ten  3/4 3/6  Turbidity  3/4 3/6	mp 3/8 3/10	3/12 3/14	3/16 3/18	3/20 3/2	2 3/24		
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70	2/24 2/	2/26 2/28 3	3/2	Water Ten  3/4 3/6  Turbidity  3/4 3/6  pH	3/8 3/10 3/8 3/10	3/12 3/14	3/16 3/18	3/20 3/2:	2 3/24		
70	2/24 2/	2/26 2/28 3	3/2	Water Ten  3/4 3/6  Turbidity  3/4 3/6  pH	3/8 3/10 3/8 3/10	3/12 3/14	3/16 3/18	3/20 3/2:	2 3/24		
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Gills Creek B (February 18, 2021 - March 23, 2021)

# **Explanation of Statistics:**

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### Sampled Data:

	Sample 1		Sample 2		Sample 3		Sample 4	
Analyte (units)	2/22/2021		3/22/2021					
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (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.





### Gills Creek C (February 18, 2021 - March 23, 2021)

DESCRIPTION	5 1.4 5 7 0.1 0.004
LOCATION:   Bluff Road bridge   TEMPERATURE (°F):   46   69   57   57   57	7 0.1
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:  SPATIAL LOCATION: Most downstream site  TOTAL NO. STORMS OVER 0.1 INCH:  MAX. DAILY RAINFALL: 2.84 inches  DISSOLVED OXYGEN (mg/L):  TOTAL RAINFALL (FOR 5.5 inches)	7
ADDRESS: Columbia, SC 29209  COORDINATES: 33.948043, -80.9889  TMDL/IMPAIRMENT: Fecal & Dissolved Oxygen  NEIGHBORING LANDUSE: Residential and commercial APPROX. DRAINAGE AREA:  SPATIAL LOCATION: Most downstream site  TOTAL NO. STORMS OVER 0.1 INCH:  MAX. DAILY RAINFALL: 2.84 inches  DISSOLVED OXYGEN (mg/L):  TOTAL RAINFALL (FOR 5.5 inches)	7
COORDINATES: 33.948043, -80.9889  TMDL/IMPAIRMENT: Fecal & Dissolved Oxygen  NEIGHBORING LANDUSE: APPROX. DRAINAGE AREA:  SPATIAL LOCATION: Most downstream site  TOTAL NO. STORMS OVER 0.1 INCH:  MAX. DAILY RAINFALL: 2.84 inches  TOTAL RAINFALL (FOR 5.5 inches)  TURBIDITY (NTU): 5  41  8  11  PH: 5  41  8  11  CONDUCTIVITY (mS/cm): 0.039 0.067 0.054 0.053  DISSOLVED OXYGEN (mg/L): 7.1  11.1  9.4  9.4	0.1
TMDL/IMPAIRMENT: Fecal & Dissolved Oxygen  NEIGHBORING LANDUSE: APPROX. DRAINAGE AREA:  SPATIAL LOCATION: Most downstream site  TOTAL NO. STORMS OVER 0.1 INCH:  MAX. DAILY RAINFALL: 2.84 inches  TOTAL RAINFALL (FOR 5.5 inches)  DISSOLVED OXYGEN (mg/L):  Medidate of the process of the proces	0.1
NEIGHBORING LANDUSE: APPROX. DRAINAGE AREA:  SPATIAL LOCATION:  Most downstream site  SPECIFIC CONDUCTIVITY (mS/cm):  DISSOLVED OXYGEN (mg/L):  PH:  6.2  6.4  6.4  6.4  6.4  6.4  6.4  6.4	
APPROX. DRAINAGE AREA:  SPATIAL LOCATION: Most downstream site  TOTAL NO. STORMS OVER 0.1 INCH:  MAX. DAILY RAINFALL: 2.84 inches  TOTAL RAINFALL (FOR 5.5 inches)  DISSOLVED OXYGEN (mg/L):  0.02  0.7  0.4  0.4  0.4  0.4  0.053  0.054  0.053  0.053	
TOTAL NO. STORMS OVER 0.1 INCH:  MAX. DAILY RAINFALL:  2.84 inches  DISSOLVED OXYGEN (mg/L):  7.1  11.1  9.4  9.4	0.004
TOTAL NO. STORMS OVER 0.1 INCH:         5         (mS/cm):           MAX. DAILY RAINFALL:         2.84 inches         DISSOLVED OXYGEN (mg/L):         7.1         11.1         9.4         9.4	0.004
TOTAL RAINFALL (FOR 5.5 inches OXYGEN (mg/L): 7.1 11.1 9.4 9.4	
TOTAL RAINFALL (FOR   5.5 inches   OXYGEN (mg/L):	0.9
	0.9
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Gills Creek C (February 18, 2021 - March 23, 2021)

# **Explanation of Statistics:**

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
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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)	2/22/2021		3/22/2021					
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (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.