

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

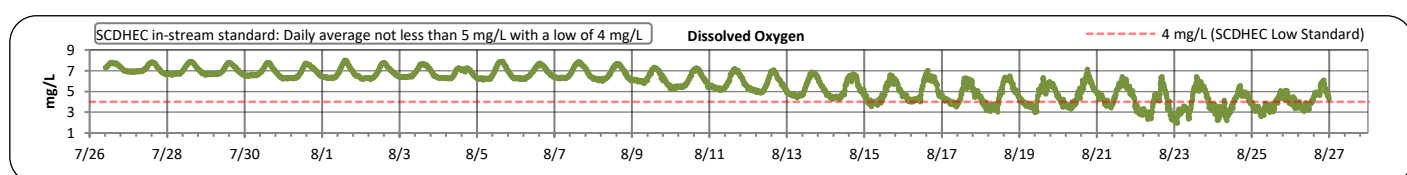
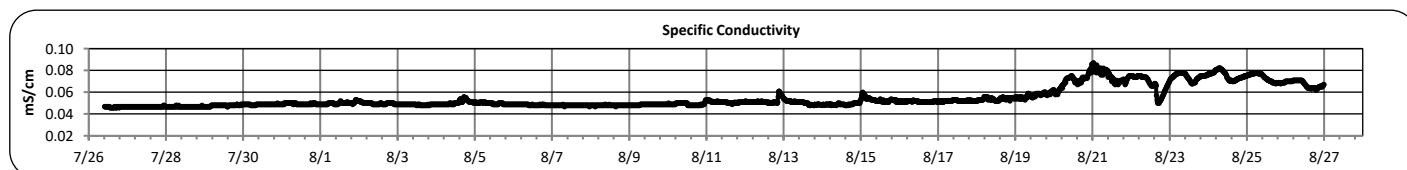
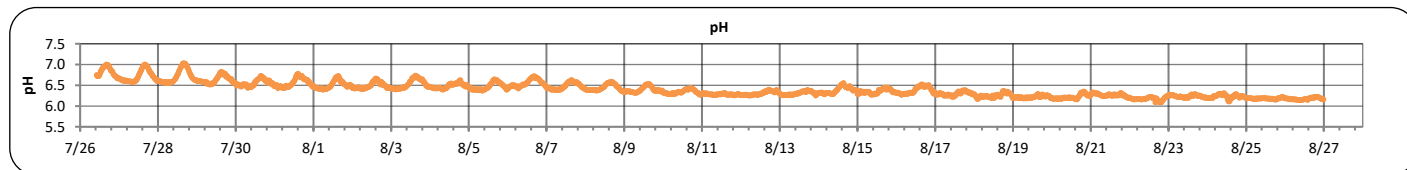
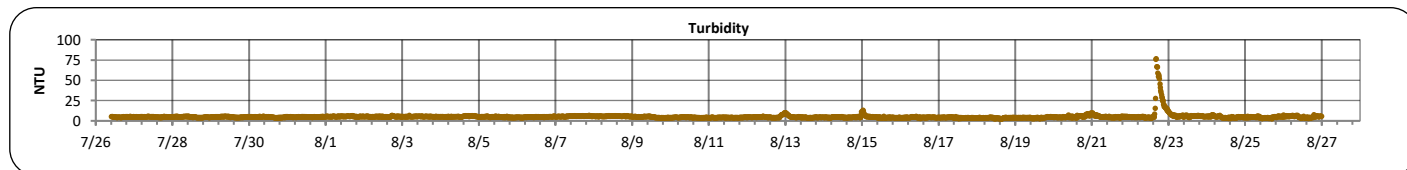
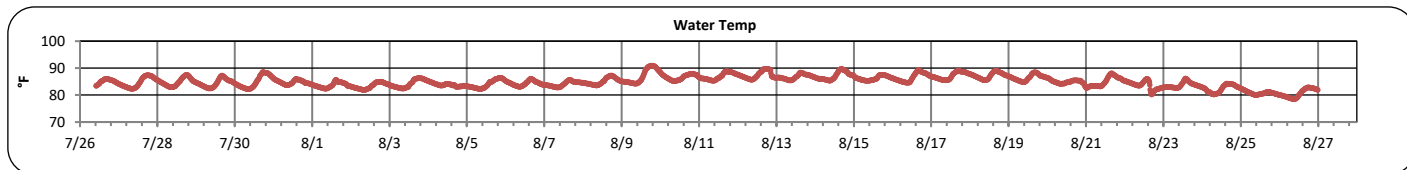
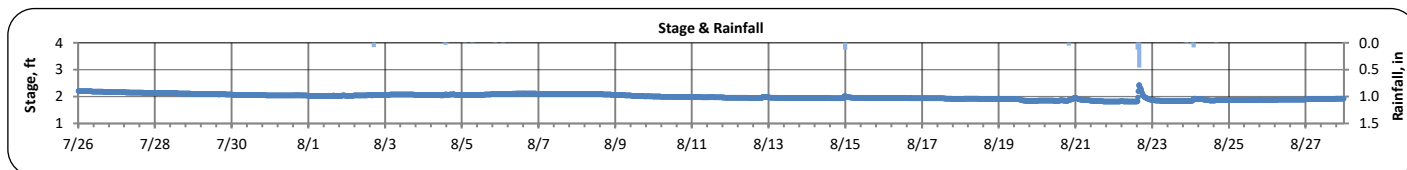
- No flow measurements were taken in Gills Creek during this monitoring period.

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)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	1.8	2.4	2.0	2.0	0.1
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	79	91	85	85	2
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	2	77	5	5	4
COORDINATES:	34.019826, -80.963566	pH:	6.1	7.0	6.4	6.4	0.2
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.046	0.087	0.050	0.055	0.010
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	2.0	8.0	6.2	5.7	1.4
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	4						
MAX. DAILY RAINFALL:	1.4 inches						
TOTAL RAINFALL (FOR PERIOD):	2.5 inches						



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

Continuous Water Quality
Monitoring Periodic Report

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.

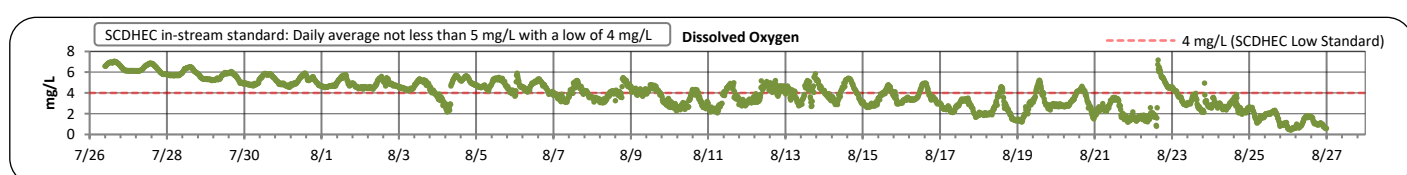
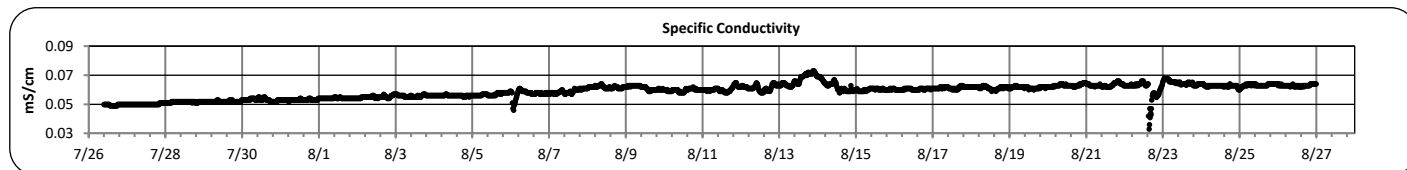
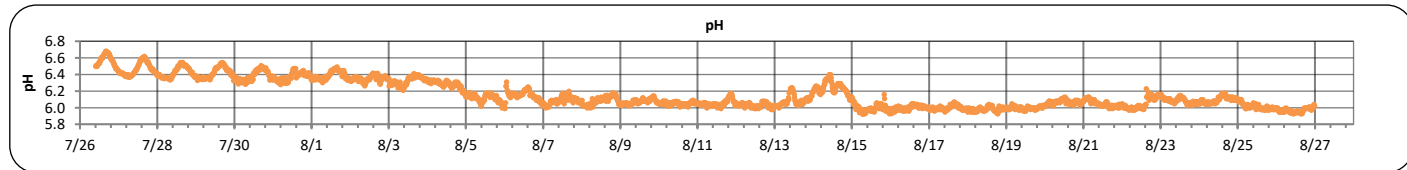
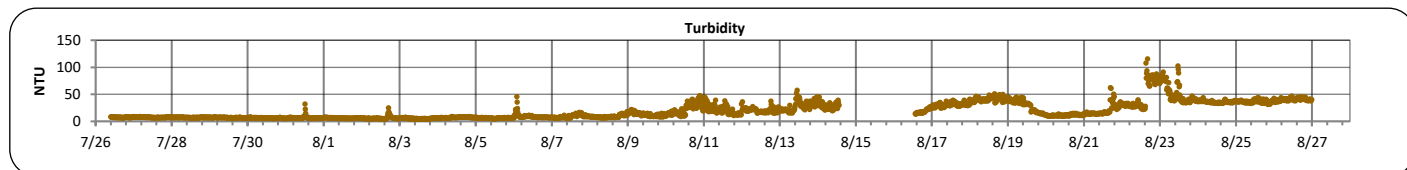
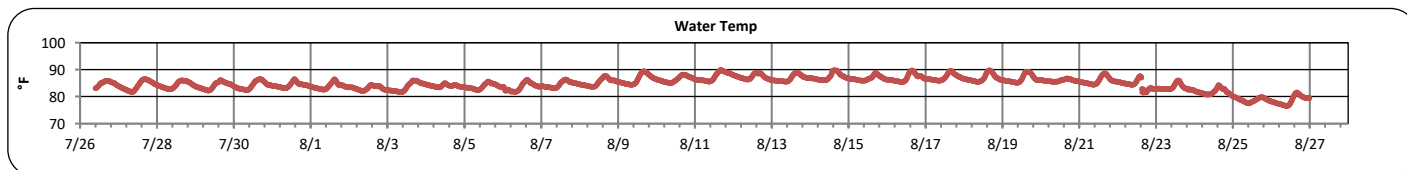
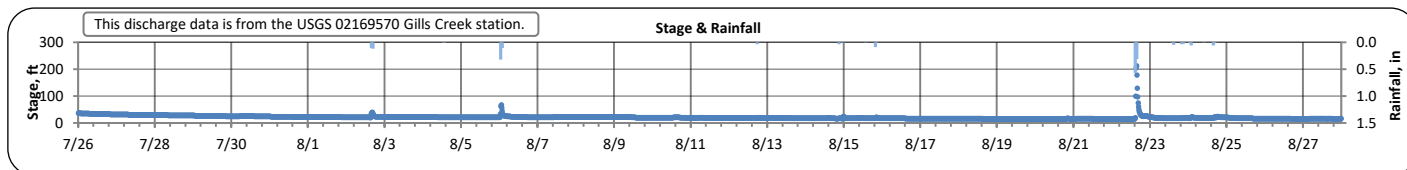
Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	8/17/2019							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (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)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	15.7	213.0	20.6	21.5	7.9
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	77	90	85	85	2
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	5	116	13	20	16
COORDINATES:	33.989656, -80.97433	pH:	5.9	6.7	6.1	6.2	0.2
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.033	0.073	0.06	0.059	0.005
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	0.5	7.2	4.0	3.9	1.4
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	5						
MAX. DAILY RAINFALL:	0.9 inches						
TOTAL RAINFALL (FOR PERIOD):	2.7 inches						



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

**Continuous Water Quality
Monitoring Periodic Report**

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.
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.

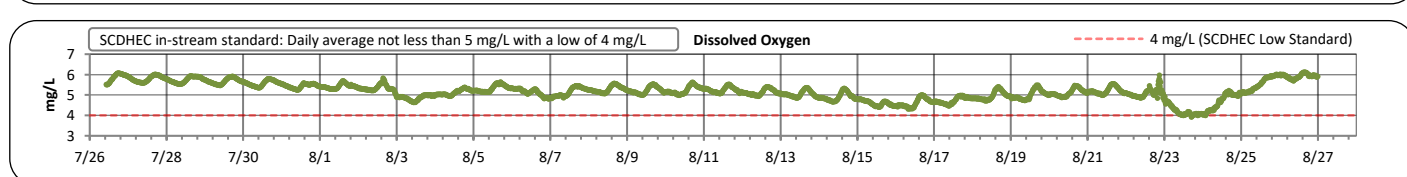
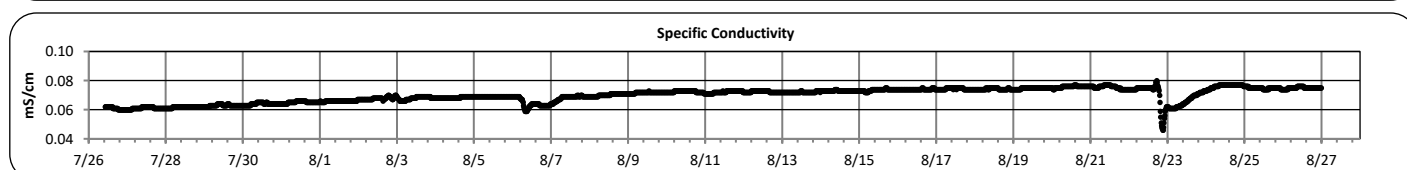
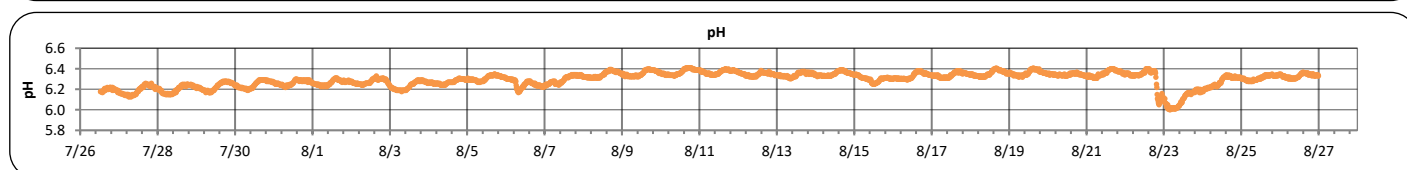
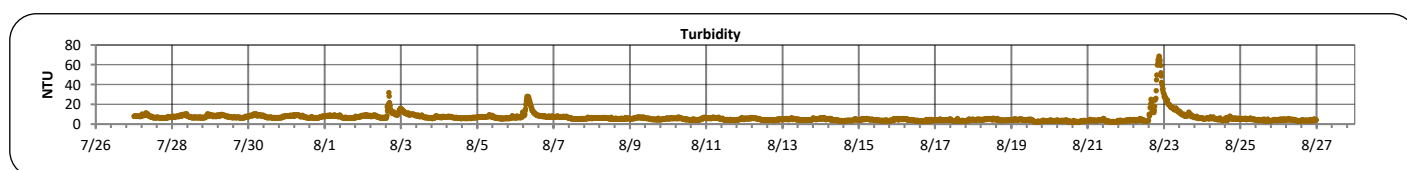
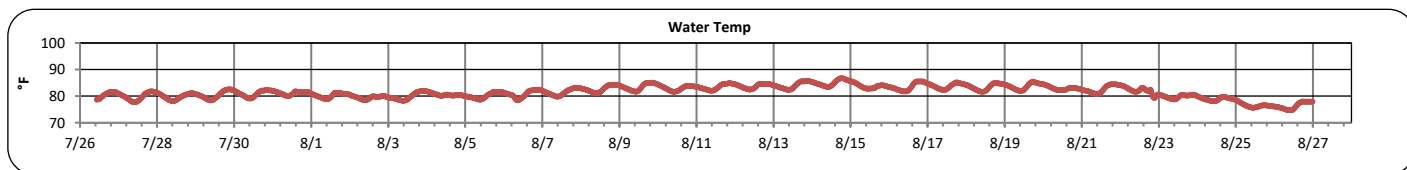
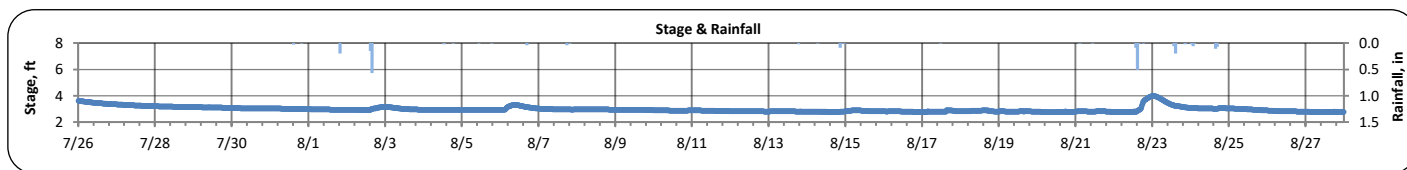
Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (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)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	2.8	4.0	2.9	3.0	0.2
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	75	87	82	82	2
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	2	69	6	7	5
COORDINATES:	33.948043, -80.9889	pH:	6.0	6.4	6.3	6.3	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.046	0.08	0.072	0.070	0.005
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	3.9	6.1	5.2	5.2	0.4
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	7						
MAX. DAILY RAINFALL:	0.76 inches						
TOTAL RAINFALL (FOR PERIOD):	3.2 inches						



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

**Continuous Water Quality
Monitoring Periodic Report**

Gills Creek C (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:

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

Notes: