

## **Gills Creek Monitoring Sites**

### **Data Gaps**

- The GILA sonde remained submerged during the entire duration of this deployment. However, large amounts of pollen in the creek resulted in inaccurate turbidity measurements from March 29th through April 6th. Field maintenance was performed on March 30th and April 2nd in an effort to remove the pollen from the sonde guard and probes, but the equipment became fouled again immediately following these first two field visits. A field visit on April 6th successfully returned the turbidity probe to working order, and at that point pollen levels in the creek had dropped to the point that fouling no longer occurred.
- The GILB station did not experience any data interruptions during this monitoring period.

### **SCDHEC Standards**

- During this monitoring period, the average DO levels at the GILA, GILB, and GILC monitoring stations were 8.9, 7.6, and 7.6 mg/L, respectively, well above the daily average limit of 5 mg/L. The average DO levels decreased during this deployment when compared to levels during the last deployment, likely as a result of the warmer water temperatures. The instantaneous minimum limit of 4 mg/L was not violated at any of the stations.
- The pH lower standard of 6 was contravened at the GILC station on several occasions during this monitoring period. However, the pH levels only fell to 5.9, slightly below the regulatory limit.

### **Storm Events**

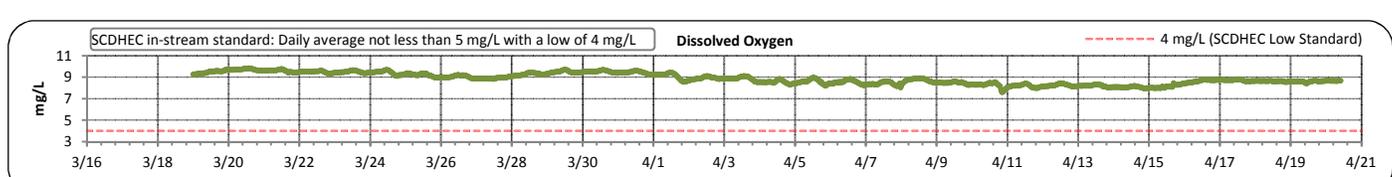
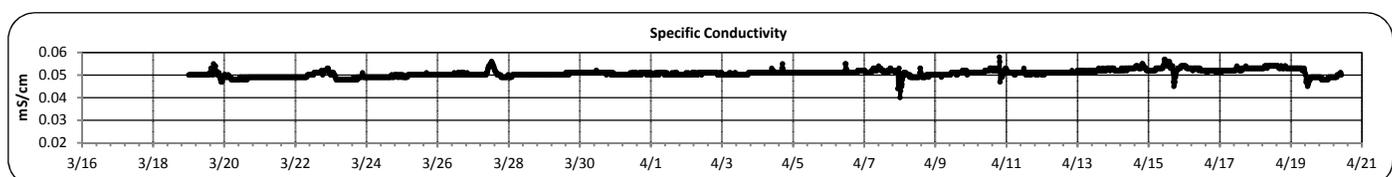
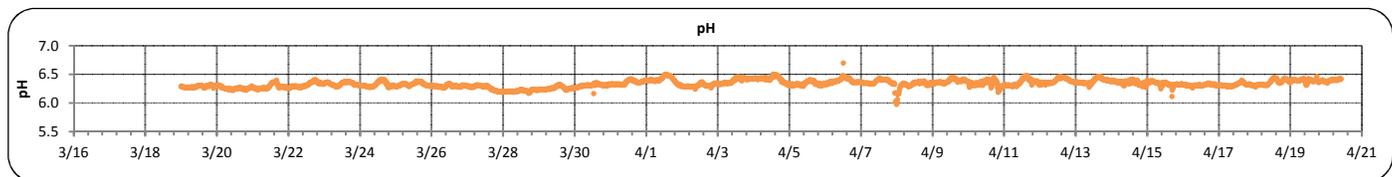
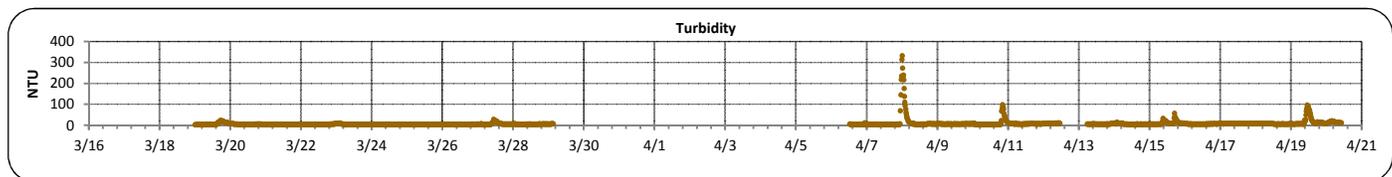
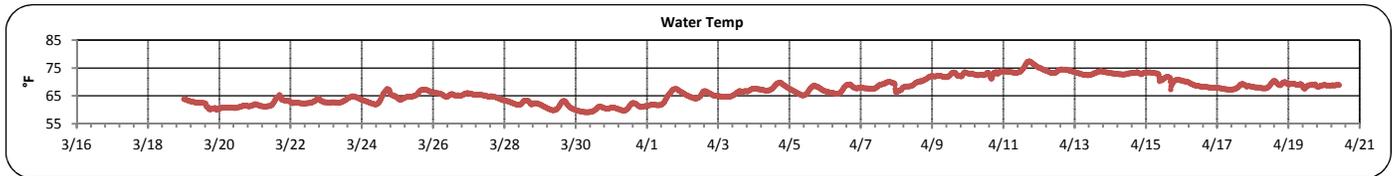
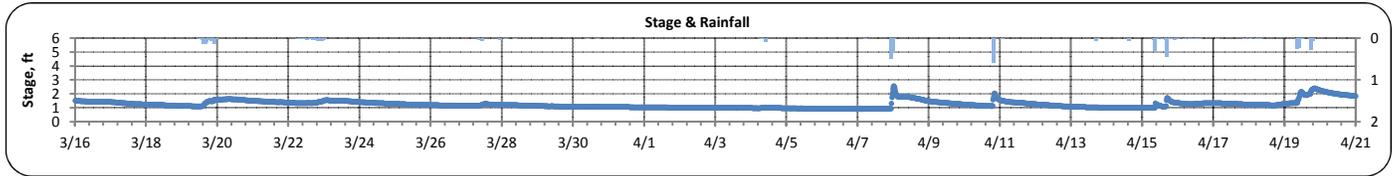
- This deployment period recorded a number of small storm events. Ten distinct storm events were recorded at GILA, while the GILB and GILC stations only experienced 7 and 8 events, respectively. None of these events exceeded a total of 1 inch of precipitation.
- During this deployment, the specific conductivity was noted to have increased during several of the smaller storm events at the GILA and GILB stations. This may have been the result of the small runoff volume washing surface pollutants into the stream without providing a volume of runoff large enough to cause the more typically observed dilution effect.

### **Potential Illicit Discharges and Abnormal Events**

- During the first few days of this deployment period, an unusual pattern was seen at the GILB station, and was also noted downstream at the GILC station. It appears that from March 17th through March 19th, the flow passing the GILB station was severely restricted, likely as the result of some activity upstream at the Lake Katherine control structure. When the sonde was deployed on March 19th, the dissolved oxygen was considerably depressed and the specific conductivity was significantly elevated. When the stage returned to typical levels, these values also returned to ambient conditions.

**Gills Creek A (March 16, 2015 -- April 20, 2015)**

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	0.9	2.6	1.2	1.3	0.3
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	59	77	67	67	4
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	3	332	5	8	18
COORDINATES:	34.019826, -80.963566	pH:	6.0	6.7	6.3	6.3	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.04	0.058	0.051	0.051	0.002
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	7.6	9.9	8.8	8.9	0.5
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	10						
MAX. DAILY RAINFALL:	0.9 inches						
TOTAL RAINFALL (FOR PERIOD):	4.9 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 (March 16, 2015 -- April 20, 2015)**

**Explanation of Statistics:**

<b>MINIMUM OBSERVED</b>	The minimum of the values recorded by the datasonde in 15 minute intervals.
<b>MAXIMUM OBSERVED</b>	The maximum of the values recorded by the datasonde in 15 minute intervals.
<b>MEDIAN OBSERVED</b>	The median of all the values recorded by the datasonde in 15 minute intervals.
<b>MEAN OBSERVED</b>	The average of all the values recorded by the datasonde in 15 minute intervals.
<b>STANDARD DEVIATION</b>	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

**Sampled Data:**

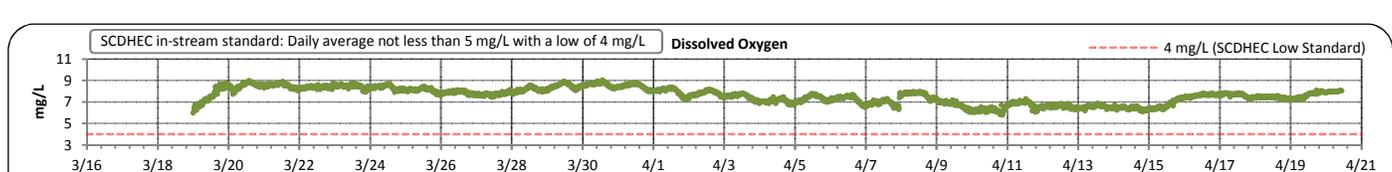
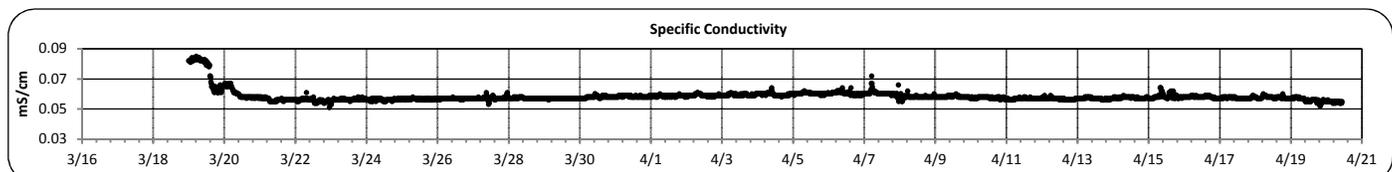
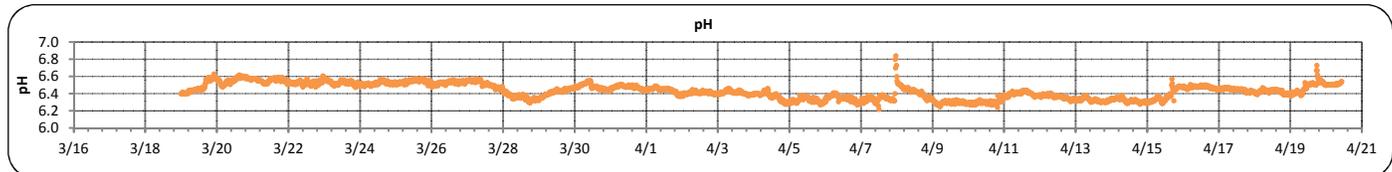
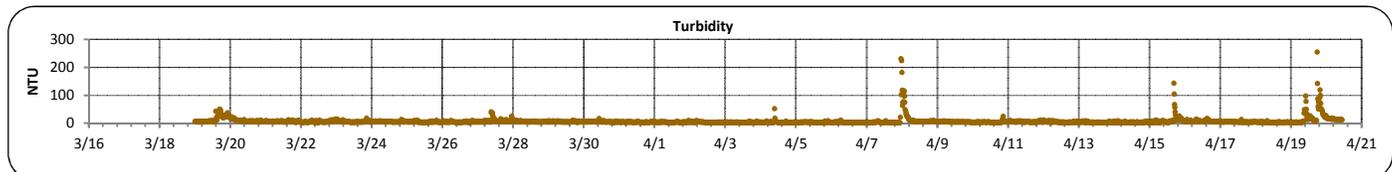
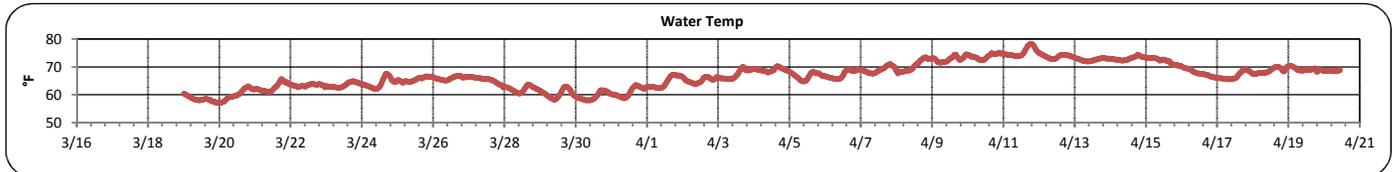
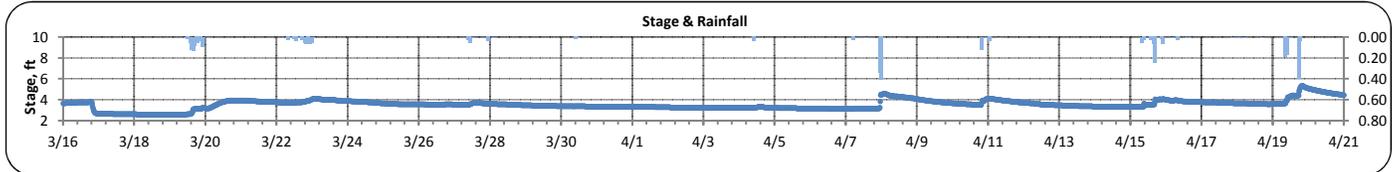
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)								
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes:

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

**Gills Creek B (March 16, 2015 -- April 20, 2015)**

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	2.6	5.3	3.5	3.5	0.5
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	57	78	67	67	5
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	2	255	5	7	12
COORDINATES:	33.989656, -80.97433	pH:	6.2	6.8	6.4	6.4	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.051	0.085	0.058	0.058	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.8	9.1	7.7	7.6	0.7
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	7						
MAX. DAILY RAINFALL:	0.8 inches						
TOTAL RAINFALL (FOR PERIOD):	3.9 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 (March 16, 2015 -- April 20, 2015)**

**Explanation of Statistics:**

<b>MINIMUM OBSERVED</b>	The minimum of the values recorded by the datasonde in 15 minute intervals.
<b>MAXIMUM OBSERVED</b>	The maximum of the values recorded by the datasonde in 15 minute intervals.
<b>MEDIAN OBSERVED</b>	The median of all the values recorded by the datasonde in 15 minute intervals.
<b>MEAN OBSERVED</b>	The average of all the values recorded by the datasonde in 15 minute intervals.
<b>STANDARD DEVIATION</b>	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

**Sampled Data:**

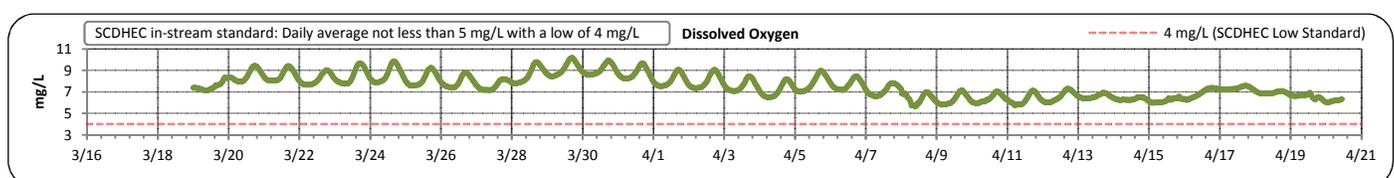
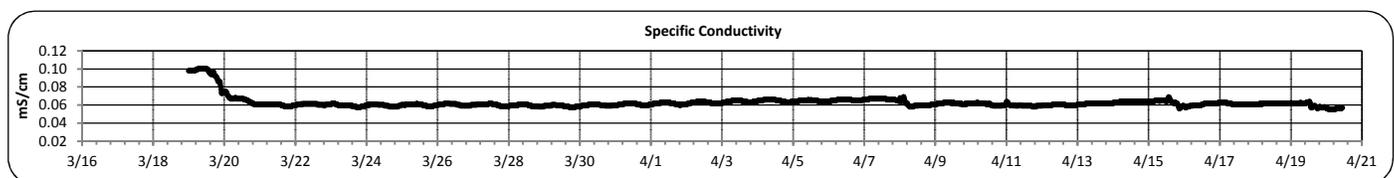
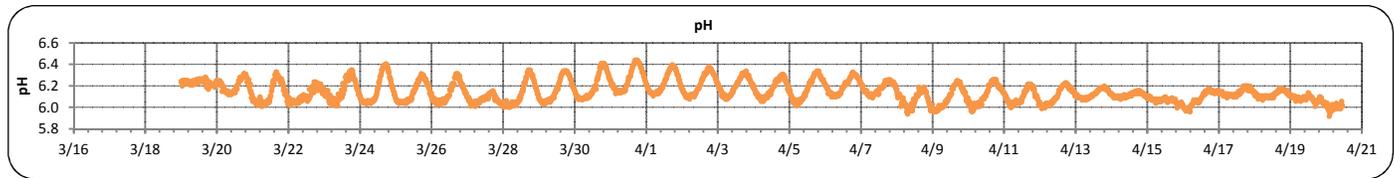
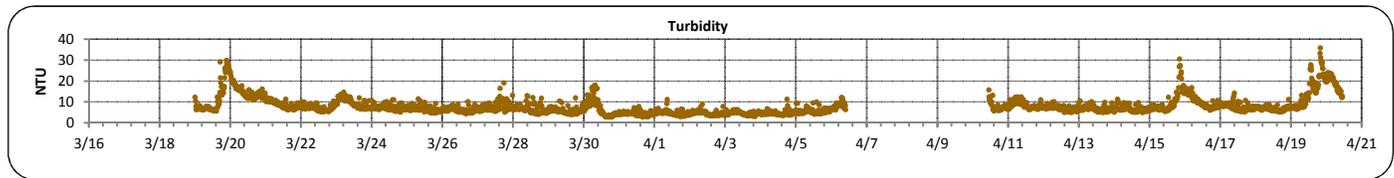
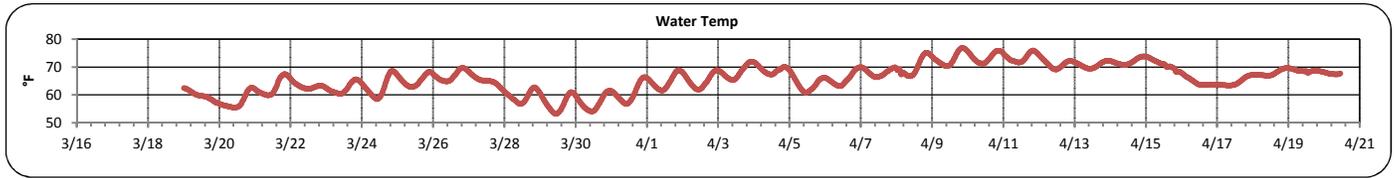
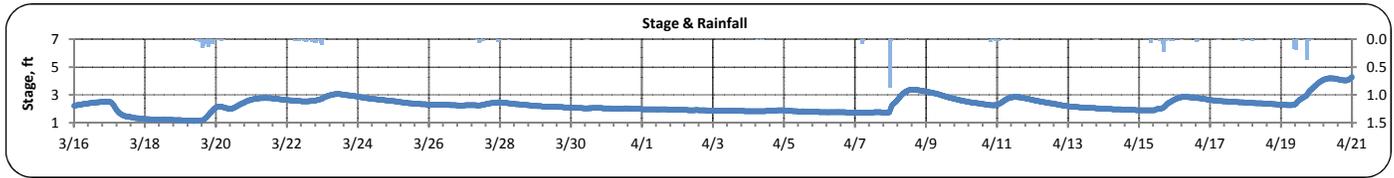
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)								
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes:

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

**Gills Creek C (March 16, 2015 -- April 20, 2015)**

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Gills Creek	STAGE (FT):	1.1	4.3	2.3	2.3	0.6
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	53	77	66	66	5
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	3	36	7	8	4
COORDINATES:	33.948043, -80.9889	pH:	5.9	6.4	6.1	6.1	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.055	0.1	0.061021973	0.063	0.006
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.7	10.2	7.5	7.6	1.0
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	8						
MAX. DAILY RAINFALL:	0.99 inches						
TOTAL RAINFALL (FOR PERIOD):	4.3 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 (March 16, 2015 -- April 20, 2015)**

**Explanation of Statistics:**

<b>MINIMUM OBSERVED</b>	The minimum of the values recorded by the datasonde in 15 minute intervals.
<b>MAXIMUM OBSERVED</b>	The maximum of the values recorded by the datasonde in 15 minute intervals.
<b>MEDIAN OBSERVED</b>	The median of all the values recorded by the datasonde in 15 minute intervals.
<b>MEAN OBSERVED</b>	The average of all the values recorded by the datasonde in 15 minute intervals.
<b>STANDARD DEVIATION</b>	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:

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