

## Gills Creek Monitoring Sites

### *Data Gaps*

- The GILA station specific conductivity probe was unsubmerged from December 14th, through the 21st. During this period, all other probes remained submerged and recording. This station experienced a brief period of turbidity fouling following what appears to have been a release from Forest Lake on December 25th. Additionally, no dissolved oxygen (DO) data was recorded during this deployment at GILA; during the December calibration, the DO probe malfunctioned and was sent to the manufacturer (YSI) for maintenance.
- The GILB sonde was returned to the manufacturer during the previous deployment period to correct a hardware malfunction. Upon return, the sonde was calibrated and deployed on December 15th.
- The sonde deployed at the GILC station experienced a sensor malfunction in the DO probe outside of the normal operating malfunctions. Based on conversations with the manufacturer, the issue was diagnosed as a sonde error, and not a DO probe error. For this reason, the entire sonde was removed from the field on December 12th and returned to YSI for maintenance.

### *SCDHEC Standards*

- During this monitoring period, the average DO at the GILB station was 10.3 mg/L, well above the daily average limit of 5 mg/L. This average represents the highest average DO concentration for a deployment period since February of 2013. Additionally, the instantaneous DO limit of 4 mg/L was not violated, with a minimum DO reading at GILB of 9.8 mg/L.
- The pH lower standard of 6 was contravened briefly at the GILA site, when values of 5.7 were recorded. Neither the lower nor upper standard was violated at the other Gills Creek sites.

### *Storm Events*

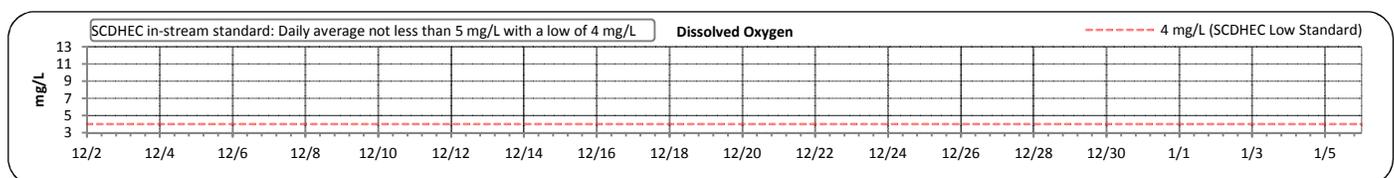
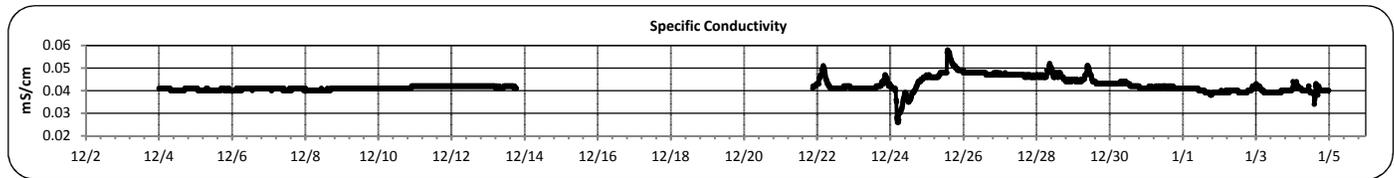
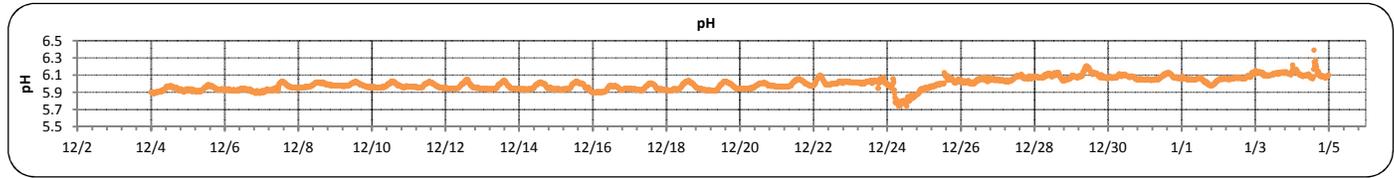
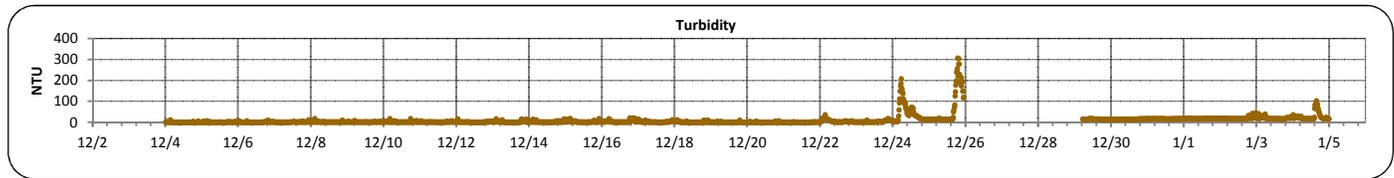
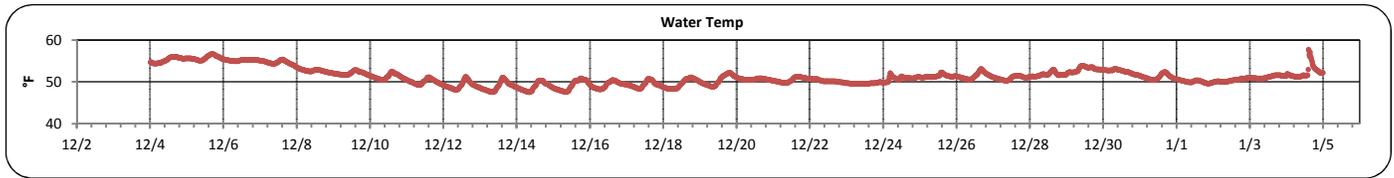
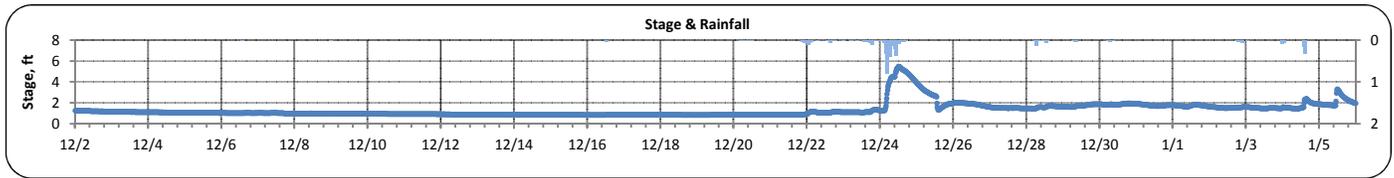
- During this period, the GILA station recorded 8 storm events while the GILB and GILC stations recorded 9 events. The majority of these storm events contributed relatively small rainfall totals.
- All three of the Gills Creek monitoring sites recorded at least three inches of rain in one day on December 24th.

### *Potential Illicit Discharges*

- No suspected illicit discharges were recorded at the GIL stations during this deployment.

**Gills Creek A (Dec 2, 2014 -- Jan 6, 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):	0.8	5.5	1.1	1.3	0.7
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	48	58	51	51	2
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	1	307	1	10	24
COORDINATES:	34.019826, -80.963566	pH:	5.7	6.4	6.0	6.0	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.026	0.058	0.041	0.042	0.003
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	N/A	N/A	N/A	N/A	N/A
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	8						
MAX. DAILY RAINFALL:	3.0 inches						
TOTAL RAINFALL (FOR PERIOD):	5.2 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors. Dissolved Oxygen probe was being repaired by YSI during the sonde's deployment this month.

**Continuous Water Quality  
Monitoring Periodic Report**

**Gills Creek A (Dec 2, 2014 -- Jan 6, 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.

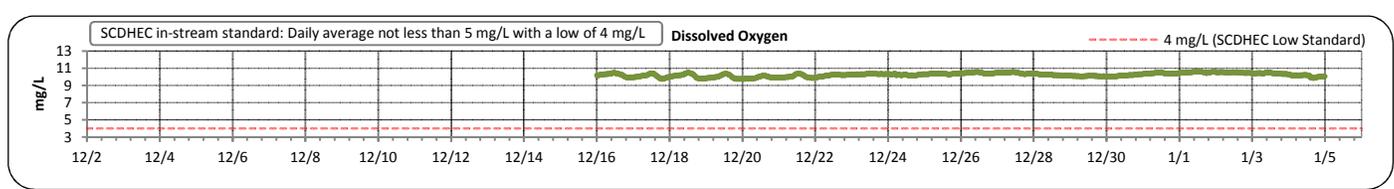
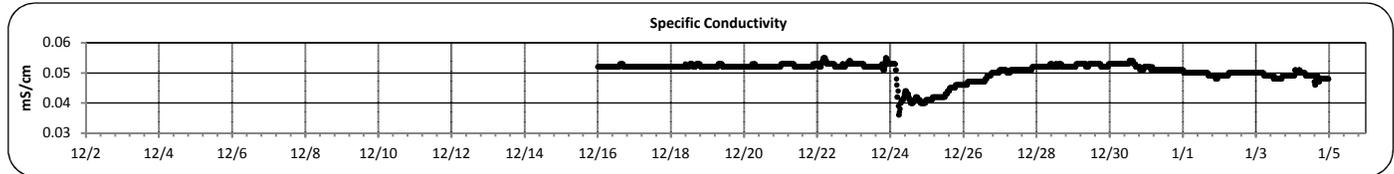
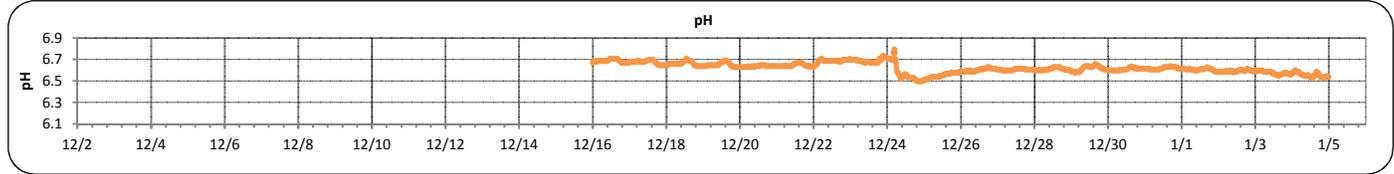
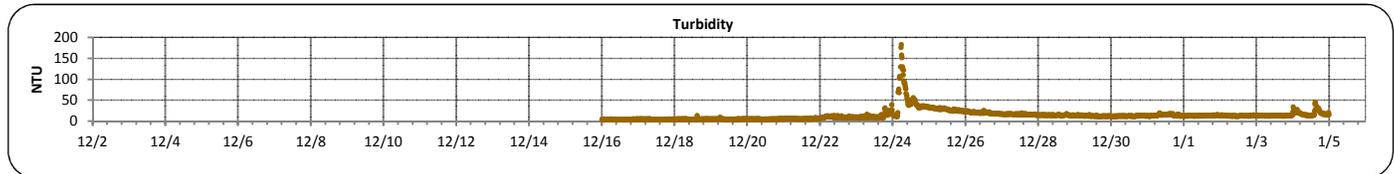
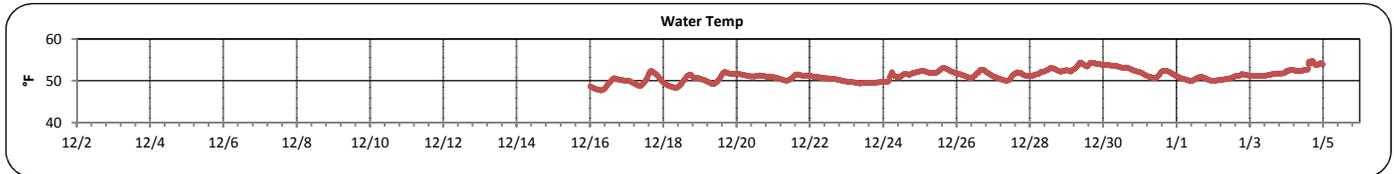
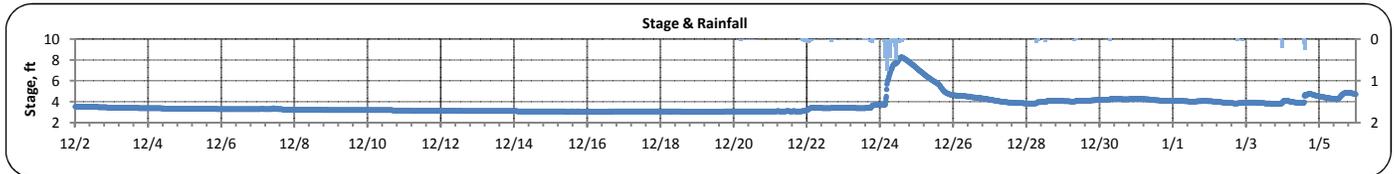
**Sampled Data:**

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	12/23/2014							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	12:18	86						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Note: This sample was collected as a dry weather sample before a storm event occurred. The storm event ended up occurring later than forecasted and sampling was not continued due to the lab being closed for the holidays.

**Gills Creek B (Dec 2, 2014 -- Jan 6, 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):	3.0	8.3	3.4	3.7	0.9
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	48	55	51	51	1
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	4	183	13	14	14
COORDINATES:	33.989656, -80.97433	pH:	6.5	6.8	6.6	6.6	0.0
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.036	0.055	0.052	0.050	0.003
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	9.8	10.7	10.3	10.3	0.2
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	9						
MAX. DAILY RAINFALL:	3.2 inches						
TOTAL RAINFALL (FOR PERIOD):	5.2 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors. The sonde was being repaired by YSI at beginning of month.

**Continuous Water Quality  
Monitoring Periodic Report**

**Gills Creek B (Dec 2, 2014 -- Jan 6, 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.

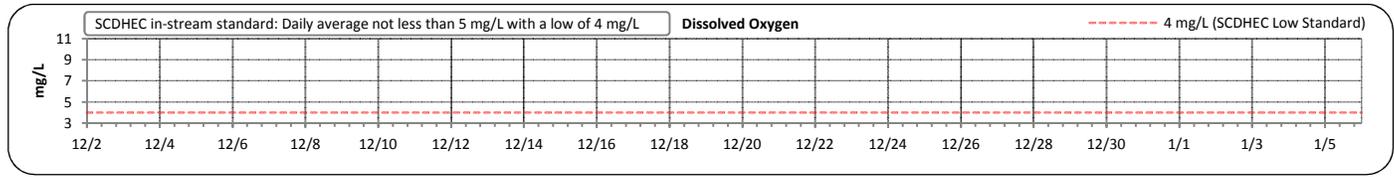
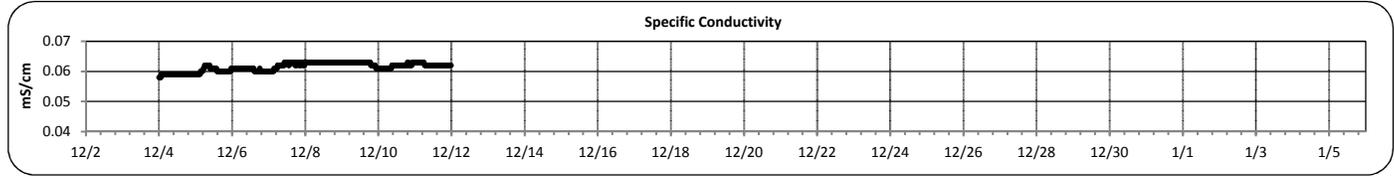
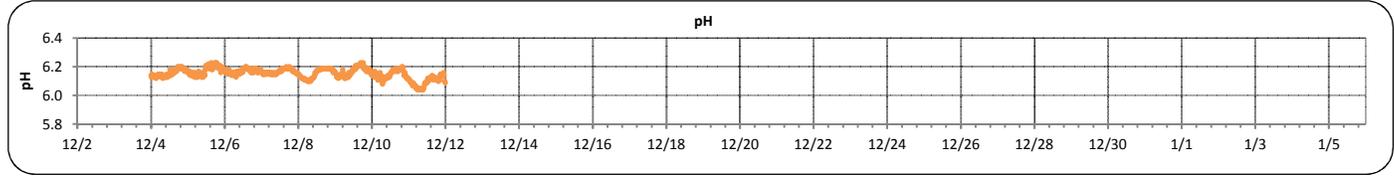
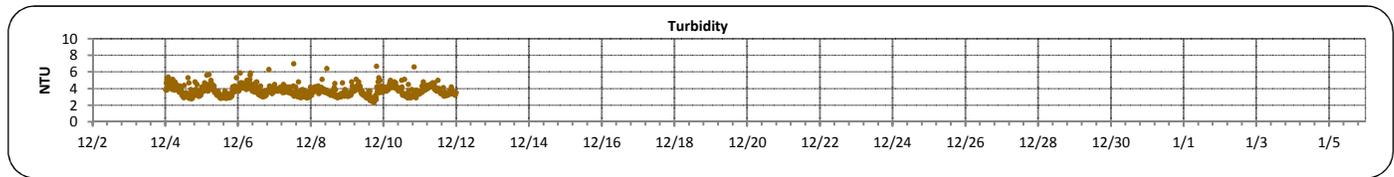
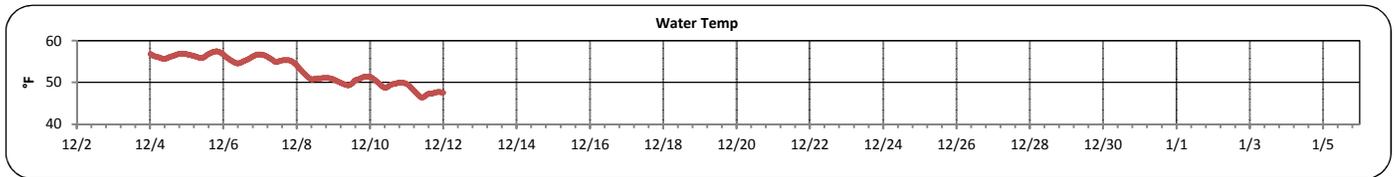
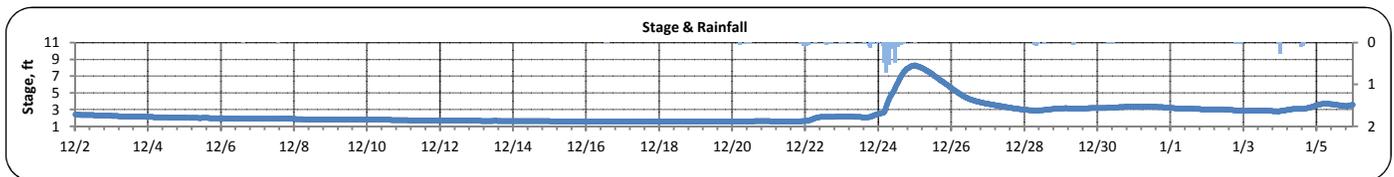
**Sampled Data:**

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	12/23/2014							
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	12:48	441						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Note: This sample was collected as a dry weather sample before a storm event occurred. The storm event ended up occurring later than forecasted and sampling was not continued due to the lab being closed for the holidays.

Gills Creek C (Dec 2, 2014 -- Jan 6, 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):	1.5	8.3	2.1	2.6	1.3
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	46	57	54	53	3
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	2	7	4	4	1
COORDINATES:	33.948043, -80.9889	pH:	6.0	6.2	6.2	6.2	0.0
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.058	0.063	0.062	0.061	0.001
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	N/A	N/A	N/A	N/A	N/A
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	9						
MAX. DAILY RAINFALL:	3.42 inches						
TOTAL RAINFALL (FOR PERIOD):	5.4 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors. The sonde was pulled to re-send to YSI for repairs.

**Continuous Water Quality  
Monitoring Periodic Report**

**Gills Creek C (Dec 2, 2014 -- Jan 6, 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: Samples were not collected at this site because the sonde was at YSI for repairs.

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