

## Gills Creek Monitoring Sites

### *Data Gaps*

- The GILA station did not experience any submergence issues during this deployment period.
- The GILB sonde was returned to the manufacturer for maintenance due to an O-ring malfunction. The sonde was redeployed on January 27th. One turbidity fouling incident occurred at the GILB station during this deployment, from February 2nd-4th. This fouling was addressed by field maintenance and erroneous data from this period was removed from the dataset.
- No submergence issues or sensor fouling occurred at the GILC monitoring station during this deployment.

### *SCDHEC Standards*

- During this monitoring period, the average DO levels at the GILA, GILB, and GILC monitoring stations were 11.8, 11.0, and 10.5 mg/L, respectively, well above the daily average limit of 5 mg/L. 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 GILA station during the first half of this deployment period. pH levels fell only slightly below 6, however, with a minimum recorded pH of 5.8 during this deployment.

### *Storm Events*

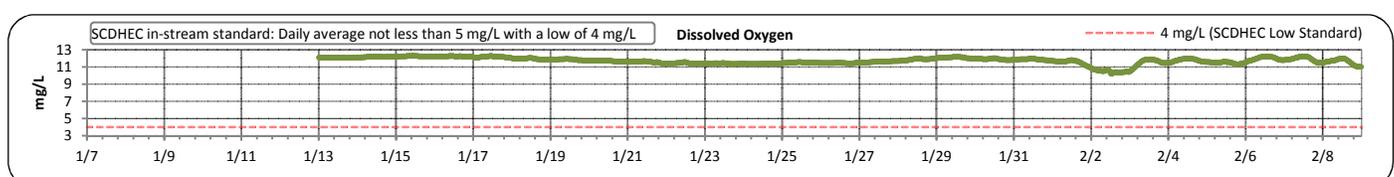
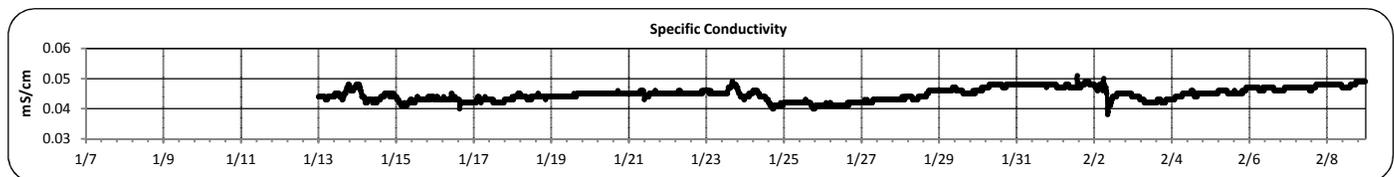
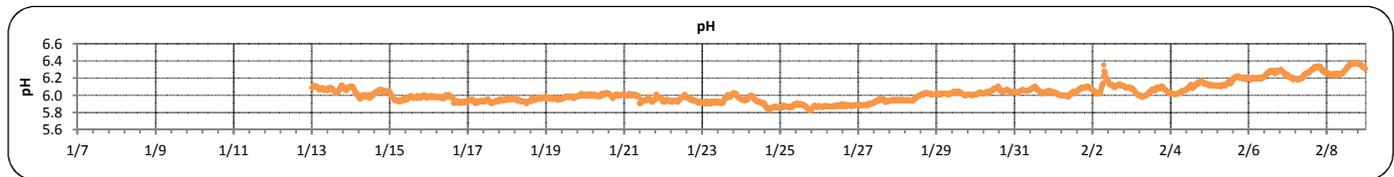
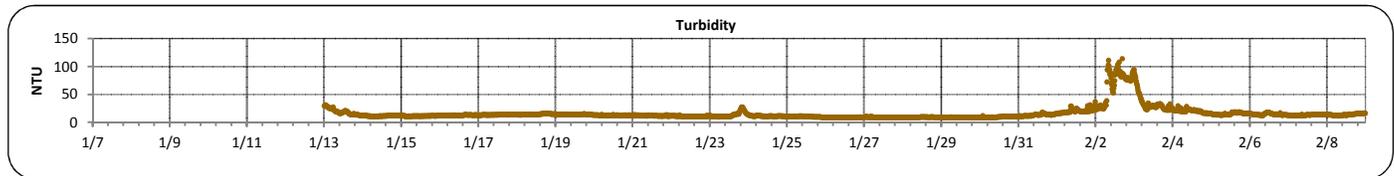
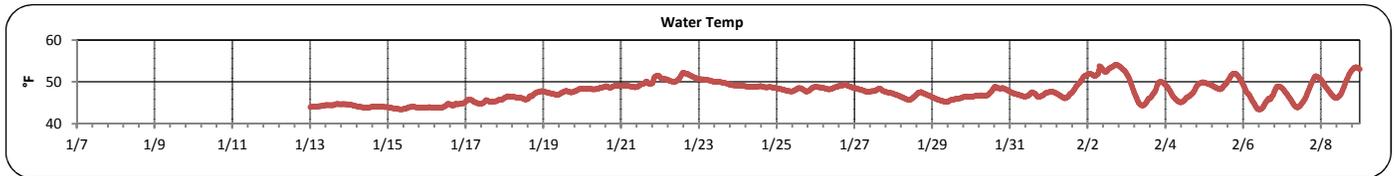
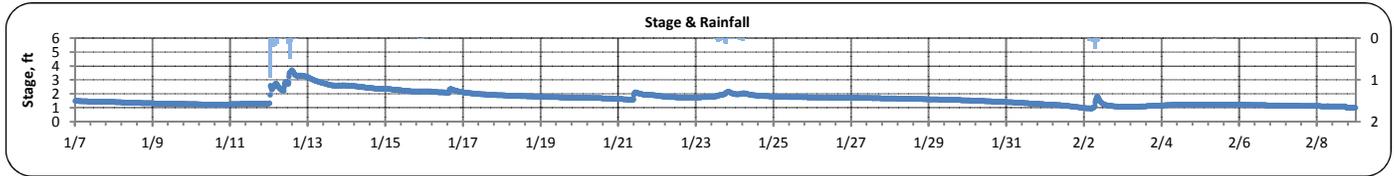
- This deployment period recorded a small number of storms, with all of the Gills Creek sites marking 4 storm events.
- The most significant storm event occurred in two waves on January 12th, when 2.30, 2.10, and 1.63 inches of precipitation were recorded at the GILA, GILB, and GILC stations, respectively.

### *Potential Illicit Discharges*

- At the GILC station, a rapid increase in stage of approximately 0.5 ft was recorded from January 19th-20th. This elevated stage lasted approximately 24 hours, and ended abruptly, suggesting some sort of anthropogenic cause. A potential cause of this stage increase could be construction activity upstream right of the station, for which drainage ditches appear to be in periodic use. One of these drainage ditches enters Gills Creek approximately 25 yards upstream of the monitoring station, but on the opposite bank. Periodic drainage from this channel may be the cause of the observed stage increase at GILC, but because water from this channel is not fully mixed in Gills Creek by the time it passes the sonde, the recorded data may not be indicating true water quality impacts from this discharge.

**Gills Creek A (Jan 7 -- Feb 8, 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	3.7	1.6	1.6	0.5
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	43	54	48	48	2
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	8	114	13	16	13
COORDINATES:	34.019826, -80.963566	pH:	5.8	6.4	6.0	6.0	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.038	0.051	0.045	0.045	0.002
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	10.2	12.3	11.8	11.8	0.4
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	4						
MAX. DAILY RAINFALL:	2.3 inches						
TOTAL RAINFALL (FOR PERIOD):	3.7 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 A (Jan 7 -- Feb 8, 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:**

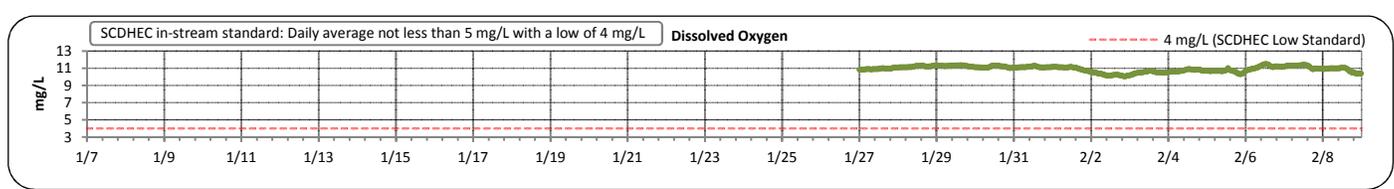
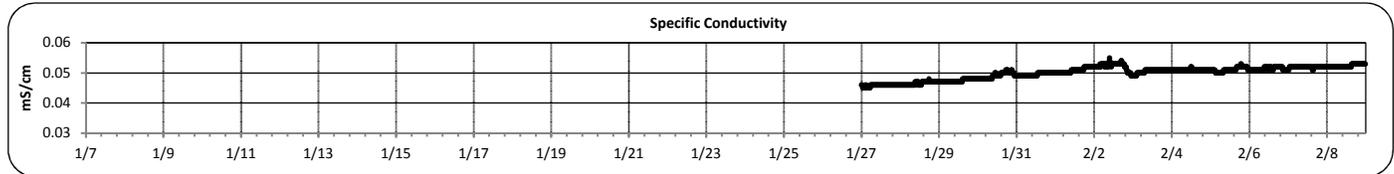
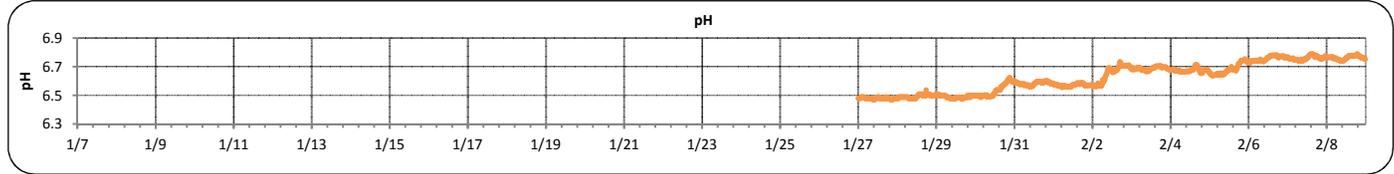
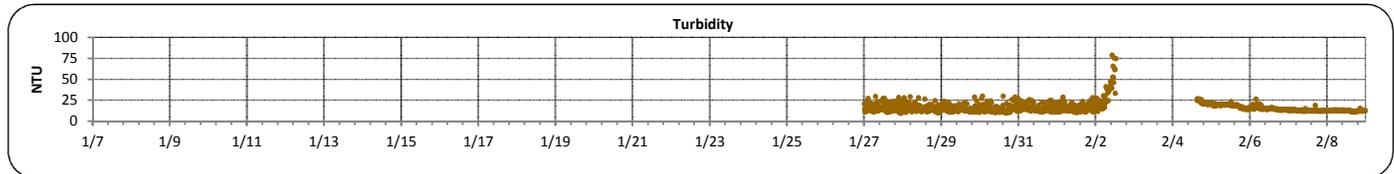
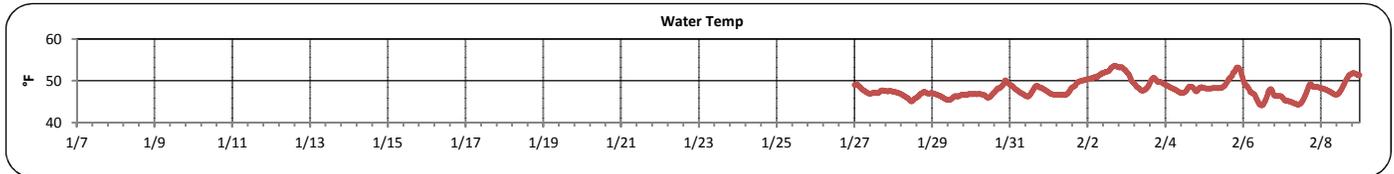
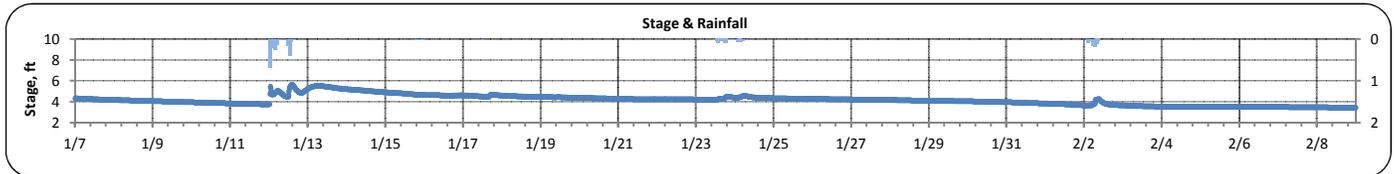
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	2/2/2015		2/2/2015					
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	8:48	2,700	12:32	3,076				
Total Suspended Solids (mg/L)	8:48	80.8						
Total Phosphorus (mg/L)	8:48	0.09						
Total Nitrogen (mg/L)	8:48	0.96						

Notes:

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

Gills Creek B (Jan 7 -- Feb 8, 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):	3.4	5.6	4.2	4.2	0.5
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	44	54	48	48	2
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	10	79	15	17	7
COORDINATES:	33.989656, -80.97433	pH:	6.5	6.8	6.6	6.6	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.045	0.055	0.051	0.050	0.002
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	10.1	11.5	11.0	11.0	0.3
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	4						
MAX. DAILY RAINFALL:	2.1 inches						
TOTAL RAINFALL (FOR PERIOD):	3.6 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 (Jan 7 -- Feb 8, 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:**

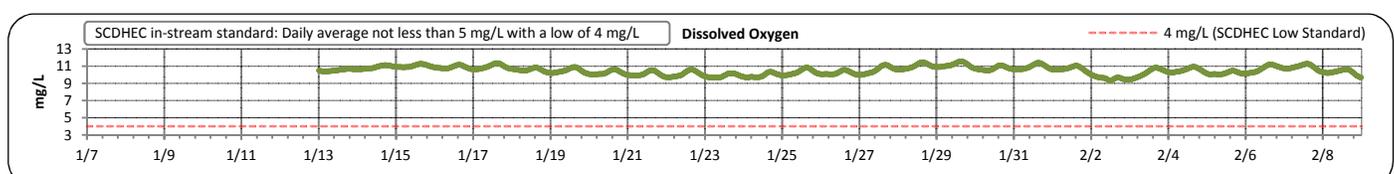
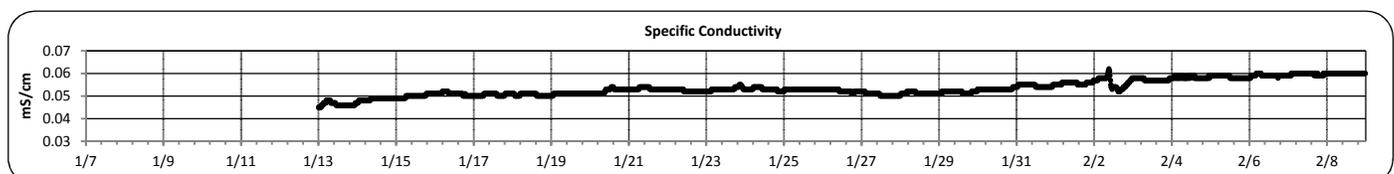
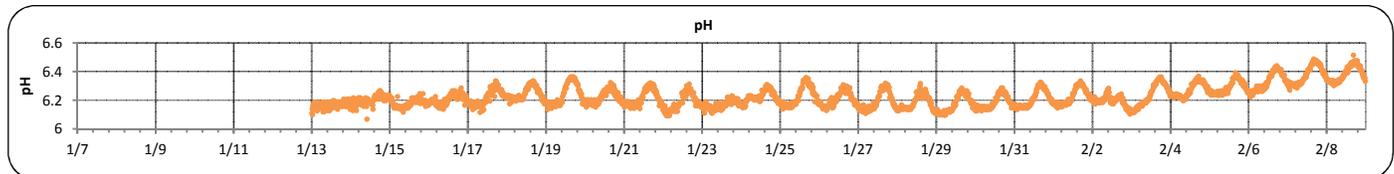
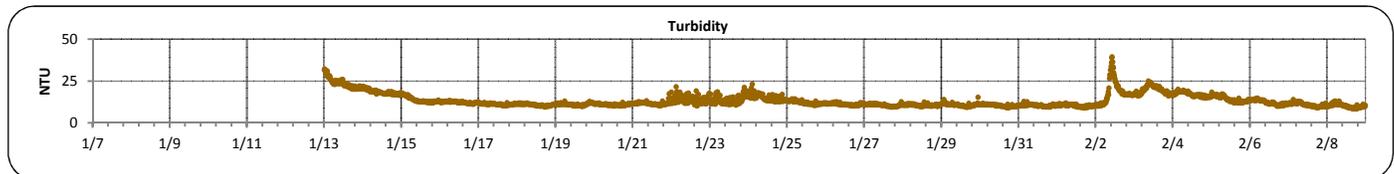
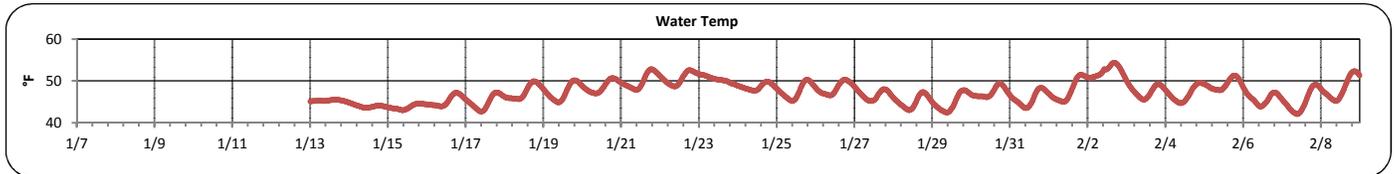
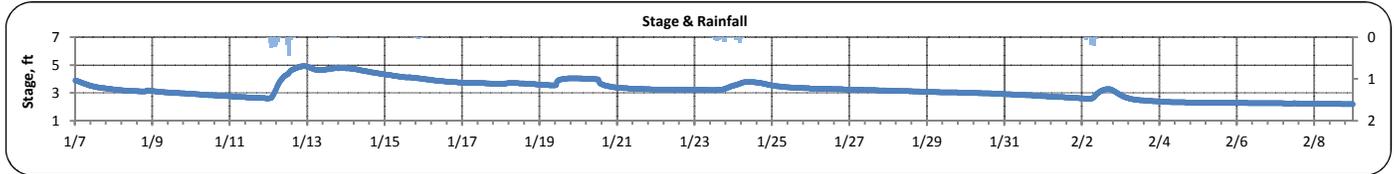
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	2/2/2015		2/2/2015					
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	9:18	4,352	12:48	933				
Total Suspended Solids (mg/L)	9:18	30.4						
Total Phosphorus (mg/L)	9:18	0.046						
Total Nitrogen (mg/L)	9:18	0.84						

Notes:

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

**Gills Creek C (Jan 7 -- Feb 8, 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):	2.2	4.9	3.2	3.2	0.7
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	42	54	47	47	3
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	8	39	12	13	4
COORDINATES:	33.948043, -80.9889	pH:	6.1	6.5	6.2	6.2	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.045	0.062	0.053	0.053	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	9.4	11.6	10.6	10.5	0.5
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	4						
MAX. DAILY RAINFALL:	1.63 inches						
TOTAL RAINFALL (FOR PERIOD):	3.4 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 (Jan 7 -- Feb 8, 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	
	2/2/2015		2/2/2015					
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)	9:40	2,187	13:03	1,019				
Total Suspended Solids (mg/L)	9:40	18.8						
Total Phosphorus (mg/L)	9:40	0.084						
Total Nitrogen (mg/L)	9:40	0.93						

Notes:

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