

Gills Creek Monitoring Sites

Data Gaps

- The GILA sonde was not submerged for part of this monitoring period, from March 8th – March 14th, due most likely to the operation patterns of the control structure at Forest Lake, upstream of the GILA station.
- The GILB and GILC stations 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 11.3, 10.4, and 10.3 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 for several days of the deployment period. However, the pH levels only fell to 5.9, slightly below the regulatory limit. This was during a period of low flow.

Storm Events

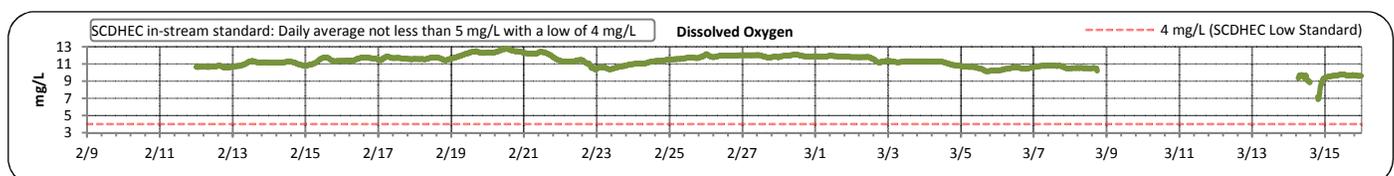
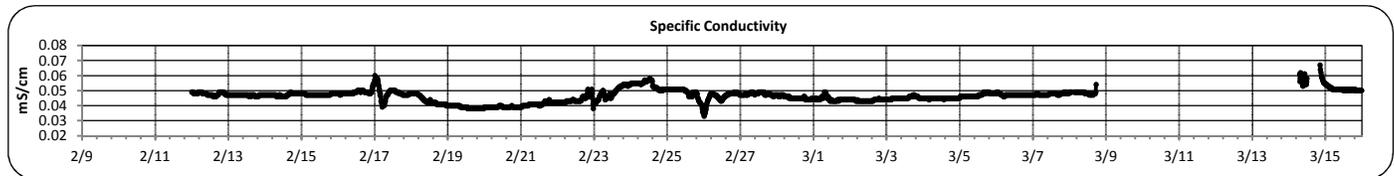
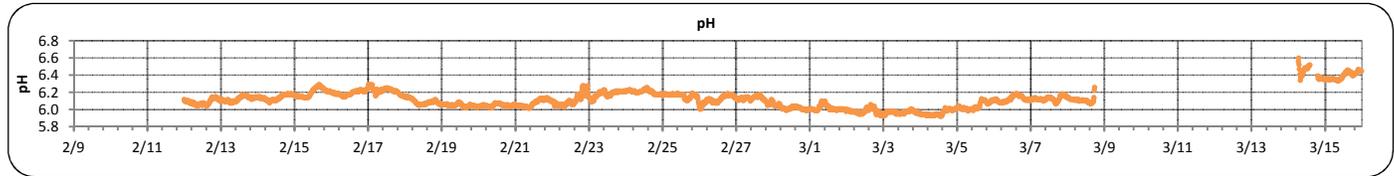
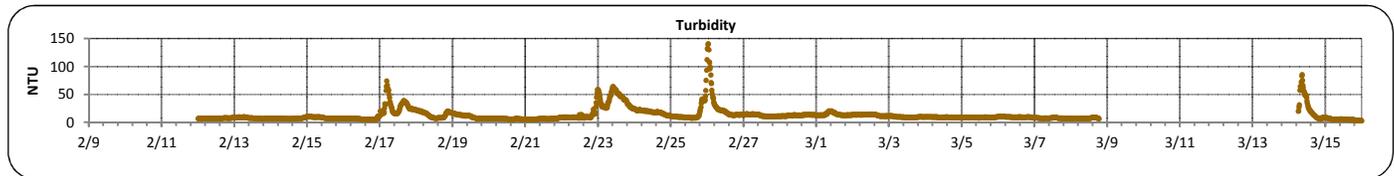
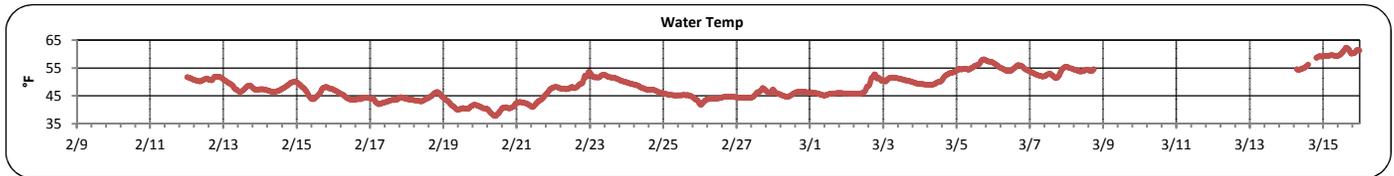
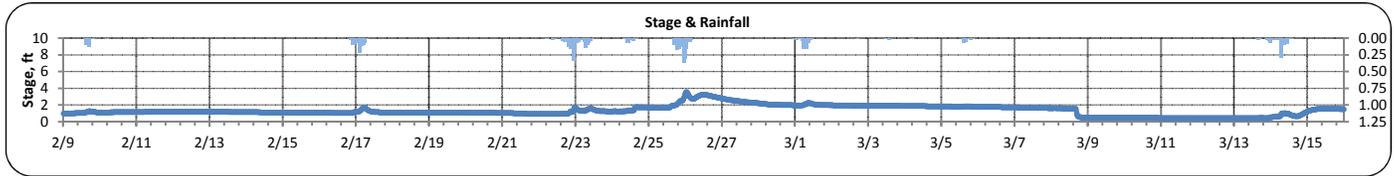
- This deployment period recorded a number of small storm events. Eight events were recorded at all the GIL stations, with the maximum daily rainfall of 1.5 inches at GILA and GILB, and 1.4 inches at GILC.

Potential Illicit Discharges and Abnormal Events

- During this monitoring period, no suspected illicit discharges were observed; however, one notable event was recorded at the GIL monitoring stations. On March 8th, the stage at GILA dropped from approximately 1.5 feet to only a few inches over the course of just 30 minutes. This abrupt decrease in stage was most likely the result of a change in operation at the Forest Lake control structure upstream of the GILA site. The stage at GILA dropped so low that the sonde sensors were not submerged, so the direct impacts on water quality from the limited flow in Gills Creek were not recorded. However, the impacts of this change in flow regime were seen downstream at the GILB and GILC stations. The stage at these two sites dropped significantly as well, though the decline was more gradual at these locations, due to the presence of Lake Katherine above GILB, and also likely the wetlands surrounding GILC. During this period of restricted flow, the pH and DO levels at GILB decreased while the specific conductivity increased. The GILC station also recorded a notable increase in specific conductivity during this period.

Gills Creek A (February 9 -- March 15, 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):	0.4	3.6	1.2	1.3	0.6
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	38	62	47	48	5
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	3	140	9	13	12
COORDINATES:	34.019826, -80.963566	pH:	5.9	6.6	6.1	6.1	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.033	0.067	0.047	0.046	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	6.9	12.8	11.4	11.3	0.7
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	8						
MAX. DAILY RAINFALL:	1.5 inches						
TOTAL RAINFALL (FOR PERIOD):	6.2 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 A (February 9 -- March 15, 2015)

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:

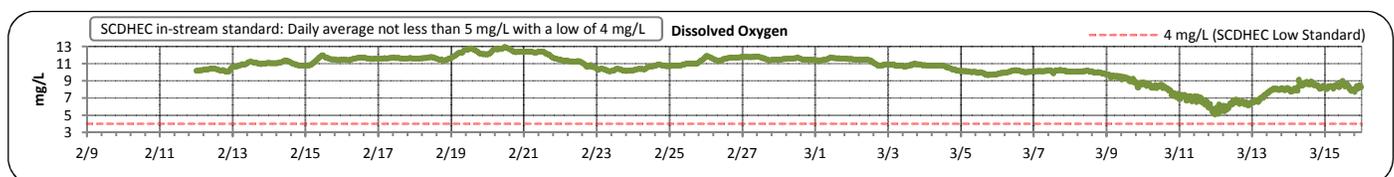
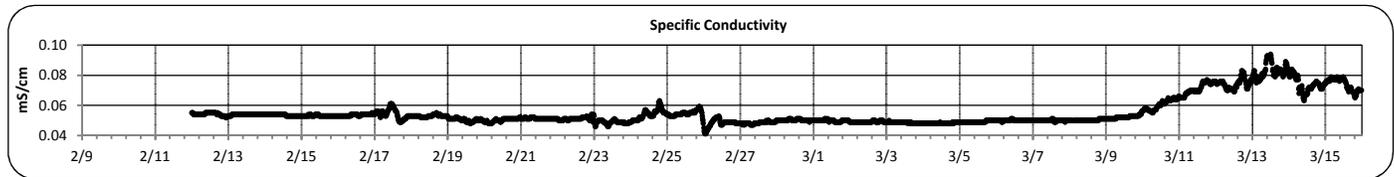
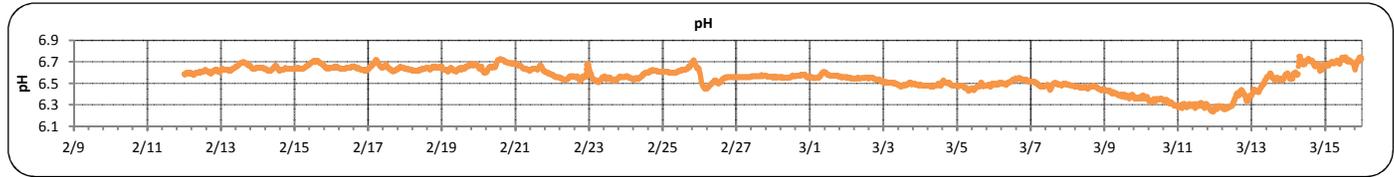
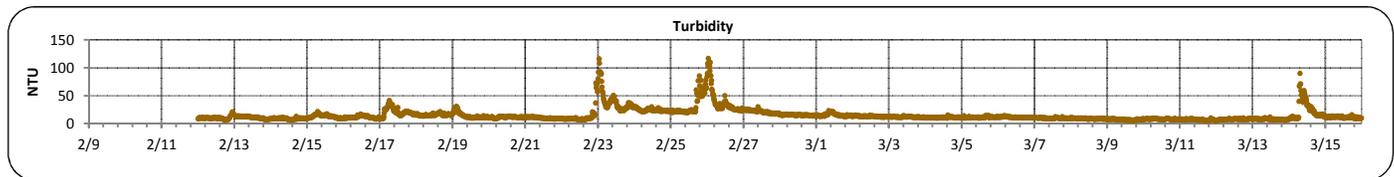
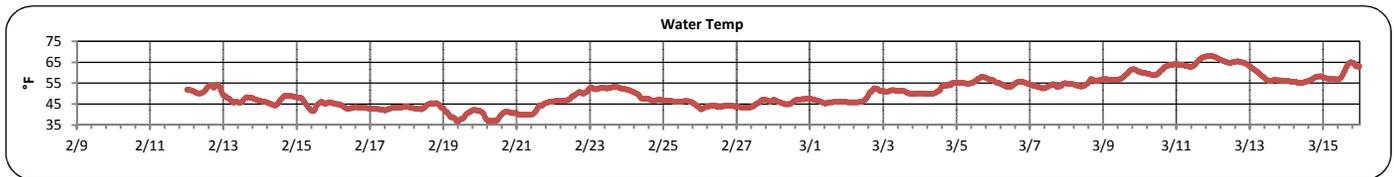
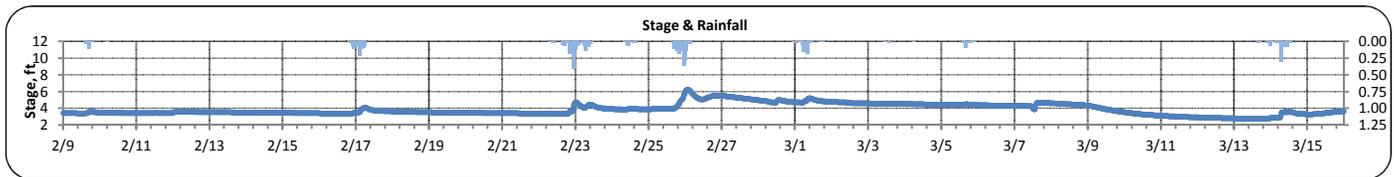
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)								
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes:

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

Gills Creek B (February 9 -- March 15, 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):	2.8	6.2	3.6	3.9	0.7
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	37	68	50	51	7
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	5	117	11	15	12
COORDINATES:	33.989656, -80.97433	pH:	6.2	6.8	6.6	6.6	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.041	0.094	0.051	0.055	0.009
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.1	13.0	10.8	10.4	1.6
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	8						
MAX. DAILY RAINFALL:	1.5 inches						
TOTAL RAINFALL (FOR PERIOD):	6.2 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 B (February 9 -- March 15, 2015)

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:

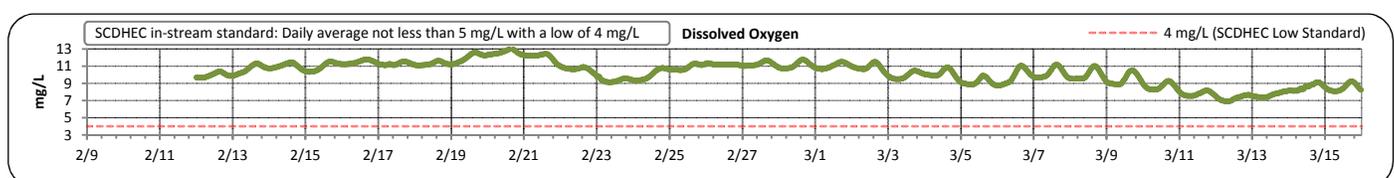
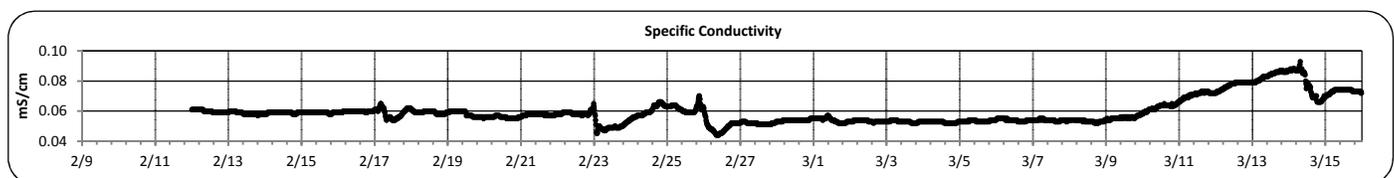
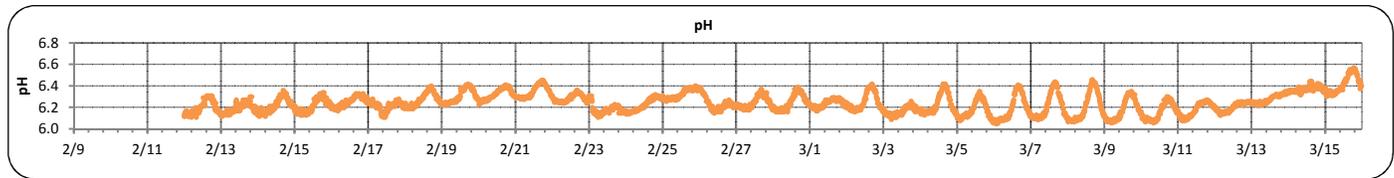
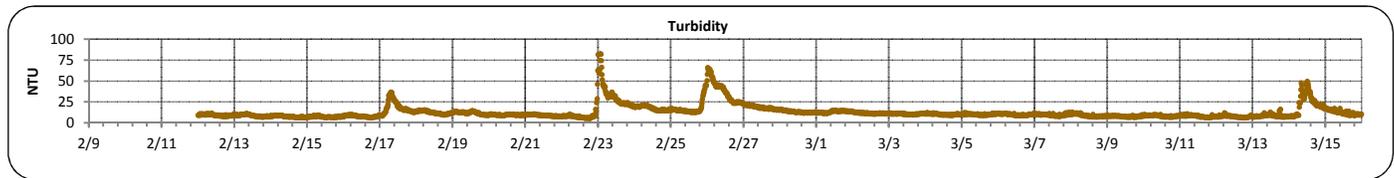
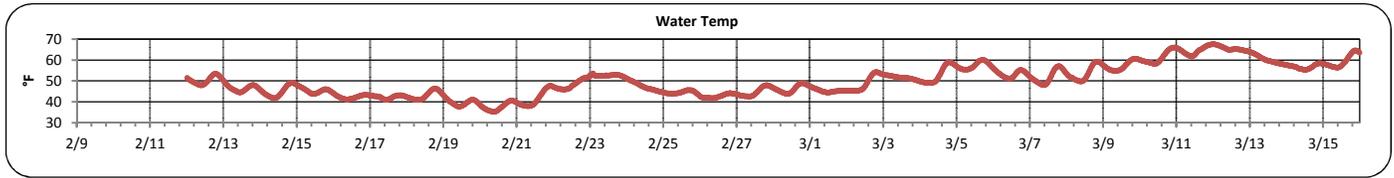
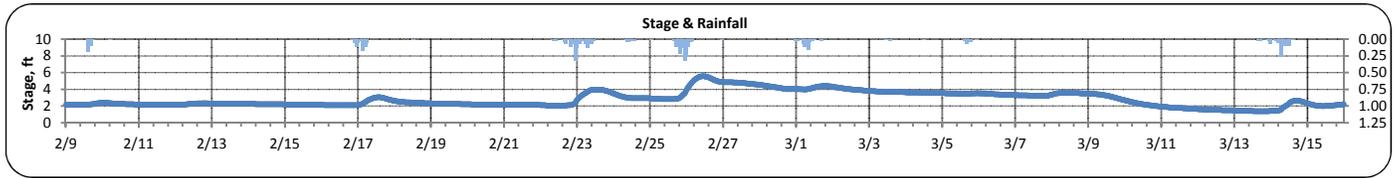
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)								
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes:

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

Gills Creek C (February 9 -- March 15, 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):	1.4	5.6	2.4	2.8	0.9
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	35	68	49	50	8
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	5	83	10	13	9
COORDINATES:	33.948043, -80.9889	pH:	6.1	6.6	6.2	6.2	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.044	0.093	0.058	0.059	0.009
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	7.0	13.0	10.6	10.3	1.4
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	8						
MAX. DAILY RAINFALL:	1.39 inches						
TOTAL RAINFALL (FOR PERIOD):	5.8 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 (February 9 -- March 15, 2015)

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:

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