

Gills Creek Monitoring Sites

Data Gaps

- The GILA sonde was unsubmerged during the majority of this monitoring period. The U.S. Drought Monitor classified the majority of Richland County as “Abnormally Dry” at the beginning of this deployment period, moving it into a state of “Moderate Drought” by the end of the deployment.¹ These dry conditions caused low stage levels at GILA and lead to the submergence issues observed at this station.
- The GILB station experienced several brief incidents of turbidity fouling during the deployment period.
- The GILC station did not experience any data interruptions during this monitoring period.

SCDHEC Standards

- The GILB and GILC monitoring stations recorded low DO values during this monitoring period, with both the minimum DO values and average DO values dropping below the instantaneous and daily average limit, respectively. A combination of factors likely explains the low DO values: high summer water temperatures, and slow moving water due to the abnormally dry conditions in the watershed through the month of July. The storm event that occurred on July 18th had a positive impact on DO in Gills Creek, raising the DO levels at both the GILB and GILC stations.
- The pH standard was not violated at any of the Gills Creek monitoring stations during this deployment.
- SCDHEC has established a temperature standard that indicates the water temperature should not be increased above 90°F due to the discharge of heated liquids to the waterbody. The GILA and GILB stations recorded maximum water temperatures of 91°F during this deployment, but this does not appear to have been the result of a heated liquid discharge, and therefore does not constitute a violation.

Storm Events

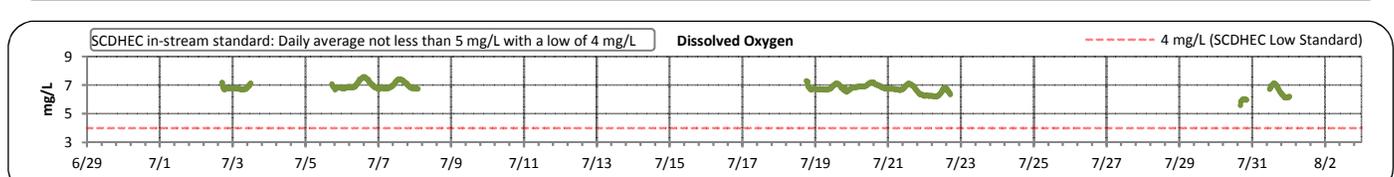
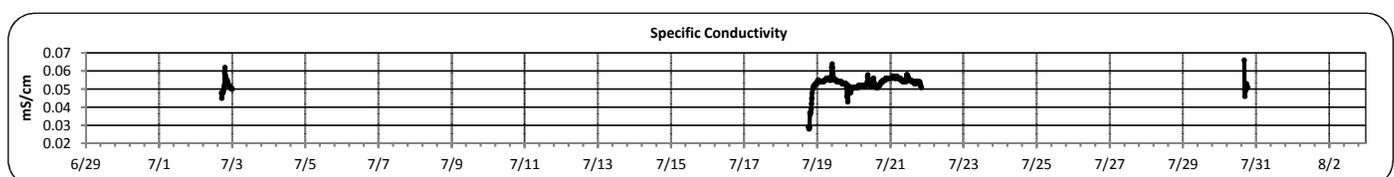
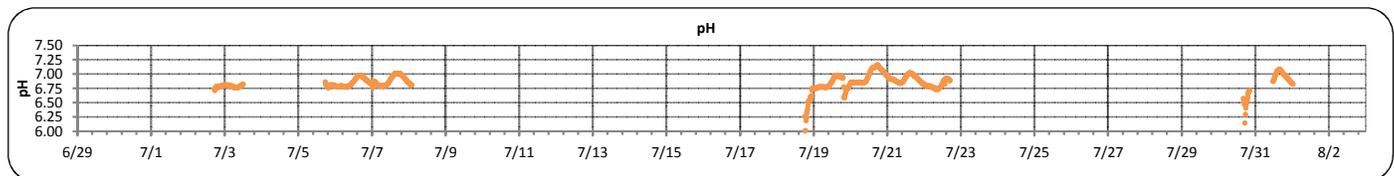
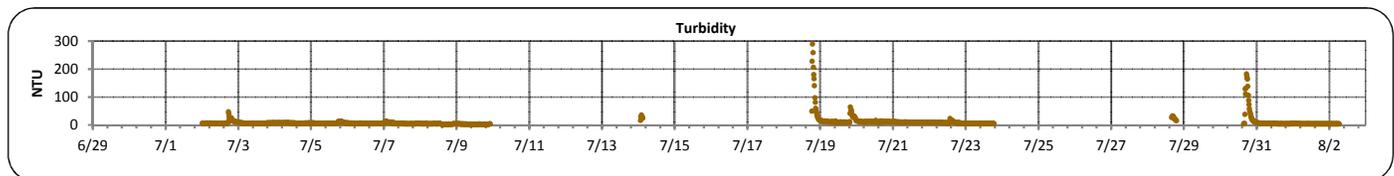
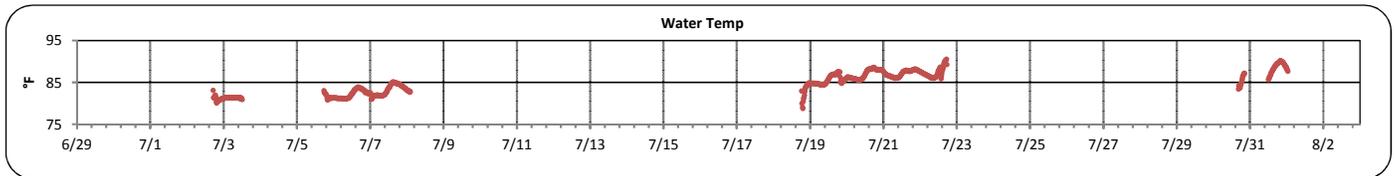
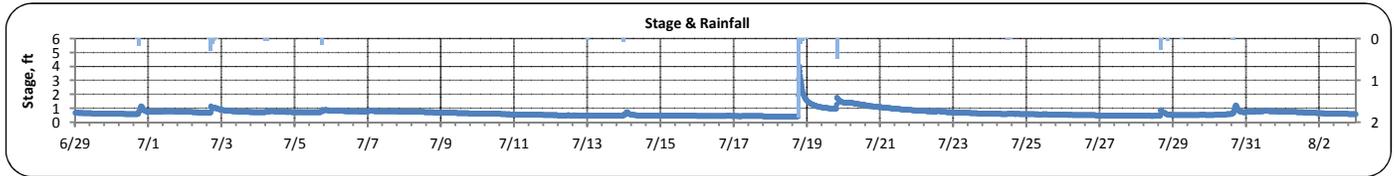
- Relatively little rainfall was recorded at the monitoring stations during this deployment period. The GILC station recorded the least rainfall of the three Gills Creek sites at just 2.5 inches.
- The most significant storm event of this deployment period occurred on July 18th, and caused an increase in DO levels at the stations.

Potential Illicit Discharges and Abnormal Events

- Several small potential illicit discharge events were noted at the GILC station. On June 8th, the specific conductivity in the creek increased slightly. On July 8th-9th, 15th, 16th, and 26th, slight increases in turbidity were noted in the data, without a response from any other parameters.

Gills Creek A (June 29, 2015 -- August 2, 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	4.0	0.6	0.7	0.3
LOCATION:	Forest Drive Bridge	TEMPERATURE (°F):	79	91	85	85	3
ADDRESS:	4840 Forest Drive, Columbia, SC 29206	TURBIDITY (NTU):	2	289	6	10	19
COORDINATES:	34.019826, -80.963566	pH:	6.0	7.2	6.9	6.9	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.028	0.066	0.054	0.053	0.004
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	5.6	7.6	6.8	6.8	0.3
APPROX. DRAINAGE AREA:	48 square miles						
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	7						
MAX. DAILY RAINFALL:	2.1 inches						
TOTAL RAINFALL (FOR PERIOD):	4.1 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 (June 29, 2015 -- August 2, 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:

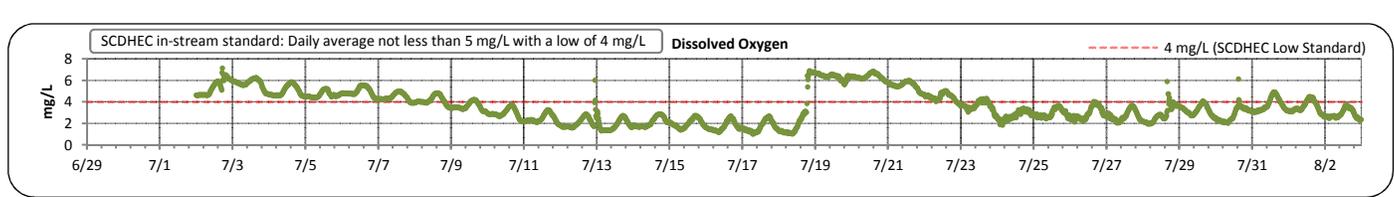
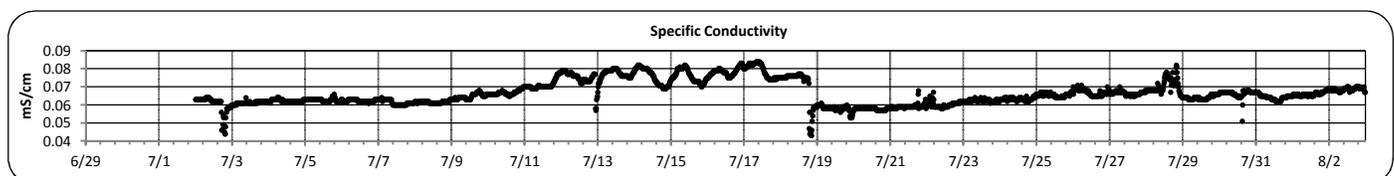
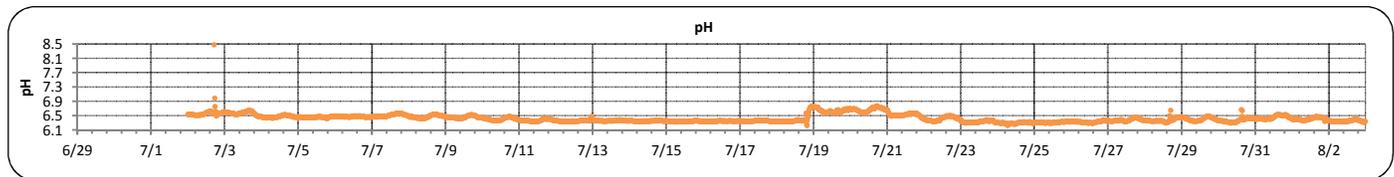
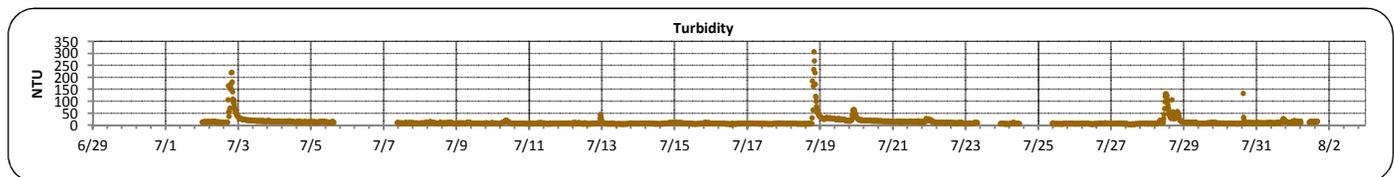
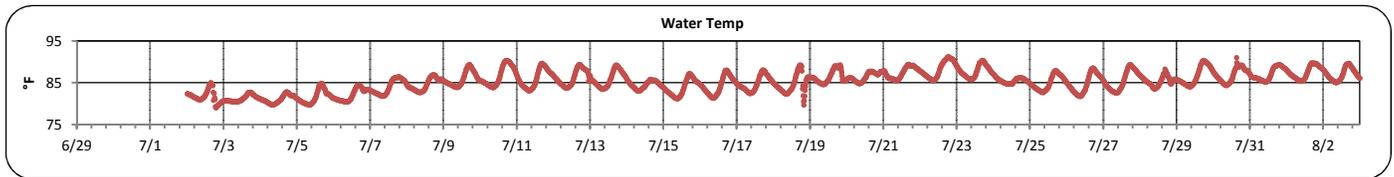
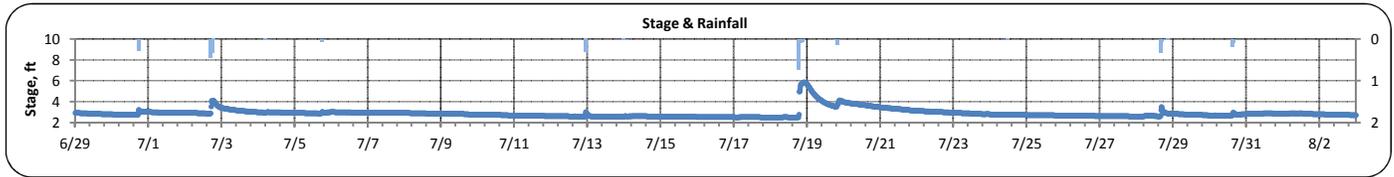
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)								
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes:

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

Gills Creek B (June 29, 2015 -- August 3, 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):	2.5	5.9	2.8	2.9	0.4
LOCATION:	Devine Street bridge	TEMPERATURE (°F):	79	91	85	85	3
ADDRESS:	4716 Devine Street Columbia, SC 29209	TURBIDITY (NTU):	4	308	9	13	19
COORDINATES:	33.989656, -80.97433	pH:	6.2	8.5	6.4	6.4	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.043	0.084	0.065	0.066	0.007
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	1.0	7.2	3.4	3.6	1.5
APPROX. DRAINAGE AREA:	59 square miles						
SPATIAL LOCATION:	Middle site						
TOTAL NO. STORMS OVER 0.1 INCH:	7						
MAX. DAILY RAINFALL:	0.9 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 B (June 29, 2015 -- August 2, 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:

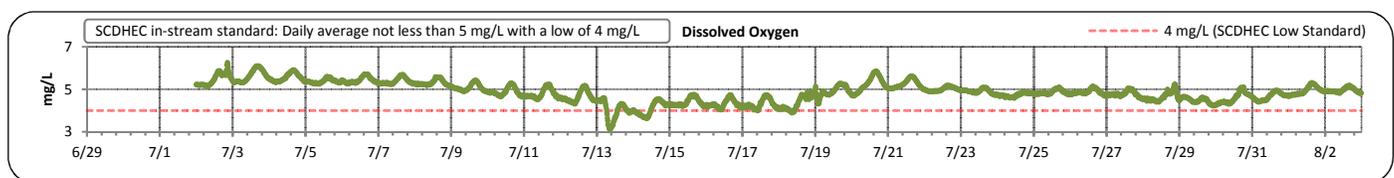
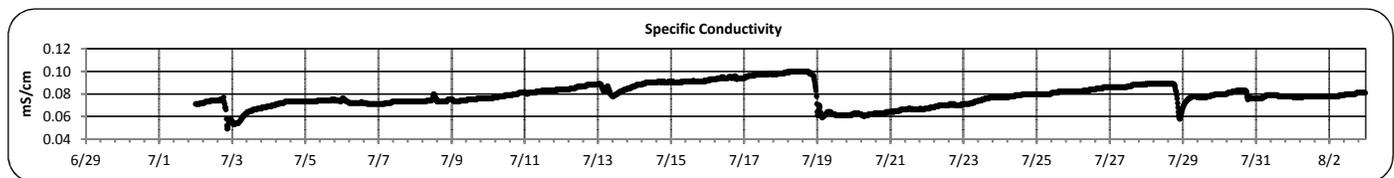
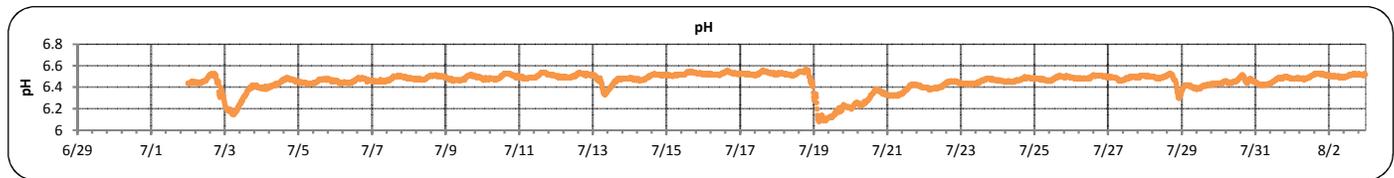
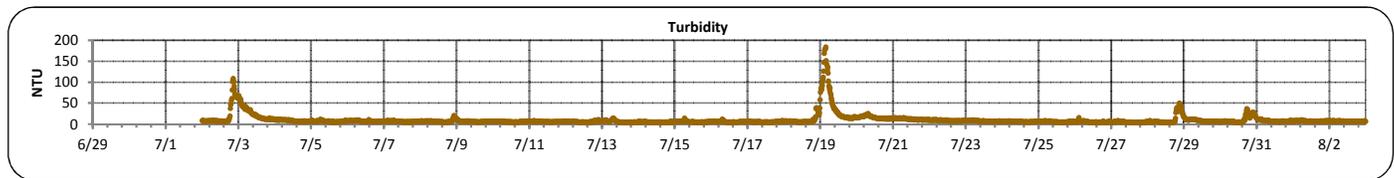
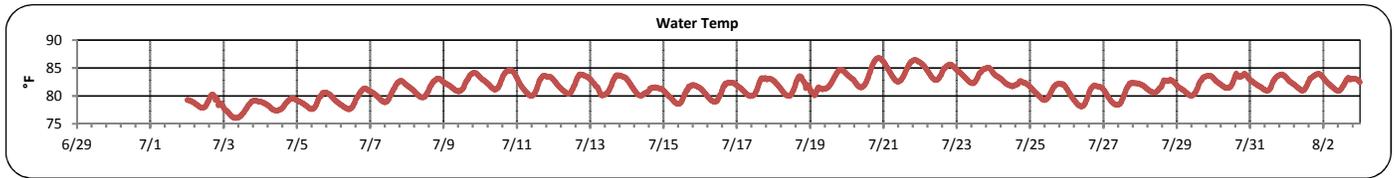
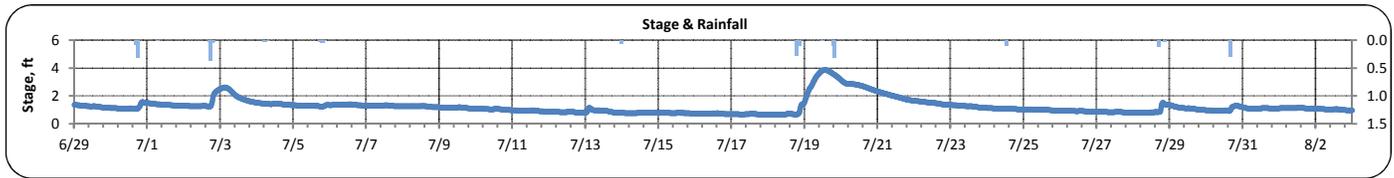
Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	Time	Results	Time	Results	Time	Results	Time	Results
<i>Escherichia coli</i> (MPN/100mL)								
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Notes:

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

Gills Creek C (June 29, 2015 -- August 2, 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):	0.7	3.9	1.1	1.2	0.5
LOCATION:	Bluff Road bridge	TEMPERATURE (°F):	76	87	82	82	2
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209	TURBIDITY (NTU):	4	184	6	10	14
COORDINATES:	33.948043, -80.9889	pH:	6.1	6.6	6.5	6.5	0.1
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen	SPECIFIC CONDUCTIVITY (mS/cm):	0.049	0.1	0.078	0.079	0.010
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	3.2	6.3	4.9	4.9	0.5
APPROX. DRAINAGE AREA:	64 square miles						
SPATIAL LOCATION:	Most downstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	7						
MAX. DAILY RAINFALL:	0.45 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 C (June 29, 2015 -- August 2, 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