

Gills Creek Monitoring Sites

Data Gaps

- The GILA sonde was unsubmerged during the majority of the second half of the deployment period. Additionally, the specific conductivity became unsubmerged for several brief periods during the first half of the deployment period. Several large storm events occurred in the early part of June; however, the period from June 13th through June 26th recorded very little rainfall, resulting in low flows in Gills Creek.
- 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 7.8, 5.0, and 5.3 mg/L, respectively. These averages were all lower than during the previous months, likely due to the warmer water temperatures as well as the low flows during the second half of the monitoring period. The GILB station experienced very low DO levels during the dry period of this month, reaching a minimum of just 1.2 mg/L. The GILC station recorded values above the 4 mg/L standard for much of the monitoring period, but the station recorded a minimum DO value of 2 mg/L during a suspected illicit discharge event on June 23rd.
- 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 GILB station recorded a maximum water temperature of 92°F during this deployment, but this does not appear to have been the result

Storm Events

- Several significant summer storm events moved through the monitored Gills Creek watershed during the early part of June; however, the period from June 13th through June 26th experienced essentially no rainfall. The largest recorded event occurred at GILC on the evening of June 1st, when over 3 inches of rain was recorded.
- All of the recorded storm events during this monitoring period resulted in increased DO levels in Gills Creek in the time immediately following the events.

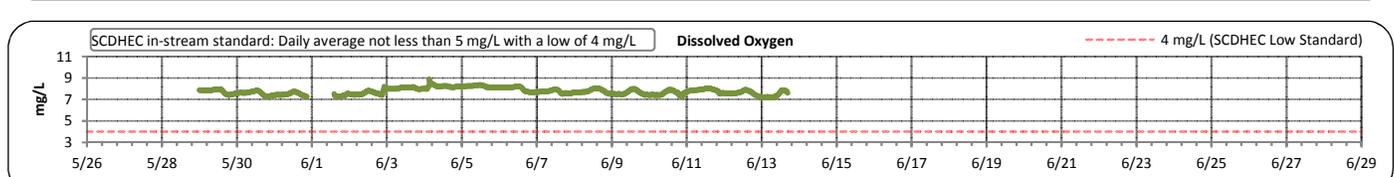
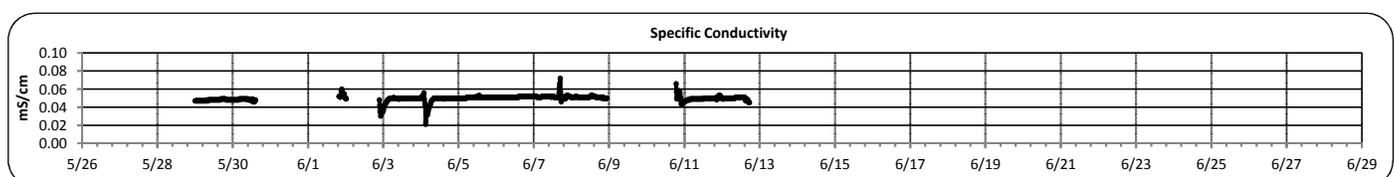
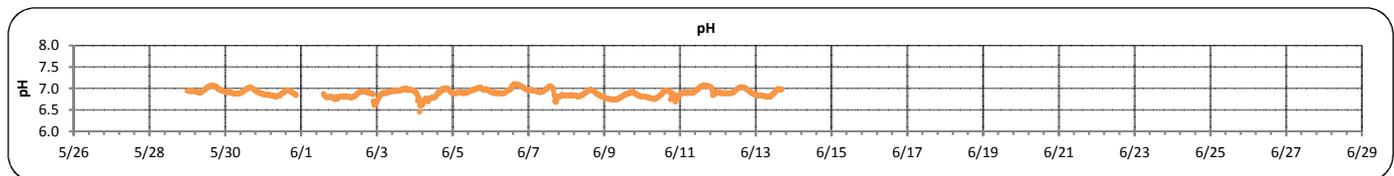
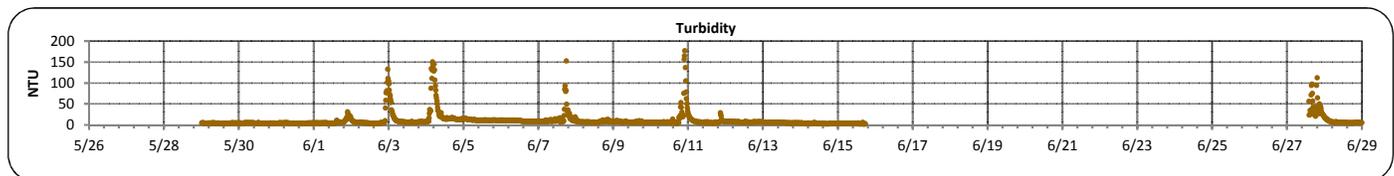
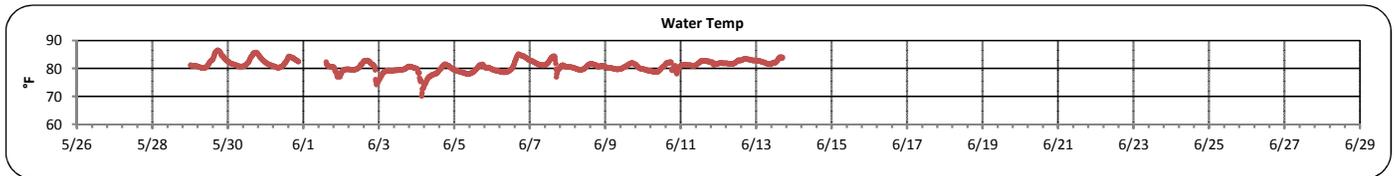
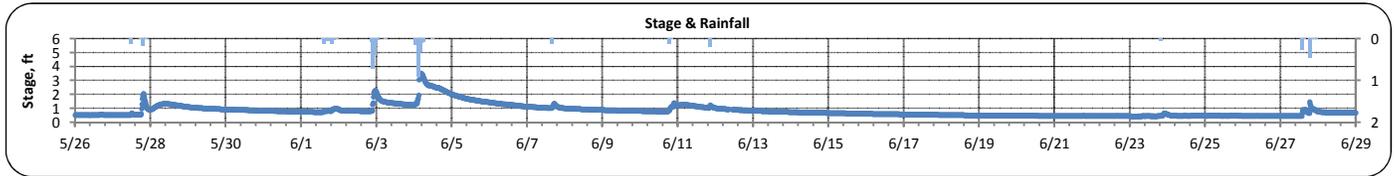
Potential Illicit Discharges and Abnormal Events

- At the GILA station, the specific conductivity in the creek was observed to increase during the small rain event on June 7th. This may have been the result of the washoff of an illicit substance or a sanitary sewer overflow.

- The GILB station recorded one small potential illicit discharge on June 16th, when the turbidity, pH, and specific conductivity became slightly elevated.
- At the GILC station, a potential illicit discharge event on June 23rd resulted in a small decrease and subsequent increase in the specific conductivity levels, a drop in the pH, and a significant decrease in DO levels, with the DO reaching a low value of 4 mg/L.

Gills Creek A (May 26, 2015 -- June 28, 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 | 3.5 | 0.8 | 0.8 | 0.4 |
| LOCATION: | Forest Drive Bridge | TEMPERATURE (°F): | 70 | 87 | 81 | 81 | 2 |
| ADDRESS: | 4840 Forest Drive, Columbia, SC 29206 | TURBIDITY (NTU): | 2 | 177 | 6 | 11 | 17 |
| COORDINATES: | 34.019826, -80.963566 | pH: | 6.5 | 7.1 | 6.9 | 6.9 | 0.1 |
| TMDL/IMPAIRMENT: | Fecal & Dissolved Oxygen | SPECIFIC CONDUCTIVITY (mS/cm): | 0.021 | 0.072 | 0.050 | 0.050 | 0.003 |
| NEIGHBORING LANDUSE: | Residential and commercial | DISSOLVED OXYGEN (mg/L): | 7.2 | 8.9 | 7.8 | 7.8 | 0.3 |
| APPROX. DRAINAGE AREA: | 48 square miles | | | | | | |
| SPATIAL LOCATION: | Most upstream site | | | | | | |
| TOTAL NO. STORMS OVER 0.1 INCH: | 9 | | | | | | |
| MAX. DAILY RAINFALL: | 1.7 inches | | | | | | |
| TOTAL RAINFALL (FOR PERIOD): | 5.3 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 A (May 26, 2015 -- June 28, 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:

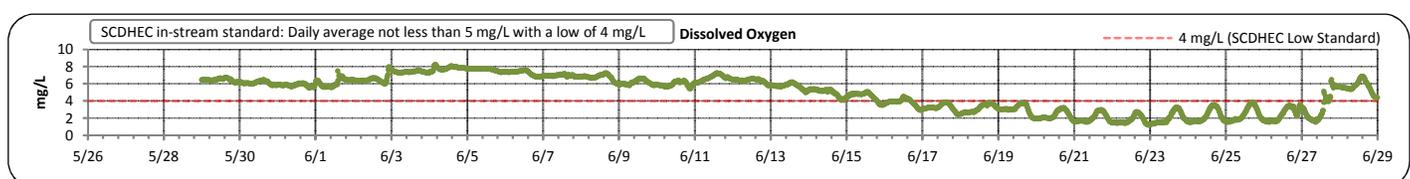
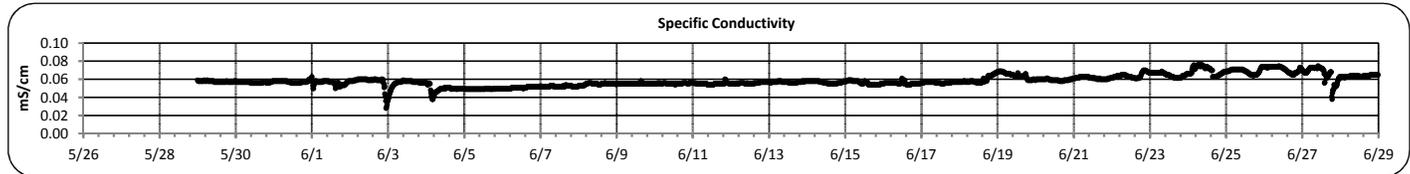
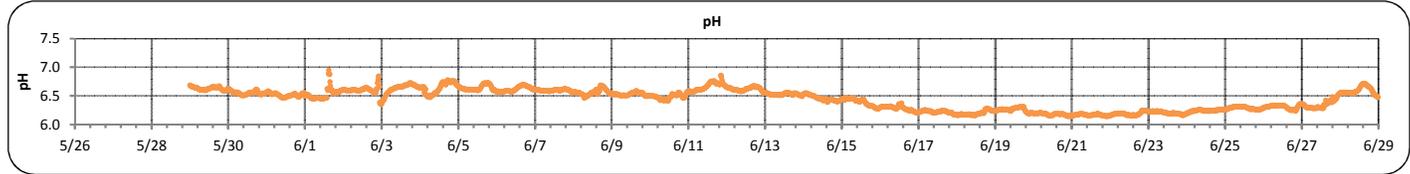
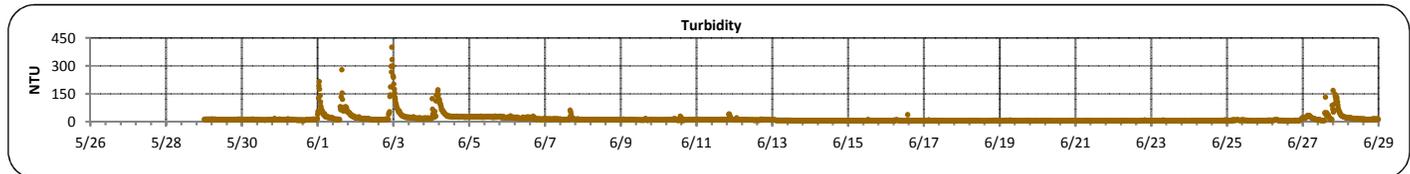
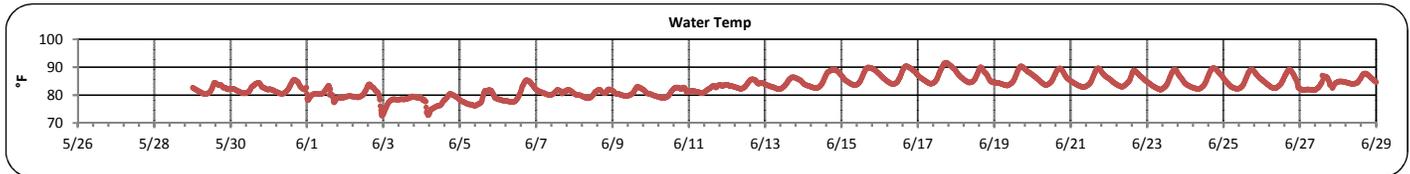
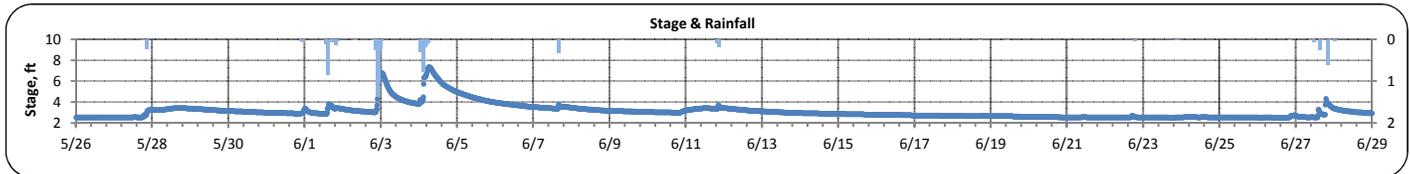
| Analyte (units) | Sample 1 | | Sample 2 | | Sample 3 | | Sample 4 | |
|--|----------|---------|----------|---------|----------|---------|----------|---------|
| | Time | Results | Time | Results | Time | Results | Time | Results |
| <i>Escherichia coli</i> (MPN/100mL) | | | | | | | | |
| Total Suspended 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 (May 26, 2015 -- June 28, 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 | 7.3 | 3.0 | 3.1 | 0.7 |
| LOCATION: | Devine Street bridge | TEMPERATURE (°F): | 73 | 92 | 83 | 83 | 3 |
| ADDRESS: | 4716 Devine Street Columbia, SC 29209 | TURBIDITY (NTU): | 3 | 401 | 9 | 14 | 24 |
| COORDINATES: | 33.989656, -80.97433 | pH: | 6.2 | 7.0 | 6.5 | 6.4 | 0.2 |
| TMDL/IMPAIRMENT: | Fecal & Dissolved Oxygen | SPECIFIC CONDUCTIVITY (mS/cm): | 0.028 | 0.076 | 0.057 | 0.058 | 0.006 |
| NEIGHBORING LANDUSE: | Residential and commercial | DISSOLVED OXYGEN (mg/L): | 1.2 | 8.3 | 5.7 | 5.0 | 2.0 |
| APPROX. DRAINAGE AREA: | 59 square miles | | | | | | |
| SPATIAL LOCATION: | Middle site | | | | | | |
| TOTAL NO. STORMS OVER 0.1 INCH: | 8 | | | | | | |
| MAX. DAILY RAINFALL: | 2.9 inches | | | | | | |
| TOTAL RAINFALL (FOR PERIOD): | 7.9 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 (May 26, 2015 -- June 28, 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:

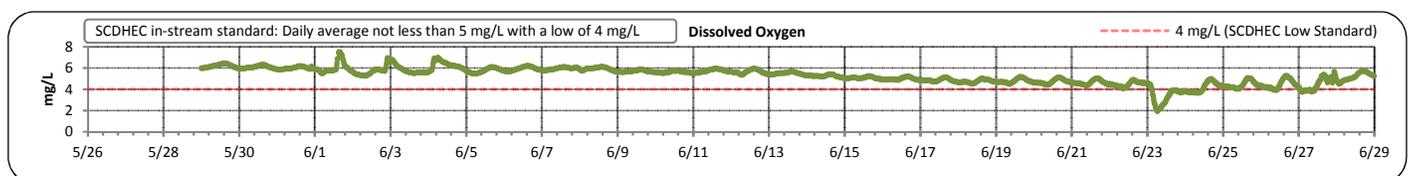
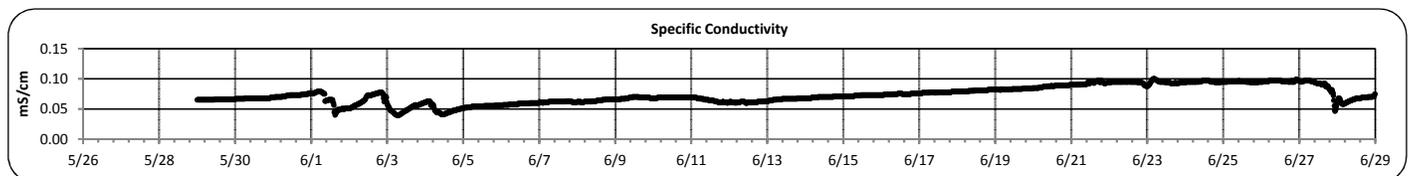
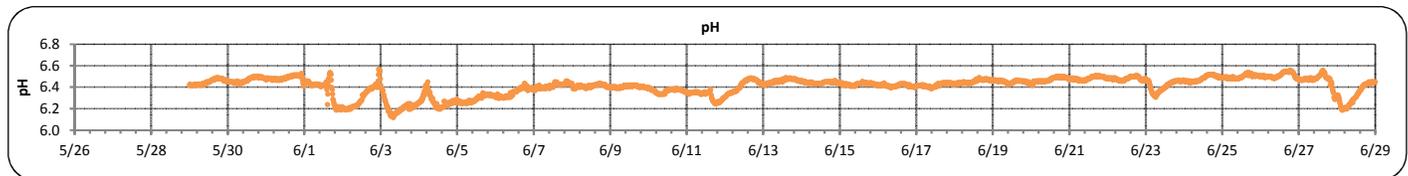
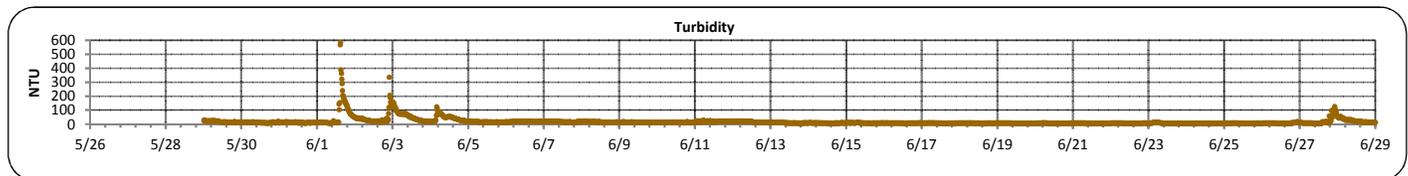
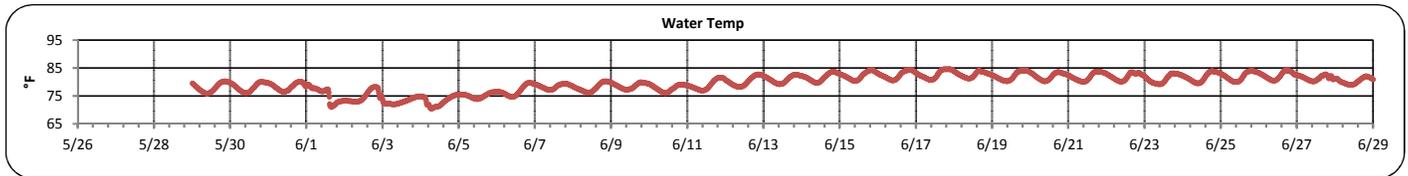
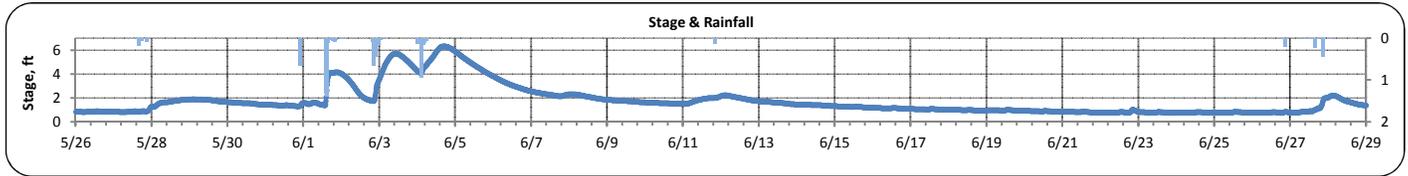
| Analyte (units) | Sample 1 | | Sample 2 | | Sample 3 | | Sample 4 | |
|--|----------|---------|----------|---------|----------|---------|----------|---------|
| | Time | Results | Time | Results | Time | Results | Time | Results |
| <i>Escherichia coli</i> (MPN/100mL) | | | | | | | | |
| Total Suspended 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 (May 26, 2015 -- June 28, 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 | 6.4 | 1.4 | 1.8 | 1.2 |
| LOCATION: | Bluff Road bridge | TEMPERATURE (°F): | 70 | 85 | 80 | 80 | 3 |
| ADDRESS: | 3009 Bluff Rd. Columbia, SC 29209 | TURBIDITY (NTU): | 5 | 585 | 10 | 17 | 28 |
| COORDINATES: | 33.948043, -80.98889 | pH: | 6.1 | 6.6 | 6.4 | 6.4 | 0.1 |
| TMDL/IMPAIRMENT: | Fecal & Dissolved Oxygen | SPECIFIC CONDUCTIVITY (mS/cm): | 0.04 | 0.1 | 0.07 | 0.073 | 0.014 |
| NEIGHBORING LANDUSE: | Residential and commercial | DISSOLVED OXYGEN (mg/L): | 2.0 | 7.6 | 5.5 | 5.3 | 0.8 |
| APPROX. DRAINAGE AREA: | 64 square miles | | | | | | |
| SPATIAL LOCATION: | Most downstream site | | | | | | |
| TOTAL NO. STORMS OVER 0.1 INCH: | 9 | | | | | | |
| MAX. DAILY RAINFALL: | 3.05 inches | | | | | | |
| TOTAL RAINFALL (FOR PERIOD): | 8.3 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 (May 26, 2015 -- June 28, 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 | |
|--|----------|---------|----------|---------|----------|---------|----------|---------|
| | 6/1/2015 | | | | | | | |
| | Time | Results | Time | Results | Time | Results | Time | Results |
| <i>Escherichia coli</i> (MPN/100mL) | 15:34 | 9,208 | | | | | | |
| 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