Gills Creek Monitoring Sites

Data Gaps

- The GILA sonde was unsubmerged for a significant portion of this monitoring period. Only 1.4 inches of precipitation was recorded during this monitoring period, resulting in low flows at the GILA station. The specific conductivity probe became unsubmerged on May 3rd, and did not record accurate data for the remainder of the deployment. The water temperature probe became unsubmerged on May 6th, causing inaccurate dissolved oxygen and pH measurements, since these parameters are dependent upon recorded water temperature values. The turbidity probe also became unsubmerged for several days towards the end of the deployment.
- 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 8.3, 6.4, and 6.2 mg/L, respectively, well above the daily average limit of 5 mg/L. As water temperatures continue to increase with the warmer season, DO levels have continued to drop in the creek, as would be expected. The instantaneous minimum limit of 4 mg/L was not violated at the GILA or GILC stations; however, the GILB station did record several periods of DO levels below the 4 mg/L standard. These values were recorded in the last few days of the deployment, when the stage at the GILB station was especially low, and the water in the vicinity of the station would have been fairly stagnant.
- The pH standard was not violated at any of the Gills Creek monitoring stations during this deployment.

Storm Events

- This monitoring period included a small number of storm events. The GILA station experienced 5 separate events, while the GILB and GILC stations saw only 4. None of the observed events exceeded the 1 inch precipitation level.
- During the small storm event on April 25th, the specific conductivity at the GILA station increased, contrary to typical water quality storm responses. This was also observed during several of the smaller storms events in the previous deployment. It may be that during these small rain events, surface pollutants are washed into Gills Creek, but too little runoff is generated to result in the typically observed dilution effect of storm events.

Potential Illicit Discharges and Abnormal Events

- At the GILC station, one minor potential illicit discharge was noted on April 24th, from 11am to 3pm. The stage was observed to have increased slightly (0.3 ft) while the DO decreased.

City of Columbia, SC Stormwater Management
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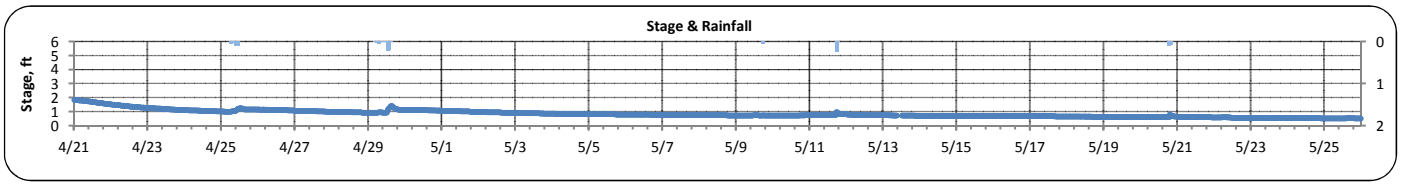
Continuous Water Quality Monitoring Periodic Report

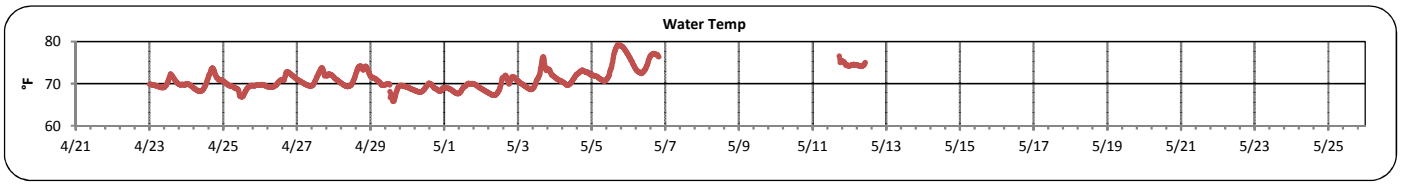
Gills Creek A (April 21, 2015 -- May 25, 2015)

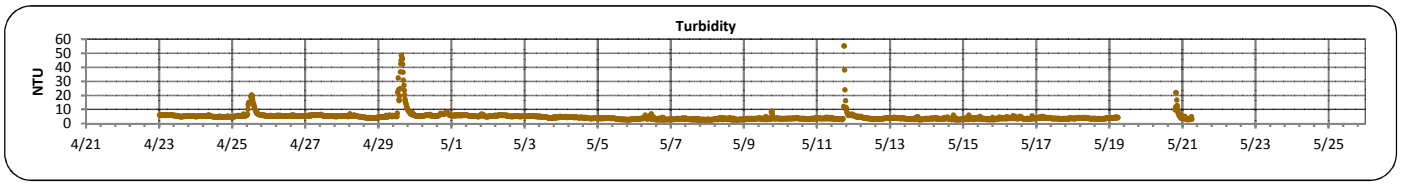
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

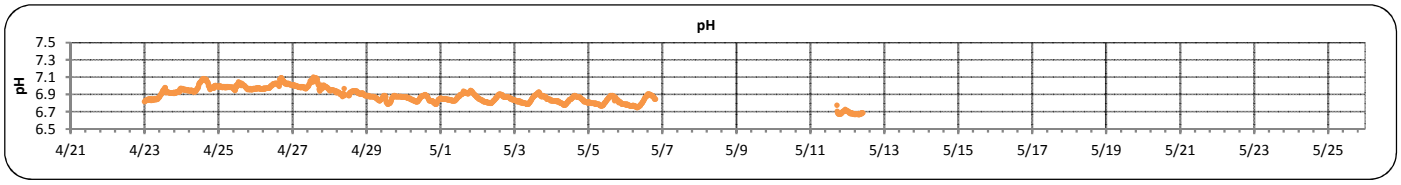
PARAMETER	DESCRIPTION
STREAM NAME:	Gills Creek
LOCATION:	Forest Drive Bridge
ADDRESS:	4840 Forest Drive, Columbia, SC 29206
COORDINATES:	34.019826, -80.963566
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen
NEIGHBORING LANDUSE:	Residential and commercial
APPROX. DRAINAGE AREA:	48 square miles
SPATIAL LOCATION:	Most upstream site
TOTAL NO. STORMS OVER 0.1 INCH:	5
MAX. DAILY RAINFALL:	0.6 inches
TOTAL RAINFALL (FOR PERIOD):	1.4 inches

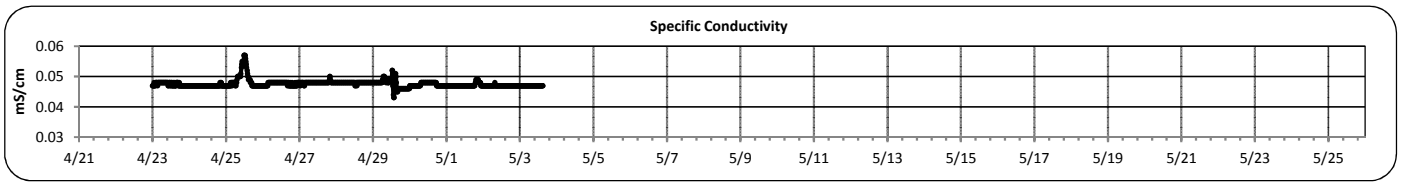
CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STAGE (FT):	0.5	1.8	0.8	0.9	0.3
TEMPERATURE (°F):	66	79	70	71	2
TURBIDITY (NTU):	2	55	4	5	3
pH:	6.7	7.1	6.9	6.9	0.1
SPECIFIC CONDUCTIVITY (mS/cm):	0.043	0.057	0.047	0.048	0.001
DISSOLVED OXYGEN (mg/L):	7.4	8.8	8.4	8.3	0.3

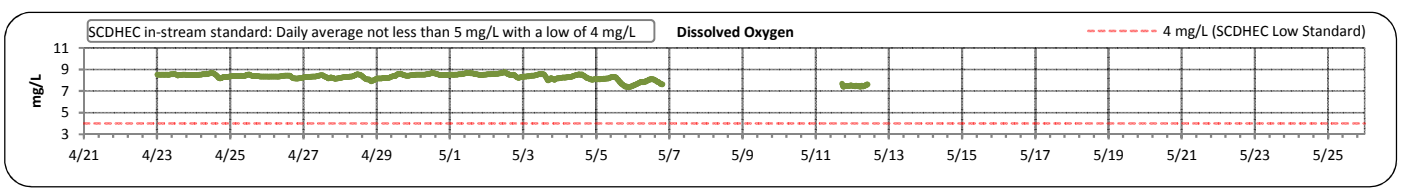












Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

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Continuous Water Quality
Monitoring Periodic Report

Gills Creek A (April 21, 2015 -- May 25, 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
Escherichia coli (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

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City of Columbia, SC Stormwater Management
Partnering for clean waterways

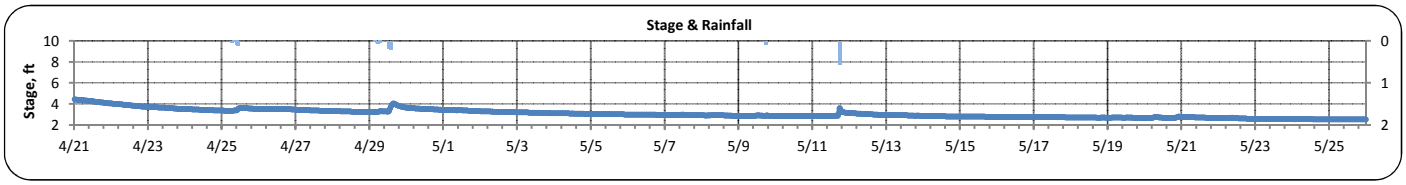
Continuous Water Quality Monitoring Periodic Report

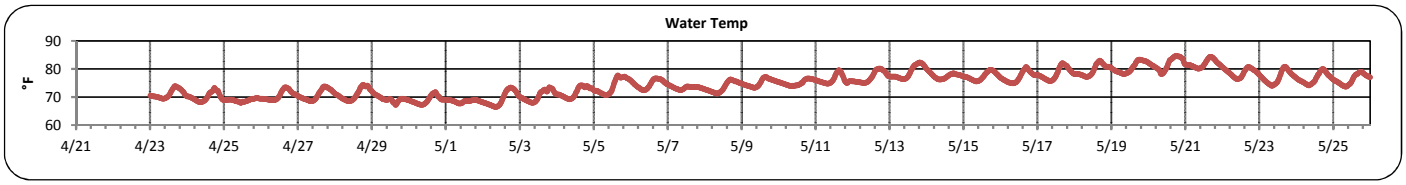
Gills Creek B (April 21, 2015 -- May 25, 2015)

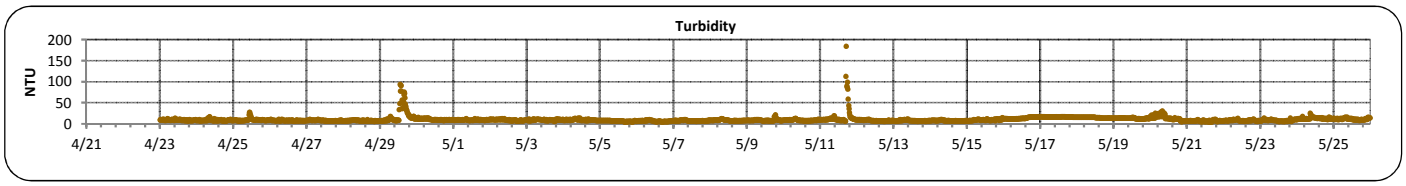
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

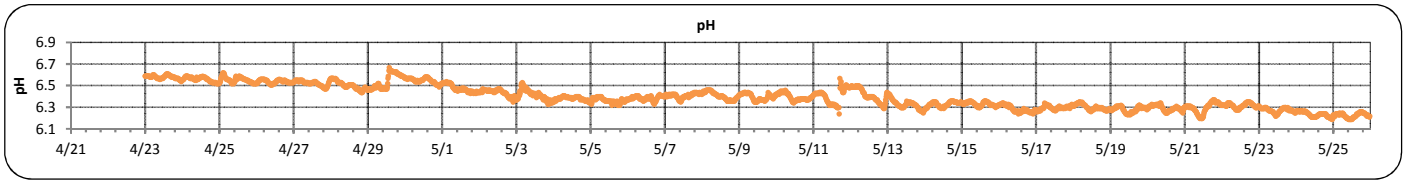
PARAMETER	DESCRIPTION
STREAM NAME:	Gills Creek
LOCATION:	Devine Street bridge
ADDRESS:	4716 Devine Street Columbia, SC 29209
COORDINATES:	33.989656, -80.97433
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen
NEIGHBORING LANDUSE:	Residential and commercial
APPROX. DRAINAGE AREA:	59 square miles
SPATIAL LOCATION:	Middle site
TOTAL NO. STORMS OVER 0.1 INCH:	4
MAX. DAILY RAINFALL:	0.6 inches
TOTAL RAINFALL (FOR PERIOD):	1.6 inches

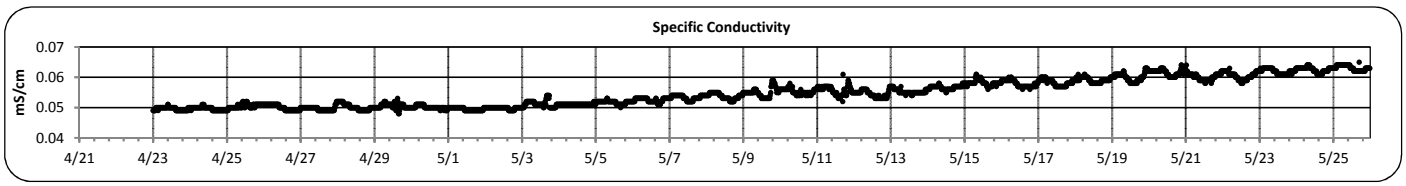
CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STAGE (FT):	2.5	4.5	3.0	3.1	0.4
TEMPERATURE (°F):	66	85	75	75	4
TURBIDITY (NTU):	4	184	9	10	7
pH:	6.2	6.7	6.4	6.4	0.1
SPECIFIC CONDUCTIVITY (mS/cm):	0.048	0.065	0.054	0.055	0.005
DISSOLVED OXYGEN (mg/L):	3.7	8.4	6.5	6.4	1.2

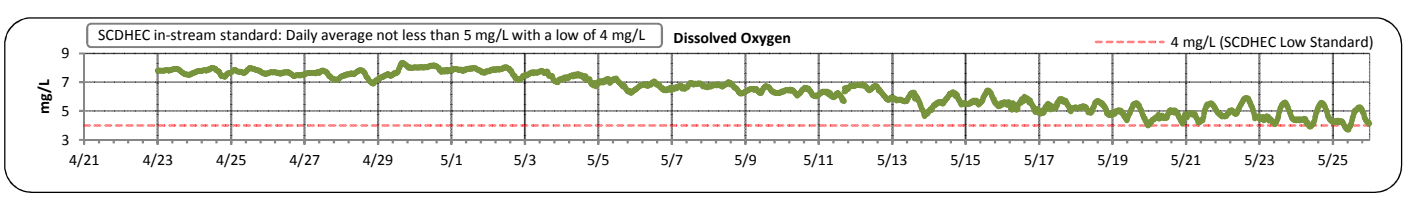












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Continuous Water Quality
Monitoring Periodic Report

Gills Creek B (April 21, 2015 -- May 25, 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.
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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
Escherichia coli (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

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City of Columbia, SC Stormwater Management
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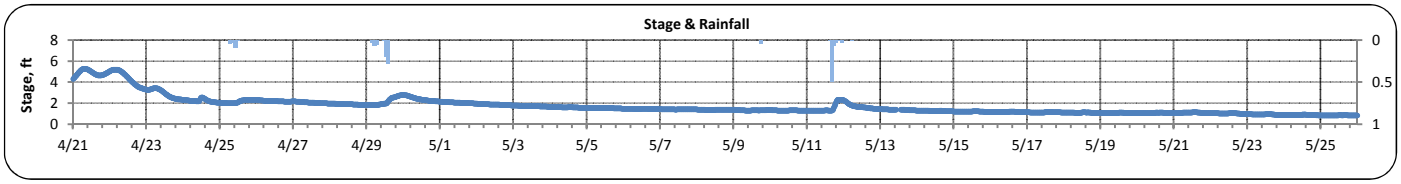
Continuous Water Quality Monitoring Periodic Report

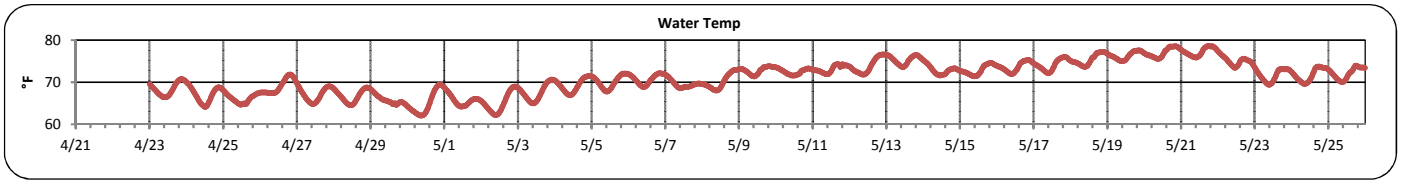
Gills Creek C (April 21, 2015 -- May 25, 2015)

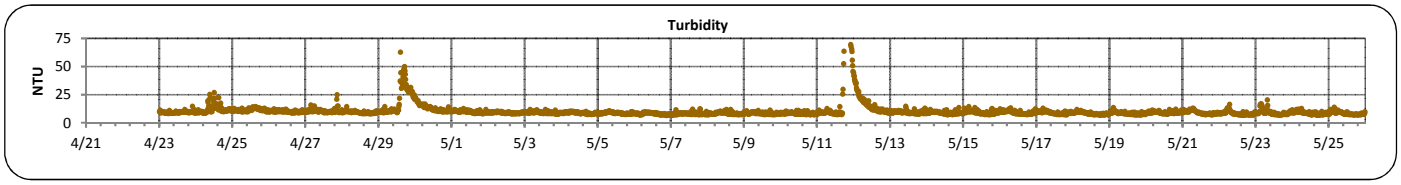
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

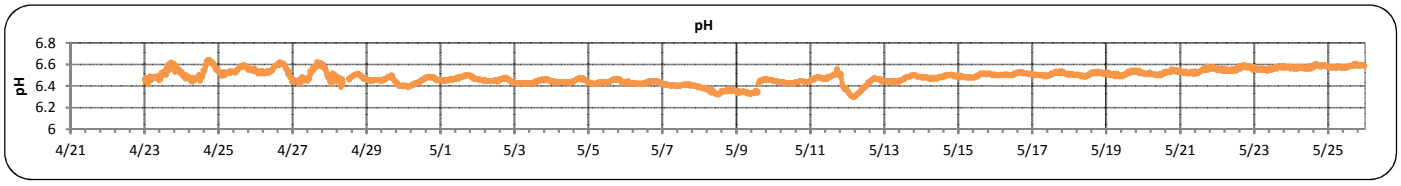
PARAMETER	DESCRIPTION
STREAM NAME:	Gills Creek
LOCATION:	Bluff Road bridge
ADDRESS:	3009 Bluff Rd. Columbia, SC 29209
COORDINATES:	33.948043, -80.9889
TMDL/IMPAIRMENT:	Fecal & Dissolved Oxygen
NEIGHBORING LANDUSE:	Residential and commercial
APPROX. DRAINAGE AREA:	64 square miles
SPATIAL LOCATION:	Most downstream site
TOTAL NO. STORMS OVER 0.1 INCH:	4
MAX. DAILY RAINFALL:	0.7 inches
TOTAL RAINFALL (FOR PERIOD):	1.7 inches

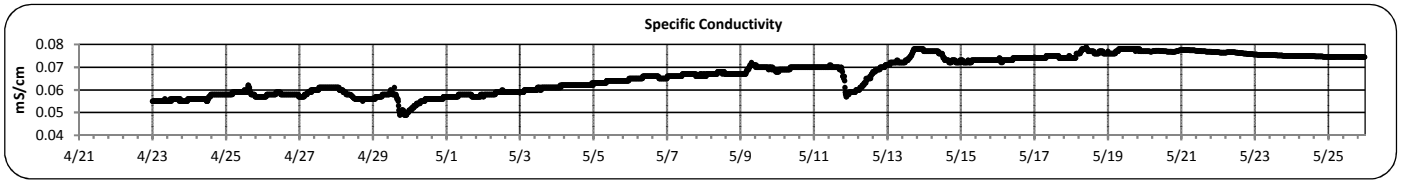
CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STAGE (FT):	0.8	5.3	1.4	1.7	0.9
TEMPERATURE (°F):	62	79	72	71	4
TURBIDITY (NTU):	6	153	9	11	9
pH:	6.3	6.6	6.5	6.5	0.1
SPECIFIC CONDUCTIVITY (mS/cm):	0.049	0.079	0.067	0.067	0.008
DISSOLVED OXYGEN (mg/L):	5.1	7.9	6.2	6.3	0.8

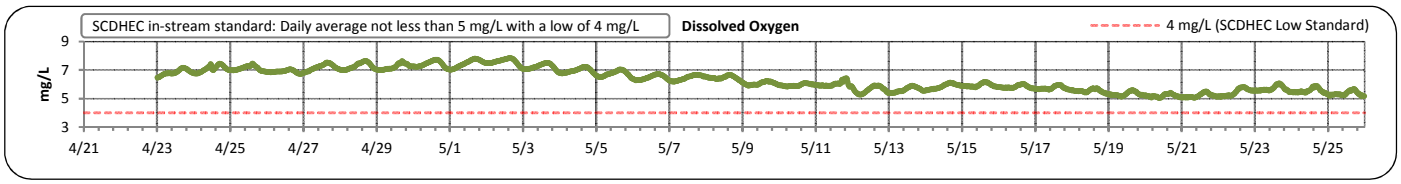












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Continuous Water Quality
Monitoring Periodic Report

Gills Creek C (April 21, 2015 -- May 25, 2015)

Explanation of Statistics:

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Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	Time	Results	Time	Results	Time	Results	Time	Results
Escherichia coli (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

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