LAKEWATCH Report for Brushy Creek-SR64 in Hardee County
Watershed Region: West Central
Using Data Downloaded 2-12-2019

Introduction for River/Stream

This report summarizes data collected on systems that have been part of the LAKEWATCH program. Data are from the period of record for individual systems. The first part of this summary lists background data for each system, the second part lists the long-term data geometric means and ranges and the final part are the trend plots for nutrients, chlorophyll and Secchi depth. Plots were only made for systems with five or more years of data.

For decades Florida has had a narrative nutrient water quality criterion in place to protect Florida's waters against nutrient over-enrichment. In 2009, the Florida Department of Environmental Protection (FDEP) initiated rulemaking and, by 2011, adopted what would be the first set of statewide numeric nutrient standards for Florida's waters. By 2015, almost all the remaining waters in Florida have numeric nutrient standards (see for FDEP Regulation Nutrient Criteria's for: Streams, spring vents: https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.531).

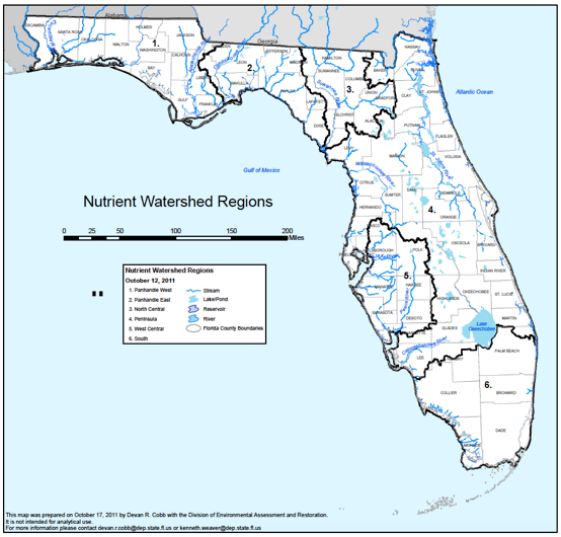


Figure 1. Map showing nutrient thresholds areas for streams set forth by FDEP.

Table 1. The nutrient thresholds for streams are listed in table below along with the map showing zones.

Nutrient Watershed Region	Total Phosphorus Nutrient Threshold[1]	Total Nitrogen Nutrient Threshold[1]
Panhandle West	60 µg/L	670 µg/L
Panhandle East	180 µg/L	1030 µg/L
North Central	300 µ/L	1870 µg/L
Peninsular	120 µg/L	1540 µg/L
West Central	490 µg/L	1650 µg/L
South Florida	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.

[1]These values are annual geometric mean concentrations not to be exceeded more than once in any three calendar year periods.

Base File Data for River/Streams: Definitions

- **County**: Name of county in which the system resides.
- **Name**: Stream name that LAKEWATCH uses for the system.
- **Water Body Type**: Four different types of systems; lakes, estuaries, river/streams and springs.
- **Period of Record (years)**: Number of years a system has been in the LAKEWATCH program.
- **Latitude and Longitude**: Coordinates identifying the exact location of station 1 for each system.

Table 2. Base File Data.

County	Hardee
Name	Brushy Creek-SR64
Water Body Type	River/Stream
Period of Record (years, range)	2 (2007 to 2008)
Latitude	27.4848
Longitude	-81.9677

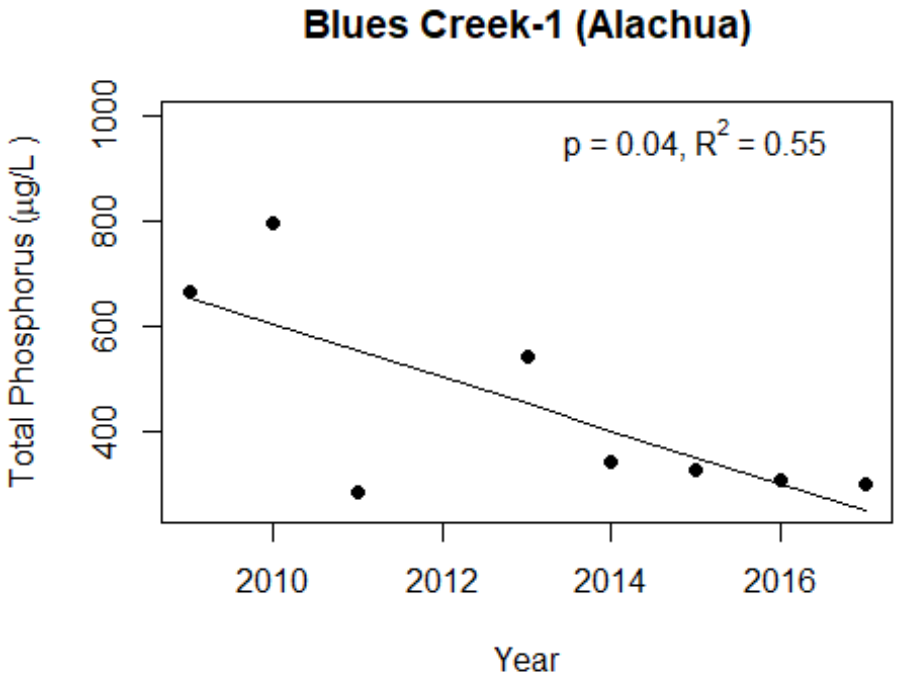
Long-Term Data for River/Streams: Definitions

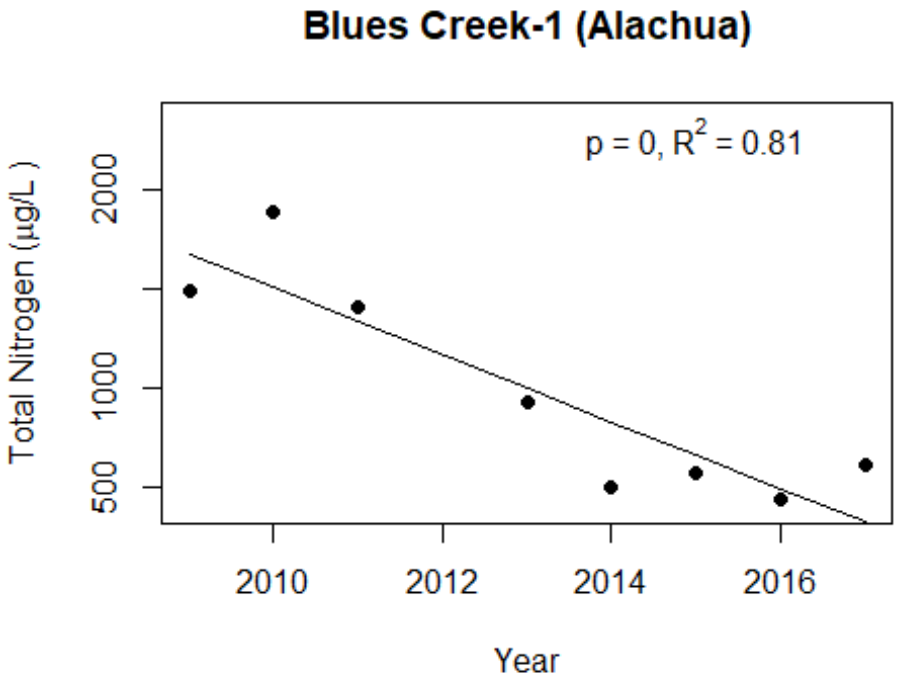
- **Total Phosphorus (µg/L)**: The nutrient most often limiting growth of plant/algae.
- **Total Nitrogen (µg/L)**: Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected (µg/L)**: Chlorophyll concentrations are used to measure relative abundances of open water algal population.
- **Secchi (ft), Secchi (m)**: Secchi measurements are estimates of water clarity.
- **Color (Pt-Co Units)**: LAKEWATCH measures true color, which is the color of the water after particles have been filter out.
- **Specific Conductance (µS/cm@25°C)**: Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolve materials in water.

Table 3. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus (µg/L)	50 - 1195	244 (2)
Total Nitrogen (µg/L)	851 - 3290	1673 (2)
Chlorophyll- uncorrected (µg/L)	2 - 9	4 (2)
Secchi (ft)	2.0 - 2.0	2.0 (1)
Secchi (m)	0.6 - 0.6	0.6 (1)
Color (Pt-Co Units)	48 - 644	176 (2)
Specific Conductance (µS/cm@25 C)	-	(0)

Figure 2 and Figure 3. Trend plots of annual average total phosphorus and annual average total nitrogen versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relation) and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on the plots.





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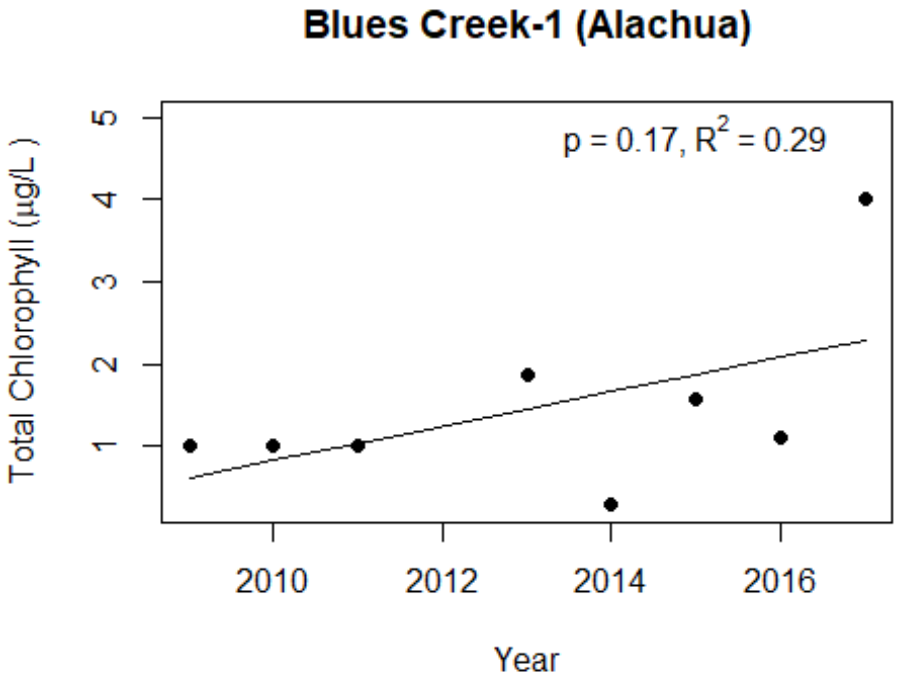

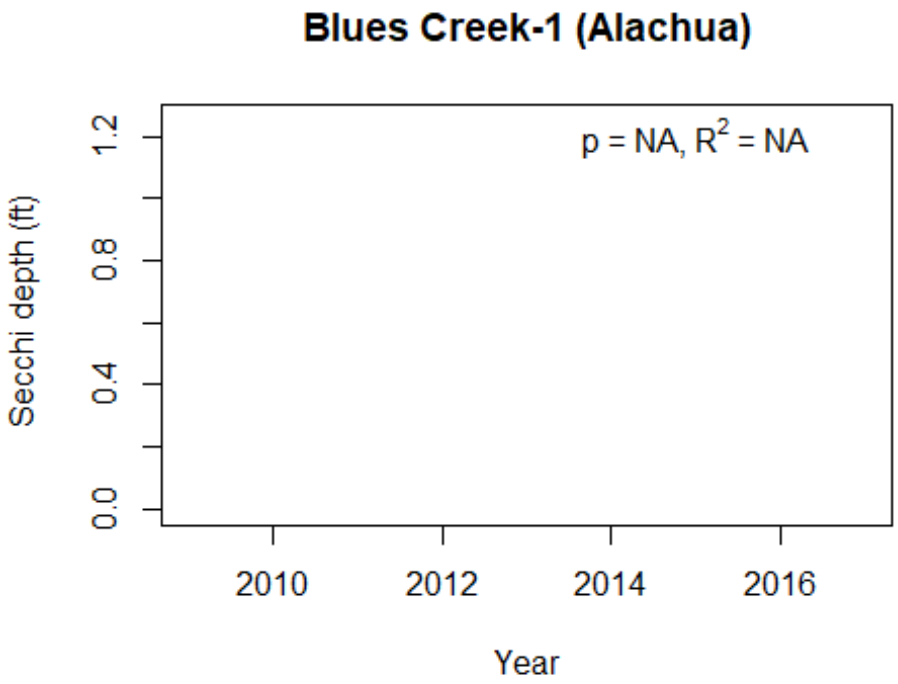

LAKEWATCH Report for Charlie Creek-SR64 in Hardee County
Watershed Region: West Central
Using Data Downloaded 2-12-2019

Introduction for River/Stream

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For decades Florida has had a narrative nutrient water quality criterion in place to protect Florida's waters against nutrient over-enrichment. In 2009, the Florida Department of Environmental Protection (FDEP) initiated rulemaking and, by 2011, adopted what would be the first set of statewide numeric nutrient standards for Florida's waters. By 2015, almost all the remaining waters in Florida have numeric nutrient standards (see for FDEP Regulation Nutrient Criteria's for: Streams, spring vents: https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.531).

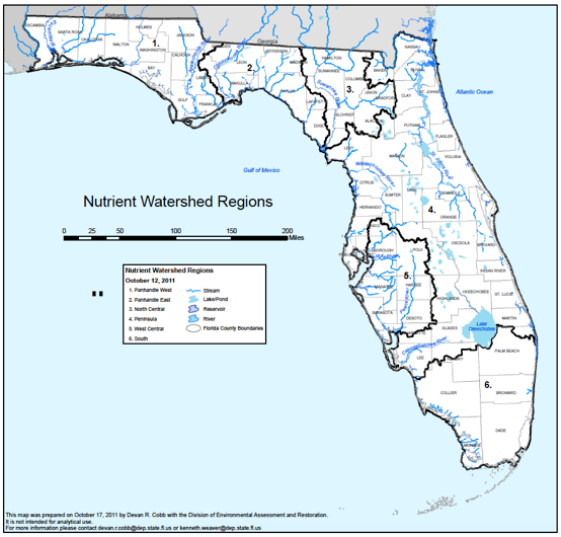

Figure 1. Map showing nutrient thresholds areas for streams set forth by FDEP.

Table 1. The nutrient thresholds for streams are listed in table below along with the map showing zones.

Nutrient Watershed Region	Total Phosphorus Nutrient Threshold[1]	Total Nitrogen Nutrient Threshold[1]
Panhandle West	60 µg/L	670 µg/L
Panhandle East	180 µg/L	1030 µg/L
North Central	300 µ/L	1870 µg/L
Peninsular	120 µg/L	1540 µg/L
West Central	490 µg/L	1650 µg/L
South Florida	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.

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Base File Data for River/Streams: Definitions

- **County**: Name of county in which the system resides.
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- **Water Body Type**: Four different types of systems; lakes, estuaries, river/streams and springs.
- **Period of Record (years)**: Number of years a system has been in the LAKEWATCH program.
- **Latitude and Longitude**: Coordinates identifying the exact location of station 1 for each system.

Table 2. Base File Data.

County	Hardee
Name	Charlie Creek-SR64
Water Body Type	River/Stream
Period of Record (years, range)	2 (2007 to 2008)
Latitude	27.5650
Longitude	-81.6377

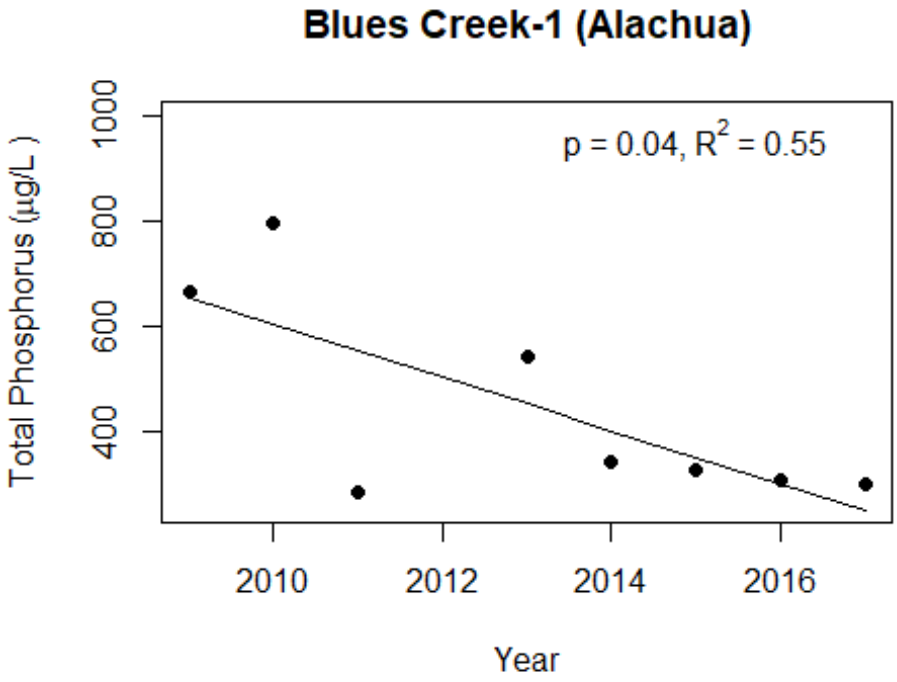
Long-Term Data for River/Streams: Definitions

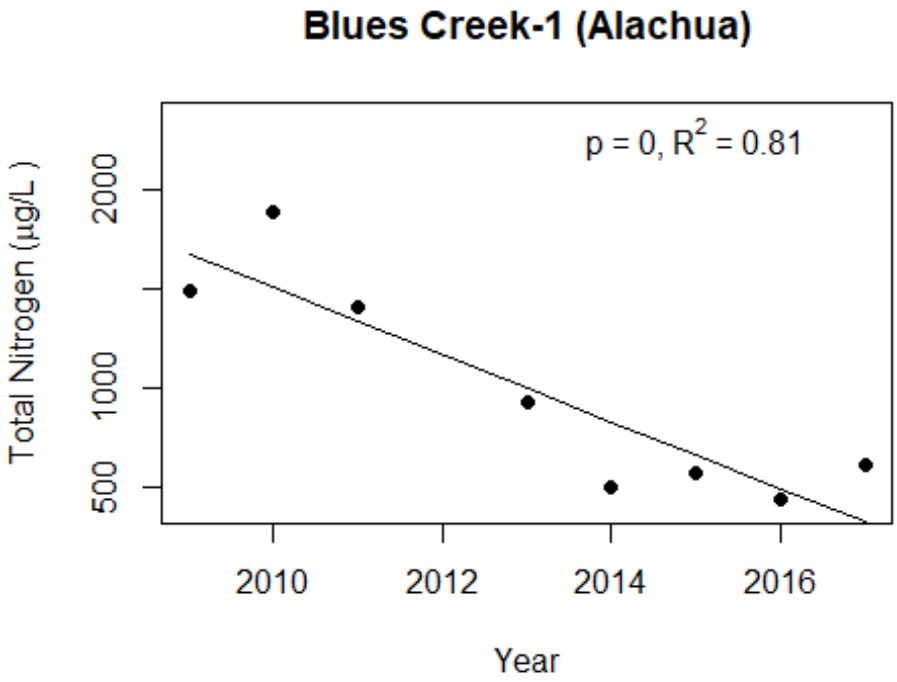
- **Total Phosphorus (µg/L)**: The nutrient most often limiting growth of plant/algae.
- **Total Nitrogen (µg/L)**: Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected (µg/L)**: Chlorophyll concentrations are used to measure relative abundances of open water algal population.
- **Secchi (ft), Secchi (m)**: Secchi measurements are estimates of water clarity.
- **Color (Pt-Co Units)**: LAKEWATCH measures true color, which is the color of the water after particles have been filter out.
- **Specific Conductance (µS/cm@25°C)**: Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolve materials in water.

Table 3. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus (µg/L)	238 - 820	441 (2)
Total Nitrogen (µg/L)	1649 - 3107	2264 (2)
Chlorophyll- uncorrected (µg/L)	5 - 41	15 (2)
Secchi (ft)	1.8 - 3.0	2.3 (2)
Secchi (m)	0.5 - 0.9	0.7 (2)
Color (Pt-Co Units)	123 - 409	224 (2)
Specific Conductance (µS/cm@25 C)	-	(0)

Figure 2 and Figure 3. Trend plots of annual average total phosphorus and annual average total nitrogen versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relation) and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on the plots.





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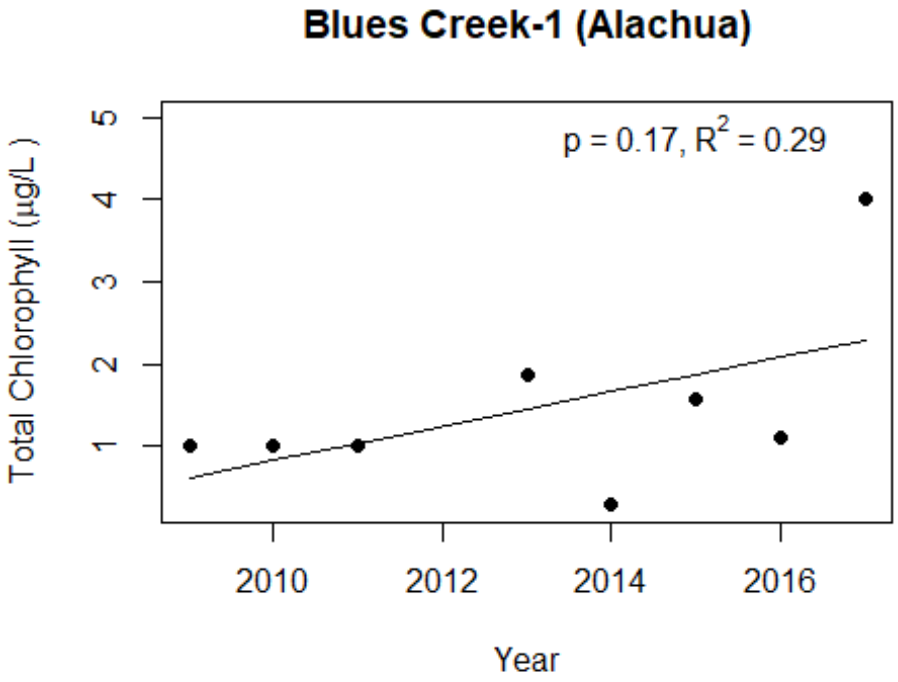

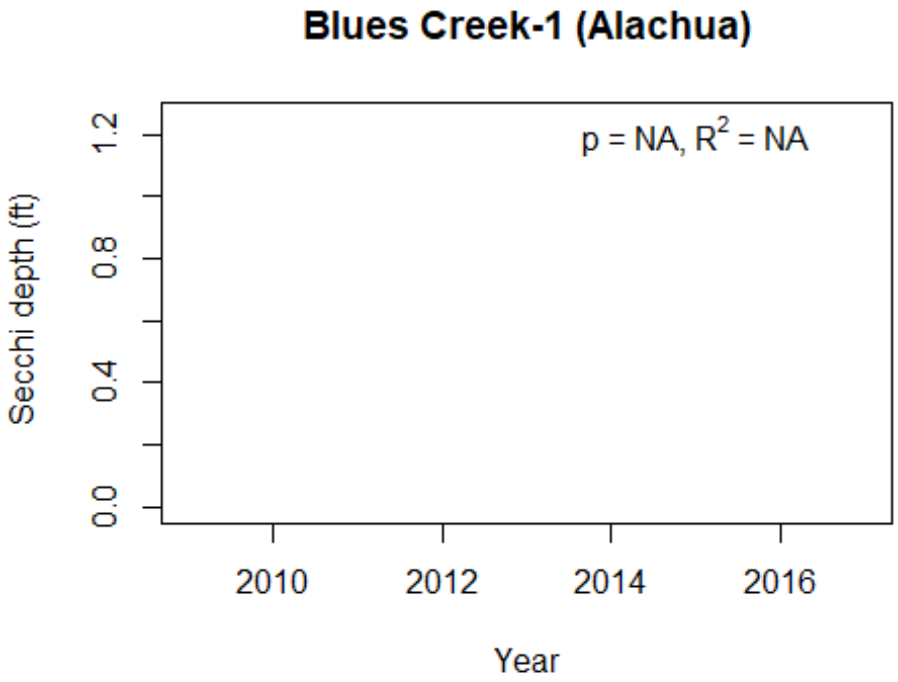

LAKEWATCH Report for Charlie Creek-SR66 in Hardee County
Watershed Region: West Central
Using Data Downloaded 2-12-2019

Introduction for River/Stream

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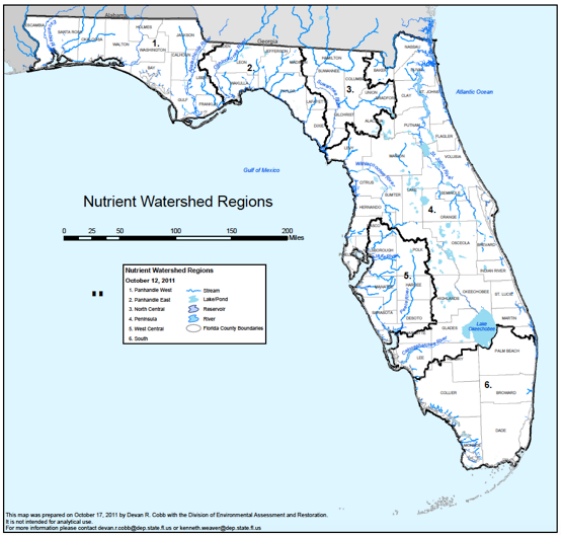

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Table 2. Base File Data.

County	Hardee
Name	Charlie Creek-SR66
Water Body Type	River/Stream
Period of Record (years, range)	2 (2007 to 2008)
Latitude	27.4584
Longitude	-81.6786

Long-Term Data for River/Streams: Definitions

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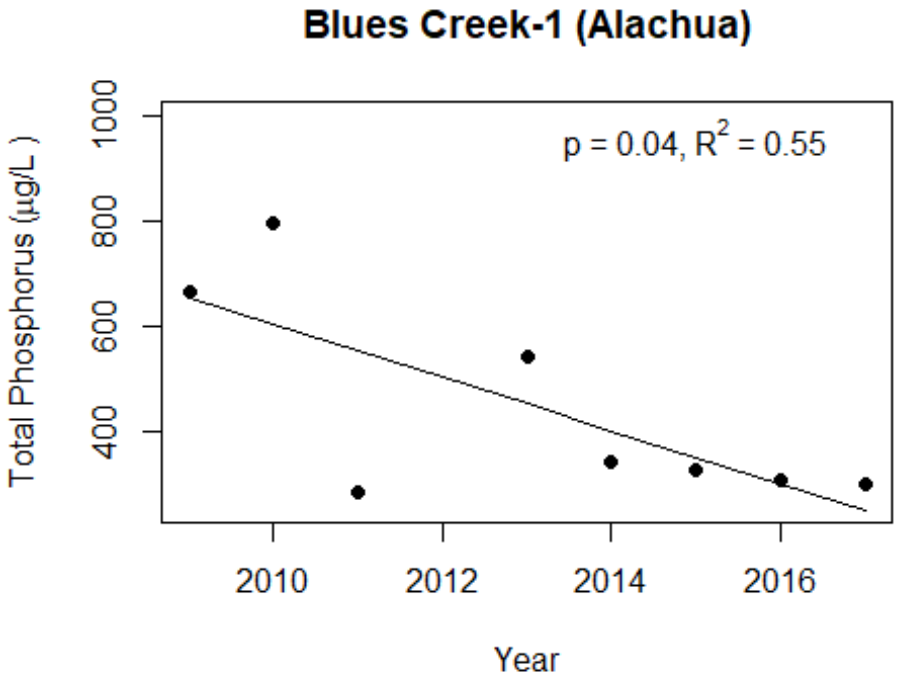
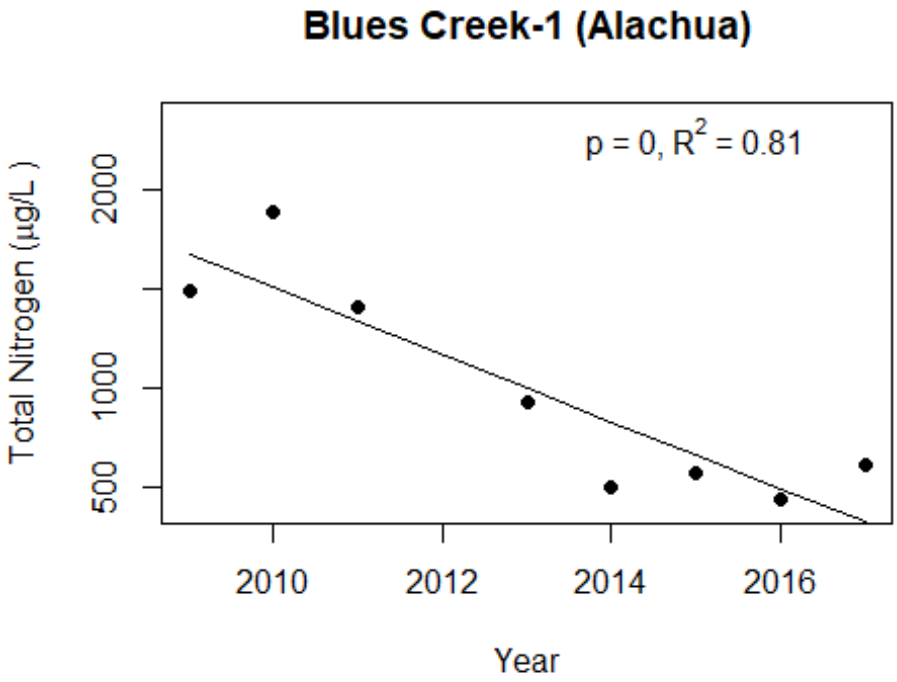
Table 3. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus (µg/L)	282 - 412	341 (2)
Total Nitrogen (µg/L)	1299 - 1696	1485 (2)
Chlorophyll- uncorrected (µg/L)	6 - 11	8 (2)
Secchi (ft)	1.1 - 2.0	1.5 (2)
Secchi (m)	0.3 - 0.6	0.5 (2)
Color (Pt-Co Units)	169 - 205	186 (2)
Specific Conductance (µS/cm@25 C)	-	(0)

Figure 2 and Figure 3. Trend plots of annual average total phosphorus and annual average total nitrogen versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relation) and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on the plots.





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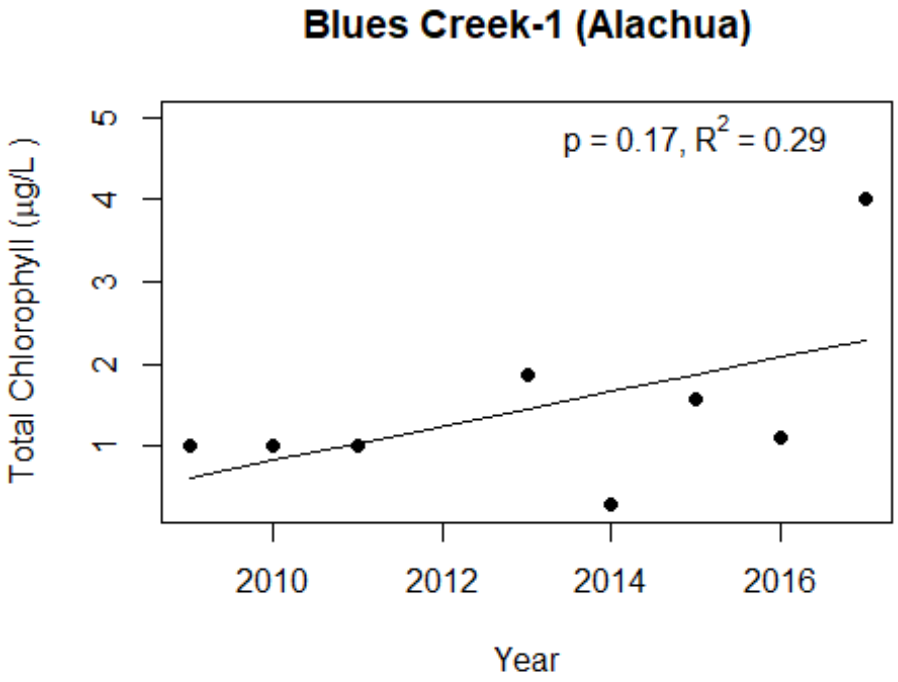

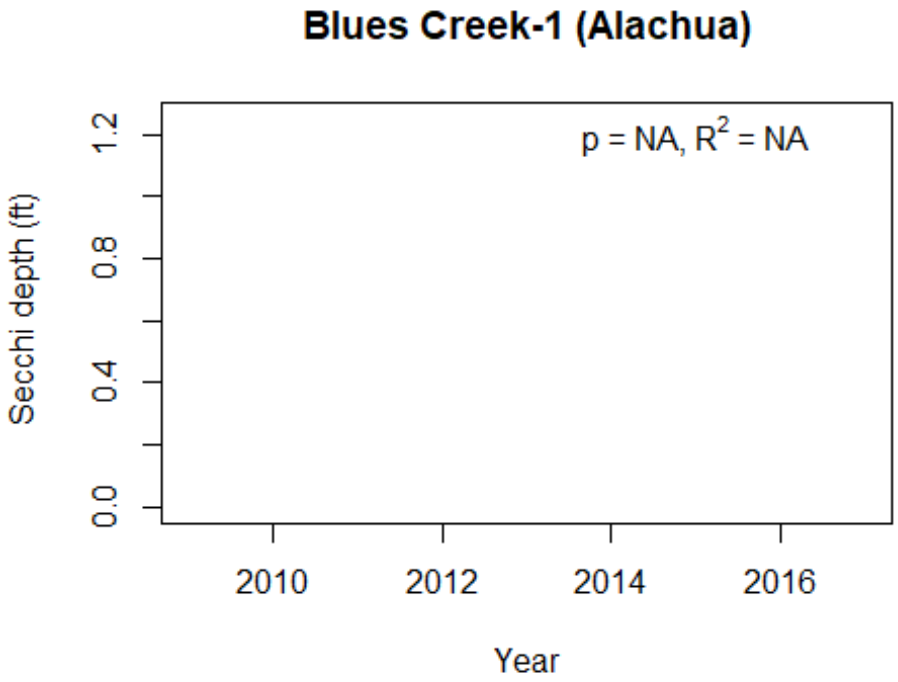

LAKEWATCH Report for Hickory Creek-CR661 in Hardee County
Watershed Region: West Central
Using Data Downloaded 2-12-2019

Introduction for River/Stream

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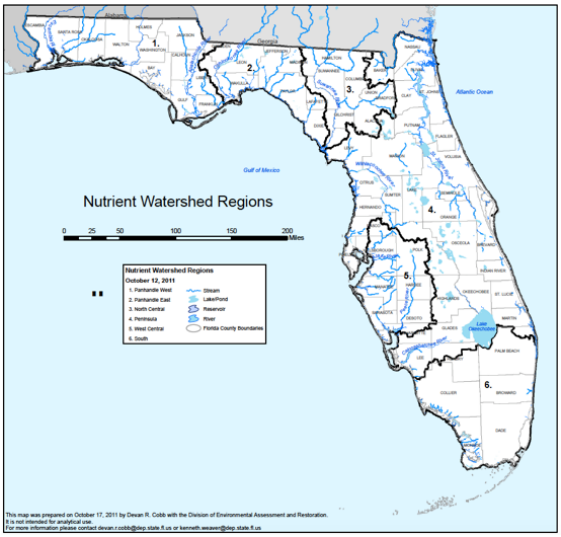

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Table 1. The nutrient thresholds for streams are listed in table below along with the map showing zones.

Nutrient Watershed Region	Total Phosphorus Nutrient Threshold[1]	Total Nitrogen Nutrient Threshold[1]
Panhandle West	60 µg/L	670 µg/L
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West Central	490 µg/L	1650 µg/L
South Florida	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.

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Base File Data for River/Streams: Definitions

- **County**: Name of county in which the system resides.
- **Name**: Stream name that LAKEWATCH uses for the system.
- **Water Body Type**: Four different types of systems; lakes, estuaries, river/streams and springs.
- **Period of Record (years)**: Number of years a system has been in the LAKEWATCH program.
- **Latitude and Longitude**: Coordinates identifying the exact location of station 1 for each system.

Table 2. Base File Data.

County	Hardee
Name	Hickory Creek-CR661
Water Body Type	River/Stream
Period of Record (years, range)	2 (2007 to 2008)
Latitude	27.4435
Longitude	-81.8750

Long-Term Data for River/Streams: Definitions

- **Total Phosphorus (µg/L)**: The nutrient most often limiting growth of plant/algae.
- **Total Nitrogen (µg/L)**: Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected (µg/L)**: Chlorophyll concentrations are used to measure relative abundances of open water algal population.
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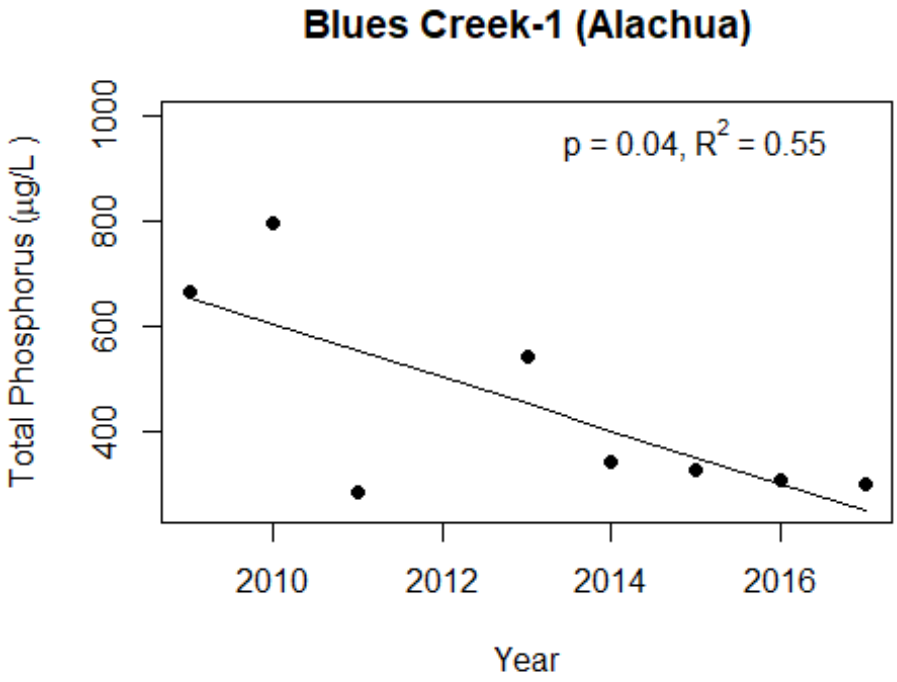
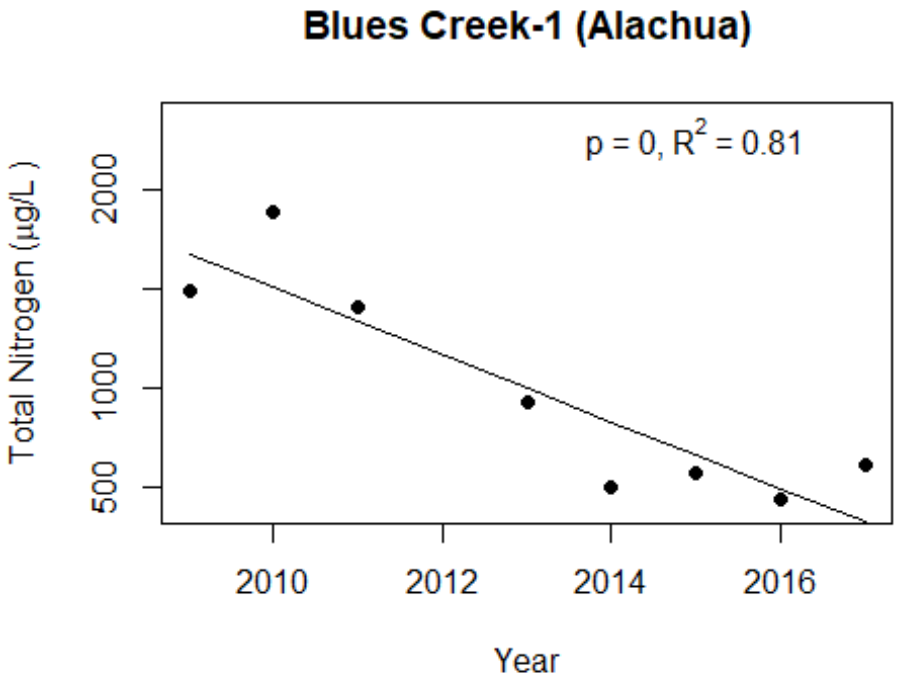
- **Specific Conductance (µS/cm@25°C)**: Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolve materials in water.

Table 3. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus (µg/L)	782 - 821	801 (2)
Total Nitrogen (µg/L)	530 - 2241	1090 (2)
Chlorophyll- uncorrected (µg/L)	2 - 4	3 (2)
Secchi (ft)	-	()
Secchi (m)	-	()
Color (Pt-Co Units)	22 - 323	84 (2)
Specific Conductance (µS/cm@25 C)	-	(0)

Figure 2 and Figure 3. Trend plots of annual average total phosphorus and annual average total nitrogen versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relation) and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on the plots.





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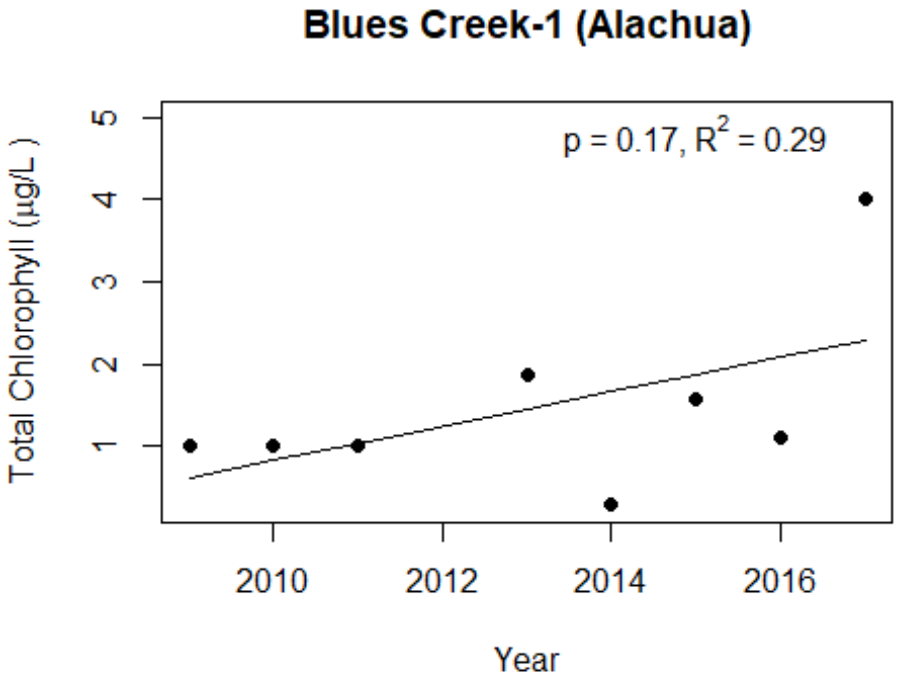

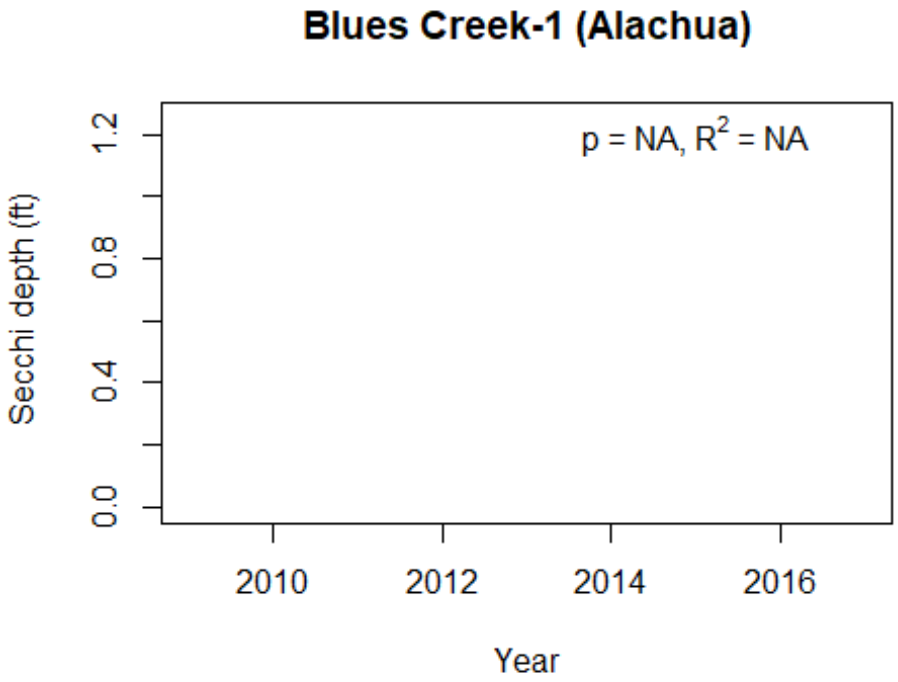

LAKEWATCH Report for Oak Creek-CR634 in Hardee County
Watershed Region: West Central
Using Data Downloaded 2-12-2019

Introduction for River/Stream

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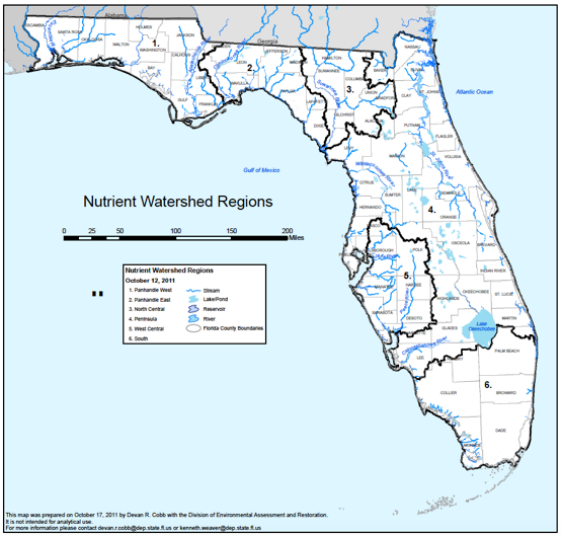

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Table 1. The nutrient thresholds for streams are listed in table below along with the map showing zones.

Nutrient Watershed Region	Total Phosphorus Nutrient Threshold[1]	Total Nitrogen Nutrient Threshold[1]
Panhandle West	60 µg/L	670 µg/L
Panhandle East	180 µg/L	1030 µg/L
North Central	300 µ/L	1870 µg/L
Peninsular	120 µg/L	1540 µg/L
West Central	490 µg/L	1650 µg/L
South Florida	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.

[1]These values are annual geometric mean concentrations not to be exceeded more than once in any three calendar year periods.

Base File Data for River/Streams: Definitions

- **County**: Name of county in which the system resides.
- **Name**: Stream name that LAKEWATCH uses for the system.
- **Water Body Type**: Four different types of systems; lakes, estuaries, river/streams and springs.
- **Period of Record (years)**: Number of years a system has been in the LAKEWATCH program.
- **Latitude and Longitude**: Coordinates identifying the exact location of station 1 for each system.

Table 2. Base File Data.

County	Hardee
Name	Oak Creek-CR634
Water Body Type	River/Stream
Period of Record (years, range)	2 (2007 to 2008)
Latitude	27.3996
Longitude	-81.6152

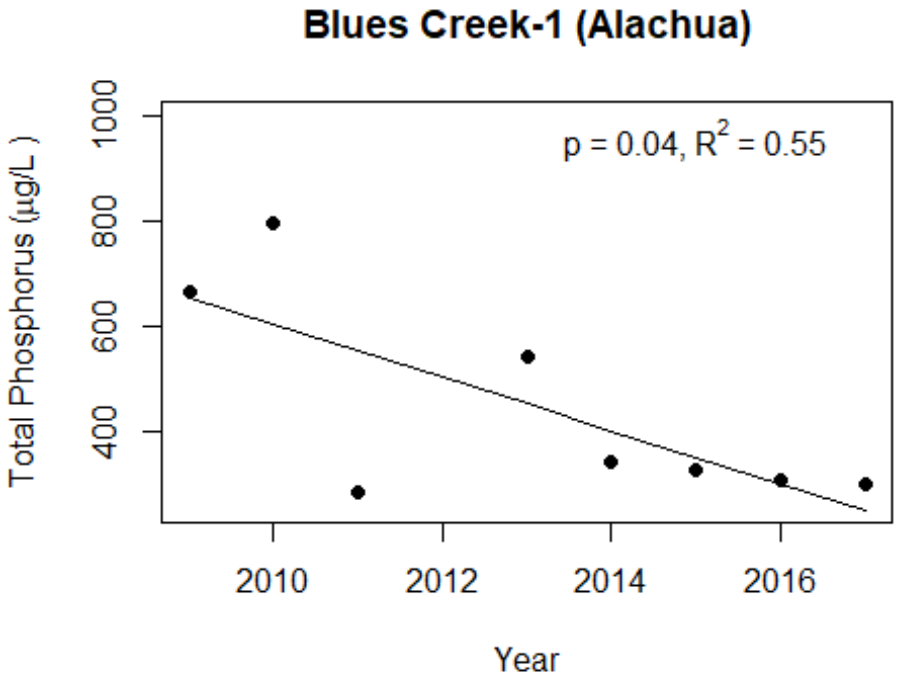
Long-Term Data for River/Streams: Definitions

- **Total Phosphorus (µg/L)**: The nutrient most often limiting growth of plant/algae.
- **Total Nitrogen (µg/L)**: Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected (µg/L)**: Chlorophyll concentrations are used to measure relative abundances of open water algal population.
- **Secchi (ft), Secchi (m)**: Secchi measurements are estimates of water clarity.
- **Color (Pt-Co Units)**: LAKEWATCH measures true color, which is the color of the water after particles have been filter out.
- **Specific Conductance (µS/cm@25°C)**: Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolve materials in water.

Table 3. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus (µg/L)	112 - 243	165 (2)
Total Nitrogen (µg/L)	1554 - 1789	1667 (2)
Chlorophyll- uncorrected (µg/L)	7 - 8	7 (2)
Secchi (ft)	2.4 - 2.6	2.5 (2)
Secchi (m)	0.7 - 0.8	0.8 (2)
Color (Pt-Co Units)	151 - 165	158 (2)
Specific Conductance (µS/cm@25 C)	-	(0)

Figure 2 and Figure 3. Trend plots of annual average total phosphorus and annual average total nitrogen versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relation) and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on the plots.



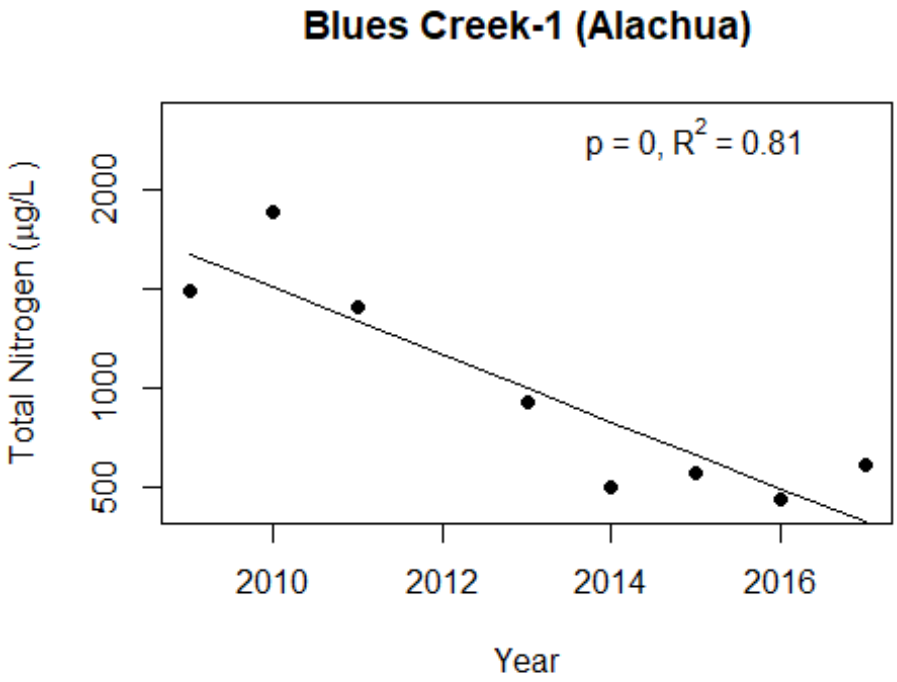
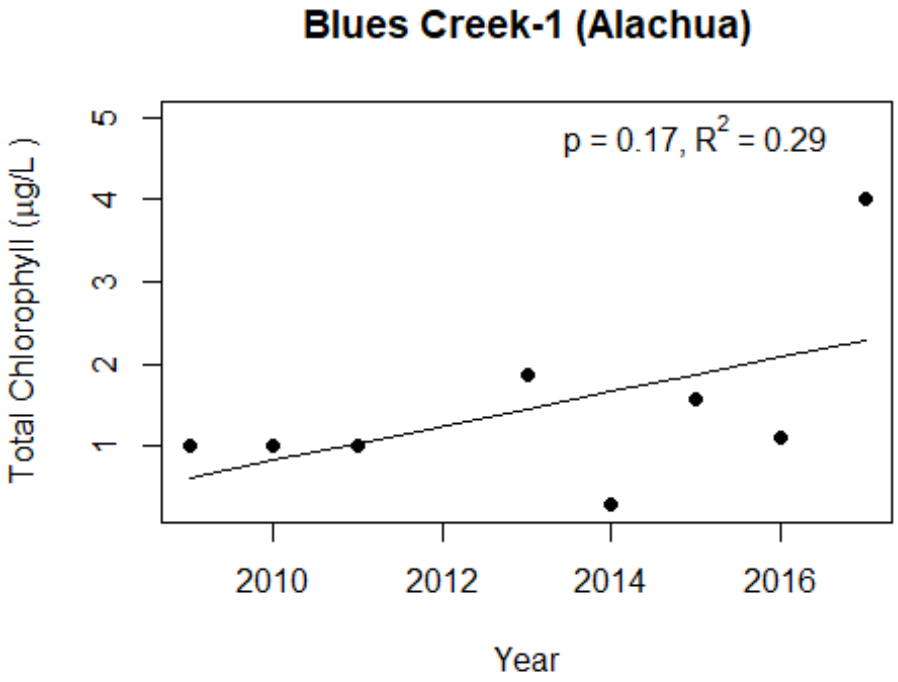
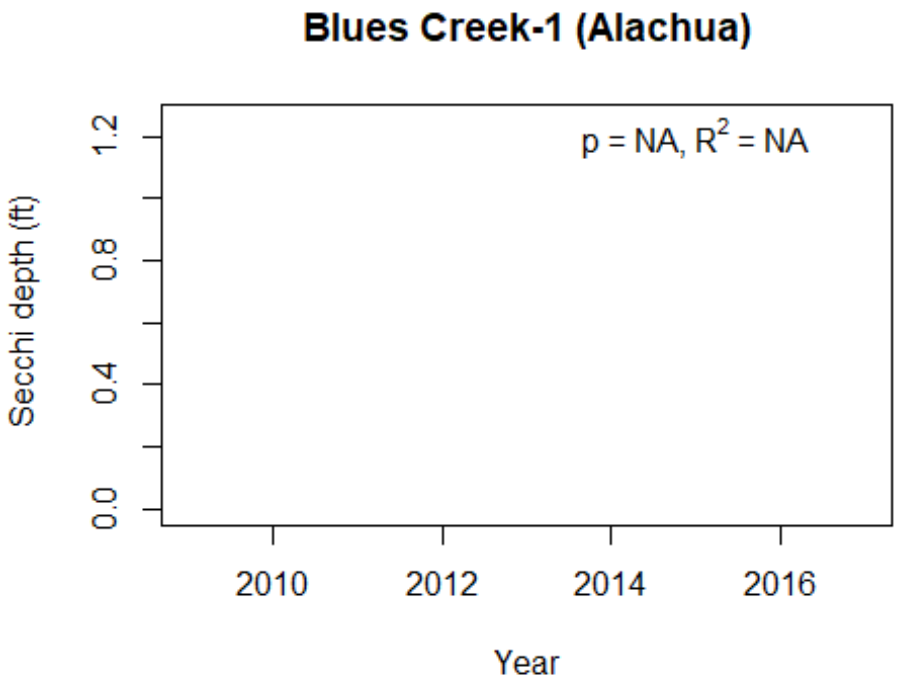


Figure 4 and Figure 5. Trend plots of annual average chlorophyll and annual average Secchi versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relations and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on plots.





LAKEWATCH Report for Oak Creek-CR661 in Hardee County
Watershed Region: West Central
Using Data Downloaded 2-12-2019

Introduction for River/Stream

This report summarizes data collected on systems that have been part of the LAKEWATCH program. Data are from the period of record for individual systems. The first part of this summary lists background data for each system, the second part lists the long-term data geometric means and ranges and the final part are the trend plots for nutrients, chlorophyll and Secchi depth. Plots were only made for systems with five or more years of data.

For decades Florida has had a narrative nutrient water quality criterion in place to protect Florida's waters against nutrient over-enrichment. In 2009, the Florida Department of Environmental Protection (FDEP) initiated rulemaking and, by 2011, adopted what would be the first set of statewide numeric nutrient standards for Florida's waters. By 2015, almost all the remaining waters in Florida have numeric nutrient standards (see for FDEP Regulation Nutrient Criteria's for: Streams, spring vents: https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.531).

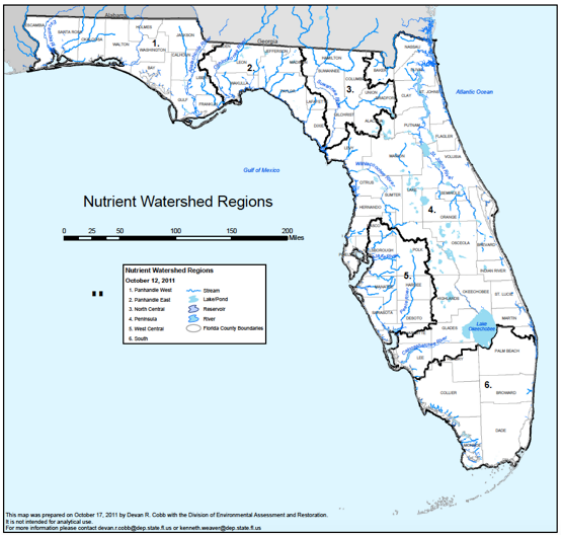


Figure 1. Map showing nutrient thresholds areas for streams set forth by FDEP.

Table 1. The nutrient thresholds for streams are listed in table below along with the map showing zones.

Nutrient Watershed Region	Total Phosphorus Nutrient Threshold[1]	Total Nitrogen Nutrient Threshold[1]
Panhandle West	60 µg/L	670 µg/L
Panhandle East	180 µg/L	1030 µg/L
North Central	300 µ/L	1870 µg/L
Peninsular	120 µg/L	1540 µg/L
West Central	490 µg/L	1650 µg/L
South Florida	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.

[1]These values are annual geometric mean concentrations not to be exceeded more than once in any three calendar year periods.

Base File Data for River/Streams: Definitions

- **County**: Name of county in which the system resides.
- **Name**: Stream name that LAKEWATCH uses for the system.
- **Water Body Type**: Four different types of systems; lakes, estuaries, river/streams and springs.
- **Period of Record (years)**: Number of years a system has been in the LAKEWATCH program.
- **Latitude and Longitude**: Coordinates identifying the exact location of station 1 for each system.

Table 2. Base File Data.

County	Hardee
Name	Oak Creek-CR661
Water Body Type	River/Stream
Period of Record (years, range)	2 (2007 to 2008)
Latitude	27.4151
Longitude	-81.8822

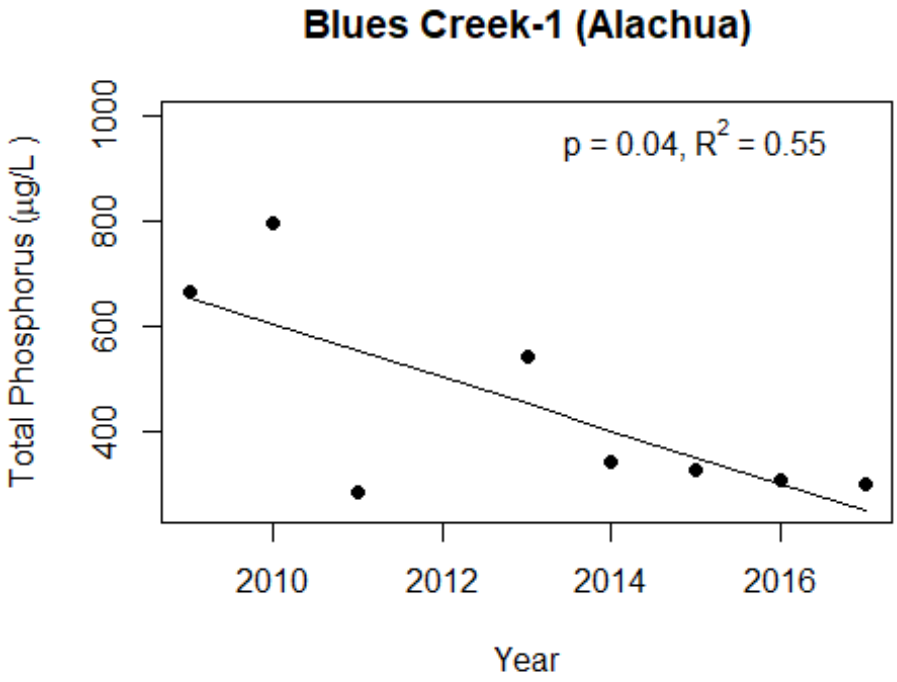
Long-Term Data for River/Streams: Definitions

- **Total Phosphorus (µg/L)**: The nutrient most often limiting growth of plant/algae.
- **Total Nitrogen (µg/L)**: Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected (µg/L)**: Chlorophyll concentrations are used to measure relative abundances of open water algal population.
- **Secchi (ft), Secchi (m)**: Secchi measurements are estimates of water clarity.
- **Color (Pt-Co Units)**: LAKEWATCH measures true color, which is the color of the water after particles have been filter out.
- **Specific Conductance (µS/cm@25°C)**: Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolve materials in water.

Table 3. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus (µg/L)	428 - 705	550 (2)
Total Nitrogen (µg/L)	1129 - 1346	1233 (2)
Chlorophyll- uncorrected (µg/L)	1 - 2	1 (2)
Secchi (ft)	3.0 - 3.0	3.0 (1)
Secchi (m)	0.9 - 0.9	0.9 (1)
Color (Pt-Co Units)	52 - 117	78 (2)
Specific Conductance (µS/cm@25 C)	-	(0)

Figure 2 and Figure 3. Trend plots of annual average total phosphorus and annual average total nitrogen versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relation) and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on the plots.



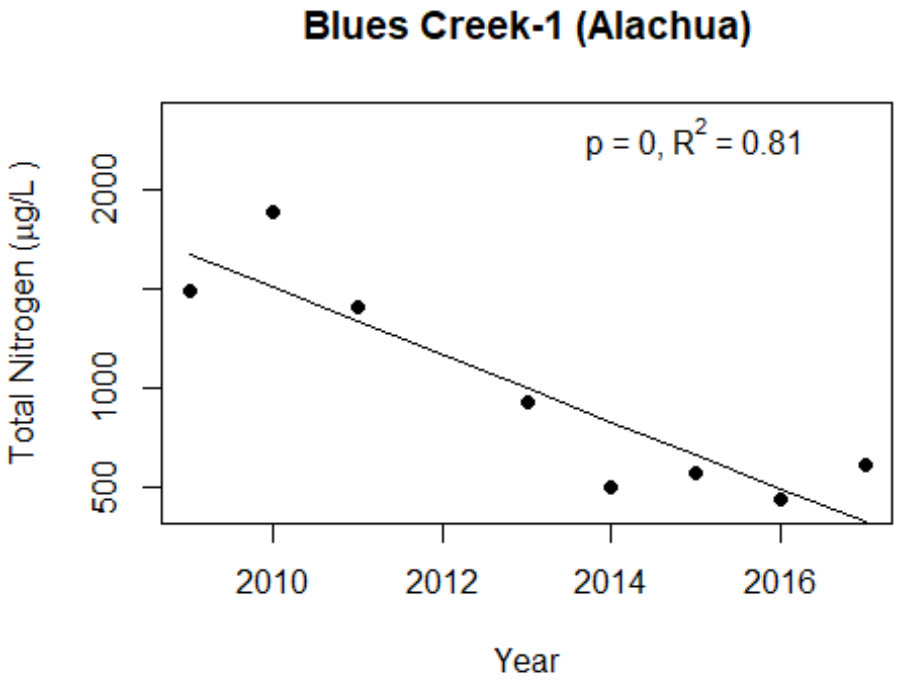
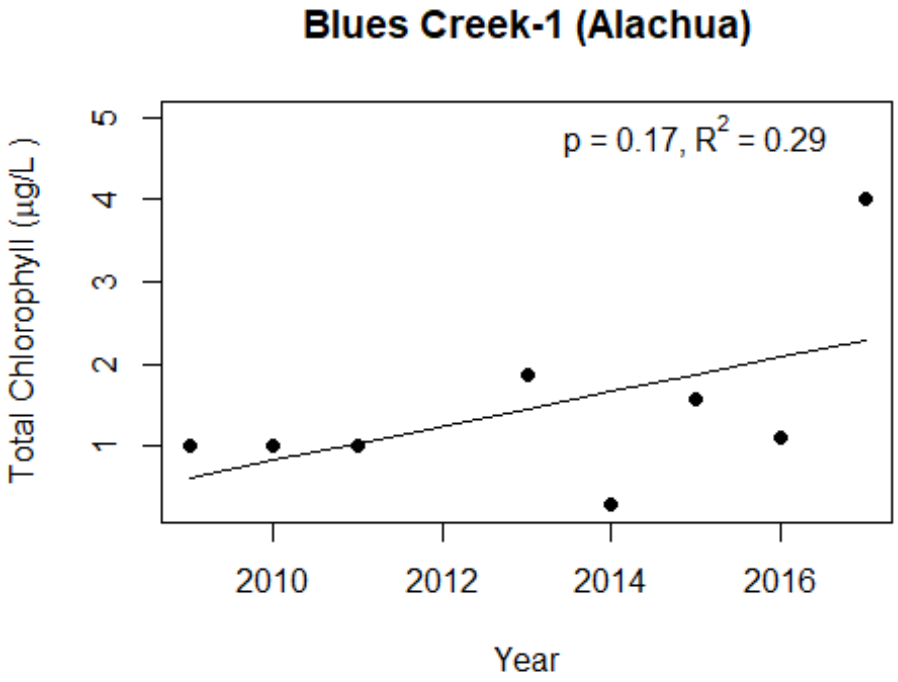
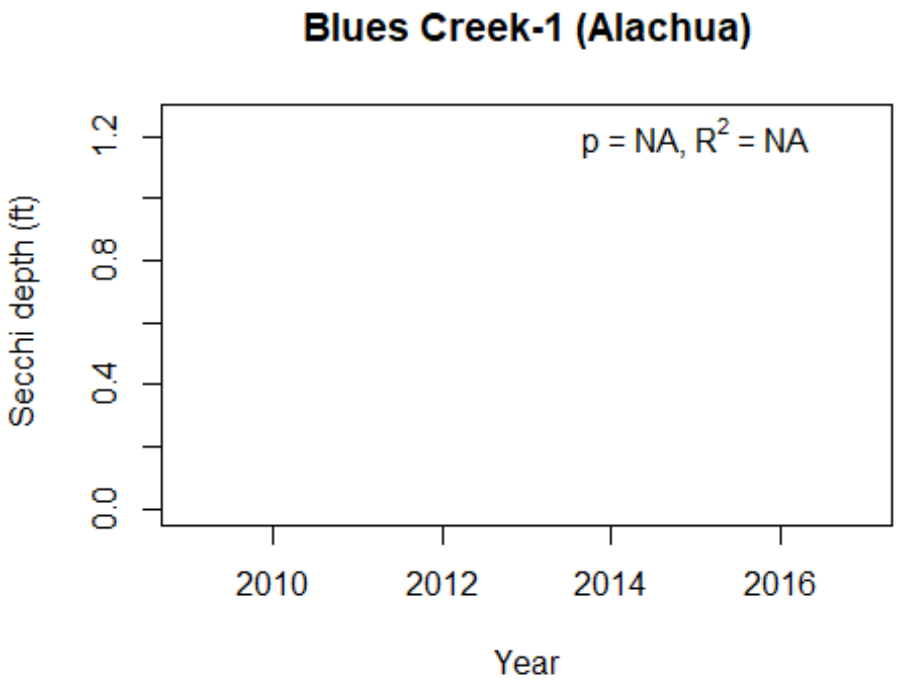


Figure 4 and Figure 5. Trend plots of annual average chlorophyll and annual average Secchi versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relations and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on plots.





LAKEWATCH Report for Peace River-CLR in Hardee County
Watershed Region: West Central
Using Data Downloaded 2-12-2019

Introduction for River/Stream

This report summarizes data collected on systems that have been part of the LAKEWATCH program. Data are from the period of record for individual systems. The first part of this summary lists background data for each system, the second part lists the long-term data geometric means and ranges and the final part are the trend plots for nutrients, chlorophyll and Secchi depth. Plots were only made for systems with five or more years of data.

For decades Florida has had a narrative nutrient water quality criterion in place to protect Florida's waters against nutrient over-enrichment. In 2009, the Florida Department of Environmental Protection (FDEP) initiated rulemaking and, by 2011, adopted what would be the first set of statewide numeric nutrient standards for Florida's waters. By 2015, almost all the remaining waters in Florida have numeric nutrient standards (see for FDEP Regulation Nutrient Criteria's for: Streams, spring vents: https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.531).

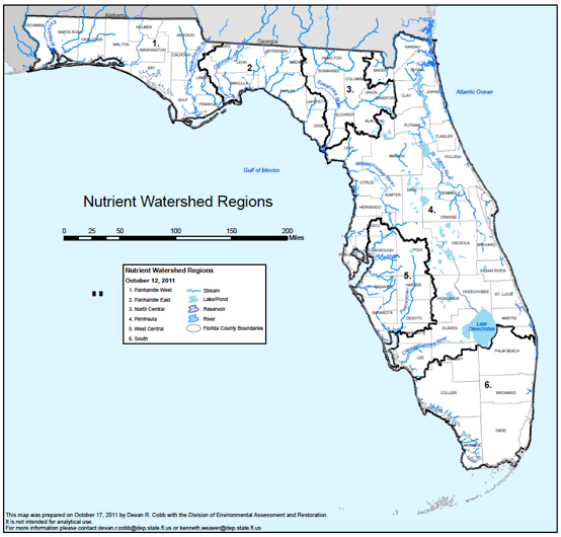


Figure 1. Map showing nutrient thresholds areas for streams set forth by FDEP.

Table 1. The nutrient thresholds for streams are listed in table below along with the map showing zones.

Nutrient Watershed Region	Total Phosphorus Nutrient Threshold[1]	Total Nitrogen Nutrient Threshold[1]
Panhandle West	60 µg/L	670 µg/L
Panhandle East	180 µg/L	1030 µg/L
North Central	300 µ/L	1870 µg/L
Peninsular	120 µg/L	1540 µg/L
West Central	490 µg/L	1650 µg/L
South Florida	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.

[1]These values are annual geometric mean concentrations not to be exceeded more than once in any three calendar year periods.

Base File Data for River/Streams: Definitions

- **County**: Name of county in which the system resides.
- **Name**: Stream name that LAKEWATCH uses for the system.
- **Water Body Type**: Four different types of systems; lakes, estuaries, river/streams and springs.
- **Period of Record (years)**: Number of years a system has been in the LAKEWATCH program.
- **Latitude and Longitude**: Coordinates identifying the exact location of station 1 for each system.

Table 2. Base File Data.

County	Hardee
Name	Peace River-CLR
Water Body Type	River/Stream
Period of Record (years, range)	2 (2007 to 2008)
Latitude	27.6462
Longitude	-81.8022

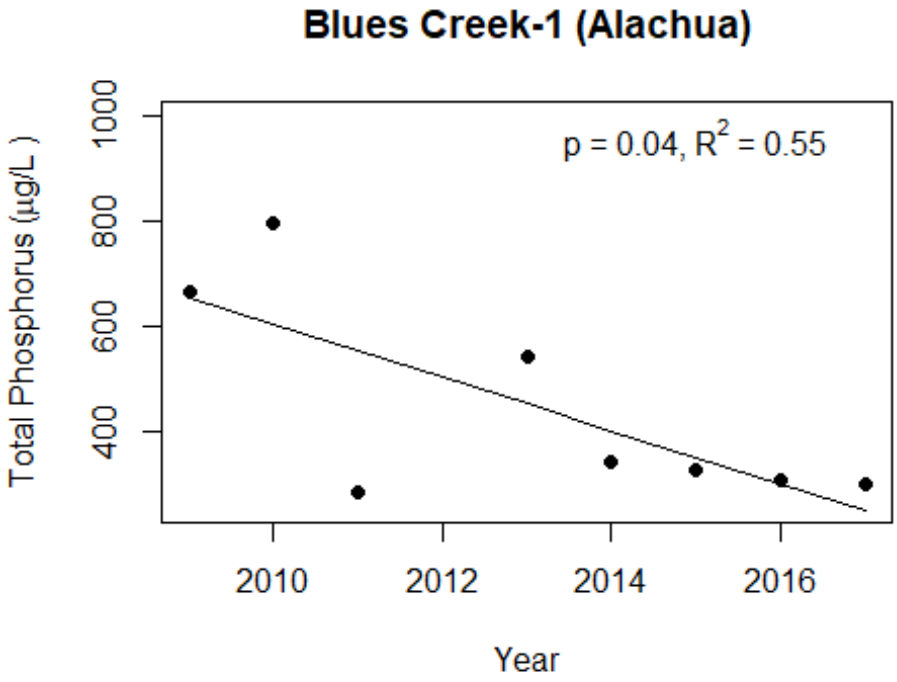
Long-Term Data for River/Streams: Definitions

- **Total Phosphorus (µg/L)**: The nutrient most often limiting growth of plant/algae.
- **Total Nitrogen (µg/L)**: Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected (µg/L)**: Chlorophyll concentrations are used to measure relative abundances of open water algal population.
- **Secchi (ft), Secchi (m)**: Secchi measurements are estimates of water clarity.
- **Color (Pt-Co Units)**: LAKEWATCH measures true color, which is the color of the water after particles have been filter out.
- **Specific Conductance (µS/cm@25°C)**: Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolve materials in water.

Table 3. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus (µg/L)	2428 - 3062	2727 (2)
Total Nitrogen (µg/L)	1322 - 1729	1512 (2)
Chlorophyll- uncorrected (µg/L)	4 - 7	6 (2)
Secchi (ft)	3.0 - 3.0	3.0 (1)
Secchi (m)	0.9 - 0.9	0.9 (1)
Color (Pt-Co Units)	52 - 73	61 (2)
Specific Conductance (µS/cm@25 C)	-	(0)

Figure 2 and Figure 3. Trend plots of annual average total phosphorus and annual average total nitrogen versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relation) and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on the plots.



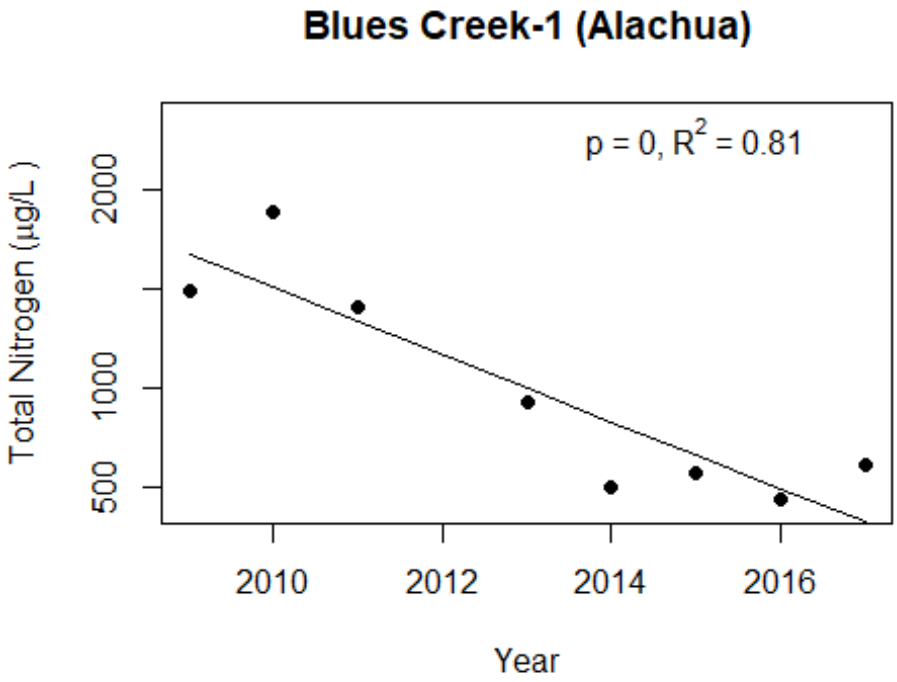
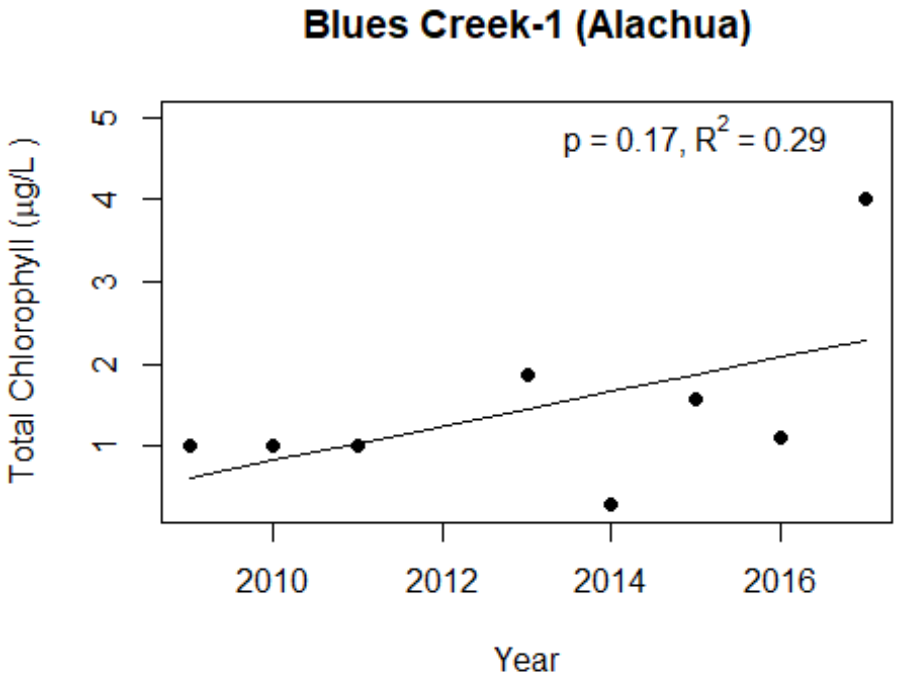
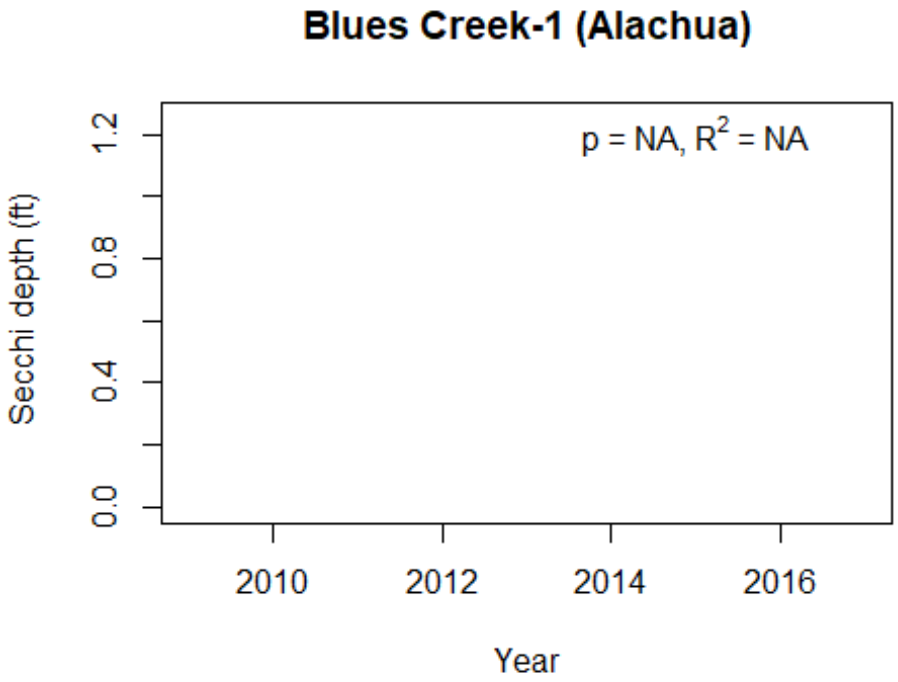


Figure 4 and Figure 5. Trend plots of annual average chlorophyll and annual average Secchi versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relations and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on plots.





LAKEWATCH Report for Troublesome Creek-SR64 in Hardee County
Watershed Region: West Central
Using Data Downloaded 2-12-2019

Introduction for River/Stream

This report summarizes data collected on systems that have been part of the LAKEWATCH program. Data are from the period of record for individual systems. The first part of this summary lists background data for each system, the second part lists the long-term data geometric means and ranges and the final part are the trend plots for nutrients, chlorophyll and Secchi depth. Plots were only made for systems with five or more years of data.

For decades Florida has had a narrative nutrient water quality criterion in place to protect Florida's waters against nutrient over-enrichment. In 2009, the Florida Department of Environmental Protection (FDEP) initiated rulemaking and, by 2011, adopted what would be the first set of statewide numeric nutrient standards for Florida's waters. By 2015, almost all the remaining waters in Florida have numeric nutrient standards (see for FDEP Regulation Nutrient Criteria's for: Streams, spring vents: https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.531).

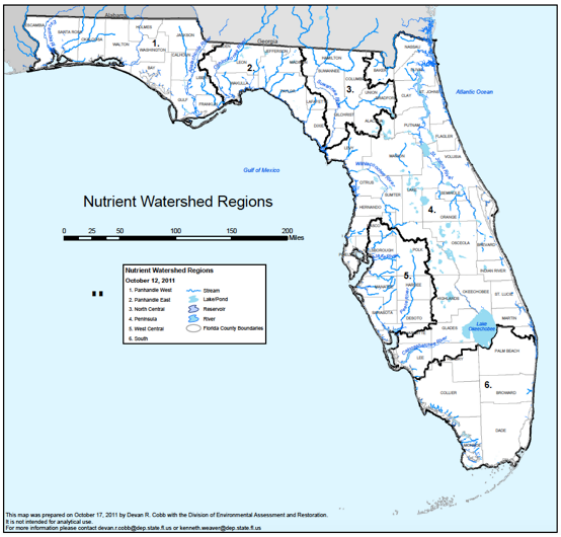


Figure 1. Map showing nutrient thresholds areas for streams set forth by FDEP.

Table 1. The nutrient thresholds for streams are listed in table below along with the map showing zones.

Nutrient Watershed Region	Total Phosphorus Nutrient Threshold[1]	Total Nitrogen Nutrient Threshold[1]
Panhandle West	60 µg/L	670 µg/L
Panhandle East	180 µg/L	1030 µg/L
North Central	300 µ/L	1870 µg/L
Peninsular	120 µg/L	1540 µg/L
West Central	490 µg/L	1650 µg/L
South Florida	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.

[1]These values are annual geometric mean concentrations not to be exceeded more than once in any three calendar year periods.

Base File Data for River/Streams: Definitions

- **County**: Name of county in which the system resides.
- **Name**: Stream name that LAKEWATCH uses for the system.
- **Water Body Type**: Four different types of systems; lakes, estuaries, river/streams and springs.
- **Period of Record (years)**: Number of years a system has been in the LAKEWATCH program.
- **Latitude and Longitude**: Coordinates identifying the exact location of station 1 for each system.

Table 2. Base File Data.

County	Hardee
Name	Troublesome Creek-SR64
Water Body Type	River/Stream
Period of Record (years, range)	2 (2007 to 2008)
Latitude	27.4822
Longitude	-81.8618

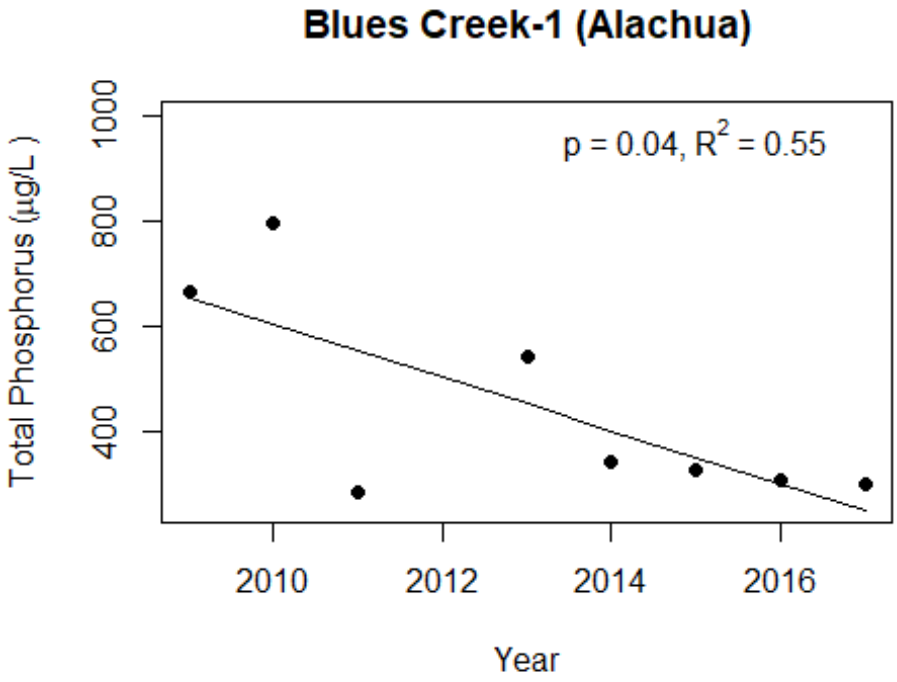
Long-Term Data for River/Streams: Definitions

- **Total Phosphorus (µg/L)**: The nutrient most often limiting growth of plant/algae.
- **Total Nitrogen (µg/L)**: Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected (µg/L)**: Chlorophyll concentrations are used to measure relative abundances of open water algal population.
- **Secchi (ft), Secchi (m)**: Secchi measurements are estimates of water clarity.
- **Color (Pt-Co Units)**: LAKEWATCH measures true color, which is the color of the water after particles have been filter out.
- **Specific Conductance (µS/cm@25°C)**: Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolve materials in water.

Table 3. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus (µg/L)	528 - 718	615 (2)
Total Nitrogen (µg/L)	3371 - 3758	3559 (2)
Chlorophyll- uncorrected (µg/L)	1 - 2	2 (2)
Secchi (ft)	2.5 - 2.5	2.5 (1)
Secchi (m)	0.8 - 0.8	0.8 (1)
Color (Pt-Co Units)	51 - 114	76 (2)
Specific Conductance (µS/cm@25 C)	-	(0)

Figure 2 and Figure 3. Trend plots of annual average total phosphorus and annual average total nitrogen versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relation) and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on the plots.



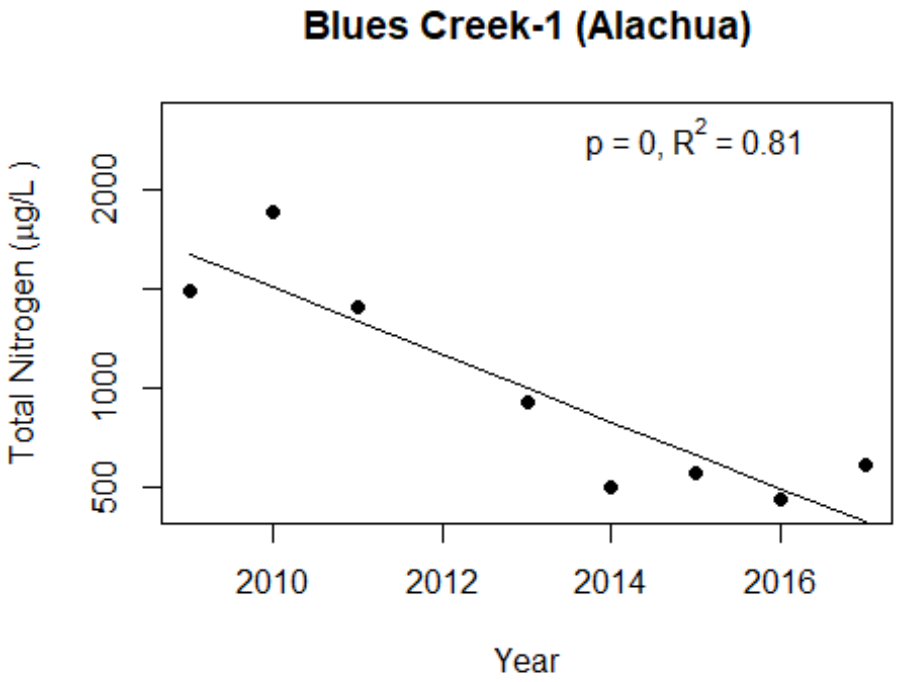


Figure 4 and Figure 5. Trend plots of annual average chlorophyll and annual average Secchi versus year. The R^2 value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R^2 the stronger the relations and the p value indicates if the relation is significant ($p < 0.05$ is significant). Trend status are reported on plots.