

**LAKEWATCH Report for Bayou Chico-1 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Lower Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
<https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link:
<https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Bayou Chico-1
GNIS Number	278238
Water Body Type	Estuary
Period of Record (years, range)	8 (2014 to 2021)
Latitude	30.4030
Longitude	-87.2638

Long-Term Data for Estuaries: Definitions

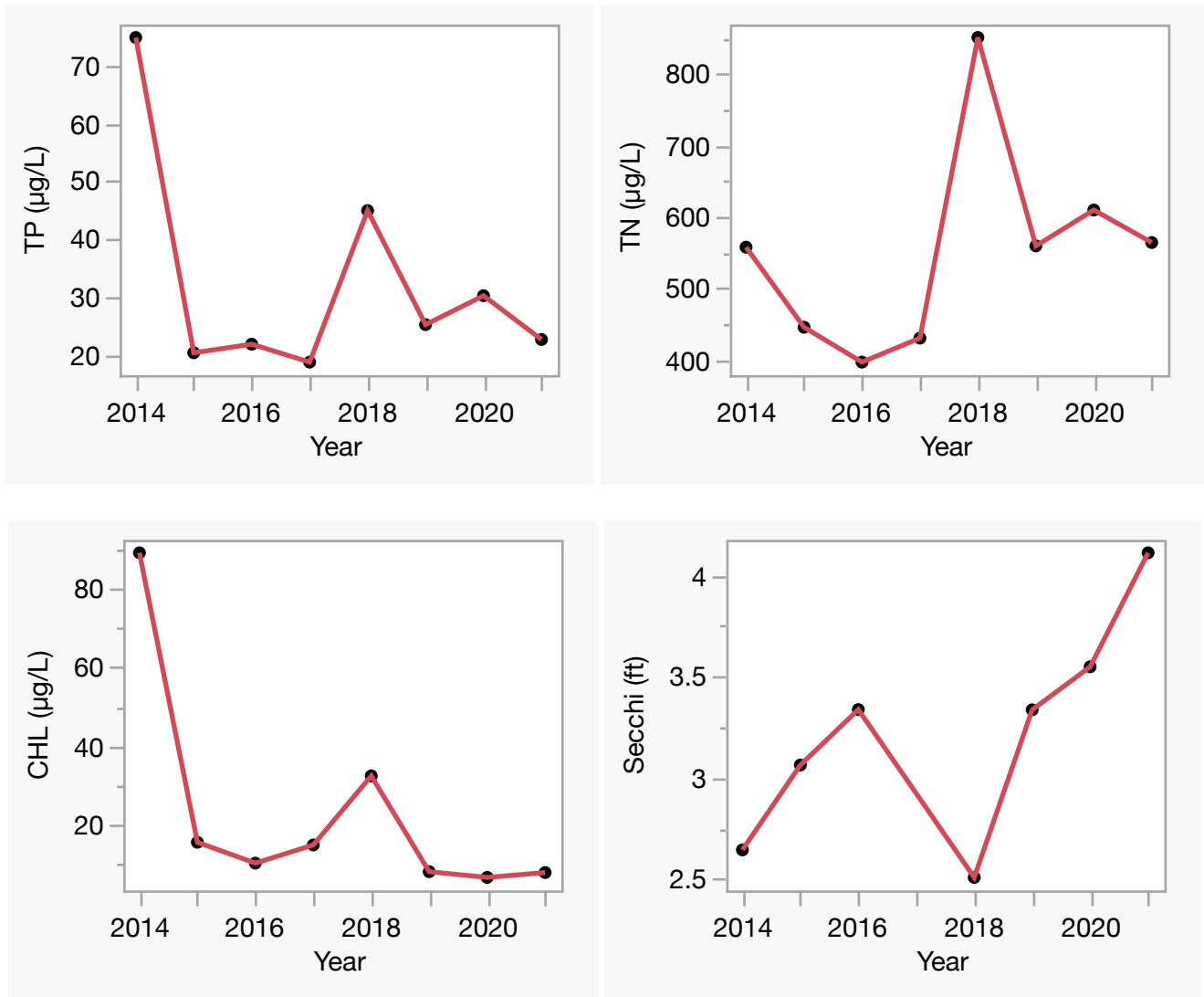
The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	19 - 75	29 (8)
Total Nitrogen ($\mu\text{g/L}$)	396 - 851	537 (8)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	7 - 89	15 (8)
Secchi (ft)	2.5 - 4.1	3.2 (7)
Secchi (m)	0.8 - 1.3	1.0 (7)
Color (Pt-Co Units)	12 - 54	19 (5)
Specific Conductance ($\mu\text{S/cm@25 C}$)	157 - 21909	5142 (5)
Salinity (ppt)	1 - 13	5 (5)

Figure 2. Bayou Chico-1 trend plots of year by average. 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). Total phosphorus (TP No Trend, $R^2 = 0.18$, $p = 0.29$), total nitrogen (TN No Trend, $R^2 = 0.13$, $p = 0.38$), chlorophyll (CHL No Trend, $R^2 = 0.40$, $p = 0.09$) and Secchi depth (Secchi No Trend, $R^2 = 0.48$, $p = 0.08$).



**LAKEWATCH Report for Bayou Chico-2 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Lower Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
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The individual nutrient criteria can be found at the following link:
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- **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 1. Base File Data.

County	Escambia
Name	Bayou Chico-2
GNIS Number	278238
Water Body Type	Estuary
Period of Record (years, range)	8 (2014 to 2021)
Latitude	30.4050
Longitude	-87.2594

Long-Term Data for Estuaries: Definitions

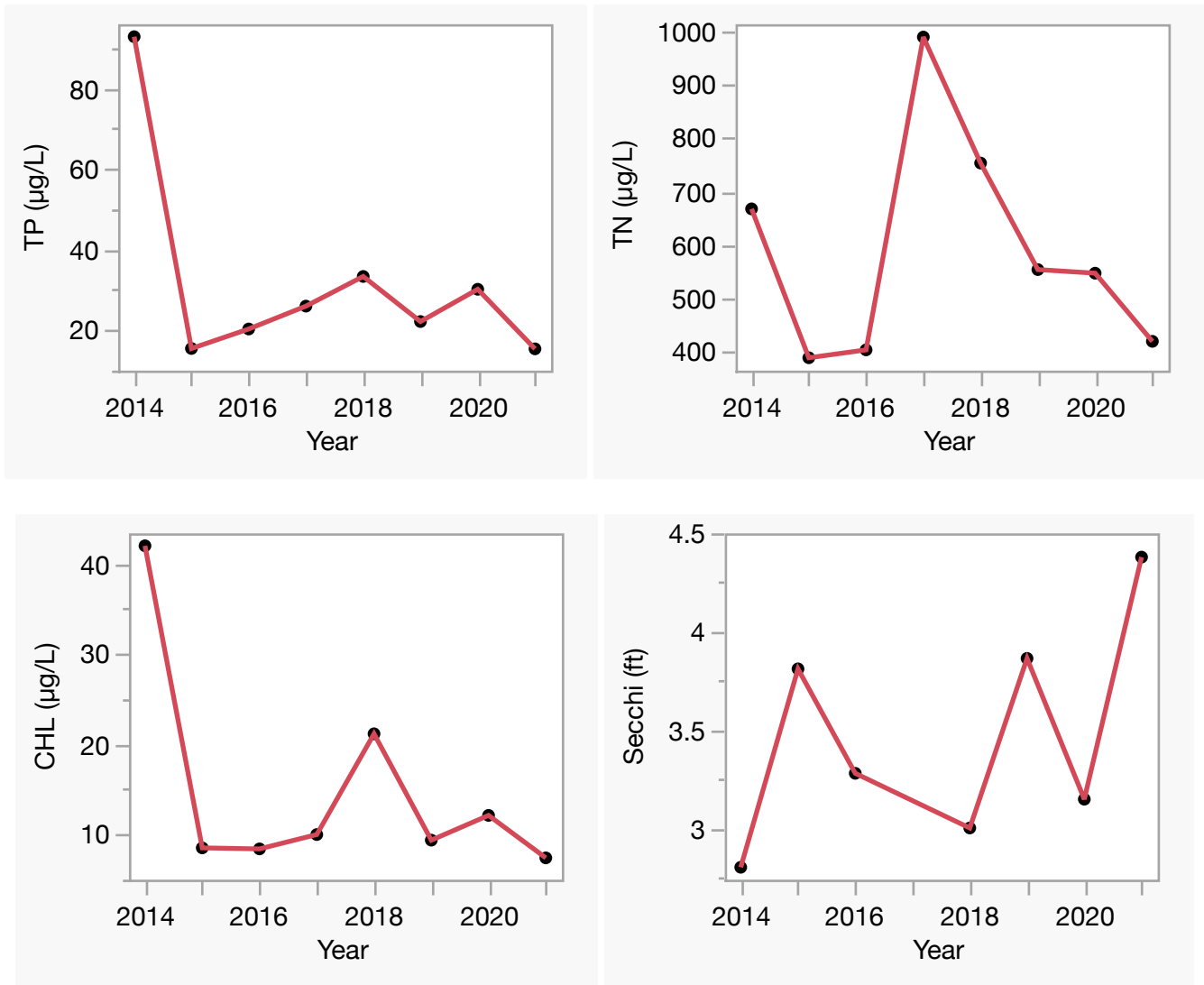
The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	15 - 93	27 (8)
Total Nitrogen ($\mu\text{g/L}$)	389 - 990	562 (8)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	7 - 42	12 (8)
Secchi (ft)	2.8 - 4.4	3.4 (7)
Secchi (m)	0.9 - 1.3	1.0 (7)
Color (Pt-Co Units)	9 - 26	14 (5)
Specific Conductance ($\mu\text{S/cm@25 C}$)	5388 - 19748	12470 (5)
Salinity (ppt)	3 - 12	7 (5)

Figure 2. Bayou Chico-2 trend plots of year by average. 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). Total phosphorus (TP No Trend, $R^2 = 0.27$, $p = 0.18$), total nitrogen (TN No Trend, $R^2 = 0.01$, $p = 0.81$), chlorophyll (CHL No Trend, $R^2 = 0.27$, $p = 0.19$) and Secchi depth (Secchi No Trend, $R^2 = 0.26$, $p = 0.25$).



**LAKEWATCH Report for Bayou Chico-3 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Lower Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
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The individual nutrient criteria can be found at the following link:
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Base File Data for Estuaries: Definitions:

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- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Bayou Chico-3
GNIS Number	278238
Water Body Type	Estuary
Period of Record (years, range)	8 (2014 to 2021)
Latitude	30.4004
Longitude	-87.2443

Long-Term Data for Estuaries: Definitions

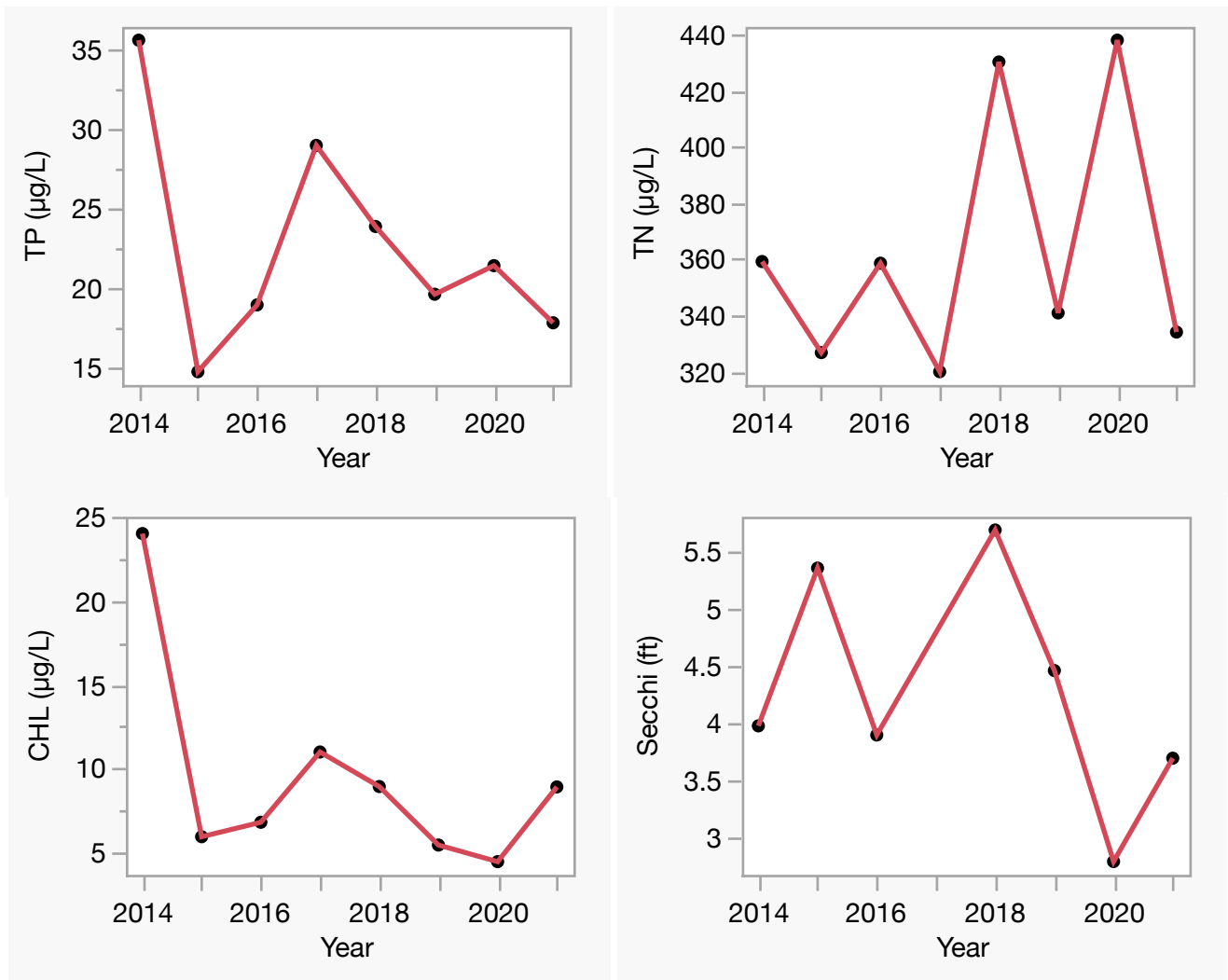
The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	15 - 36	22 (8)
Total Nitrogen ($\mu\text{g/L}$)	320 - 438	361 (8)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	4 - 24	8 (8)
Secchi (ft)	2.8 - 5.7	4.2 (7)
Secchi (m)	0.9 - 1.7	1.3 (7)
Color (Pt-Co Units)	9 - 22	14 (5)
Specific Conductance ($\mu\text{S/cm@25 C}$)	8471 - 19180	12097 (5)
Salinity (ppt)	5 - 12	7 (5)

Figure 2. Bayou Chico-3 trend plots of year by average. 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). Total phosphorus (TP No Trend, $R^2 = 0.17$, $p = 0.32$), total nitrogen (TN No Trend, $R^2 = 0.08$, $p = 0.50$), chlorophyll (CHL No Trend, $R^2 = 0.31$, $p = 0.15$) and Secchi depth (Secchi No Trend, $R^2 = 0.14$, $p = 0.41$).



**LAKEWATCH Report for Bayou Grande-1 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Lower Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

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- **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 1. Base File Data.

County	Escambia
Name	Bayou Grande-1
GNIS Number	278243
Water Body Type	Estuary
Period of Record (years, range)	9 (2012 to 2022)
Latitude	30.3718
Longitude	-87.3109

Long-Term Data for Estuaries: Definitions

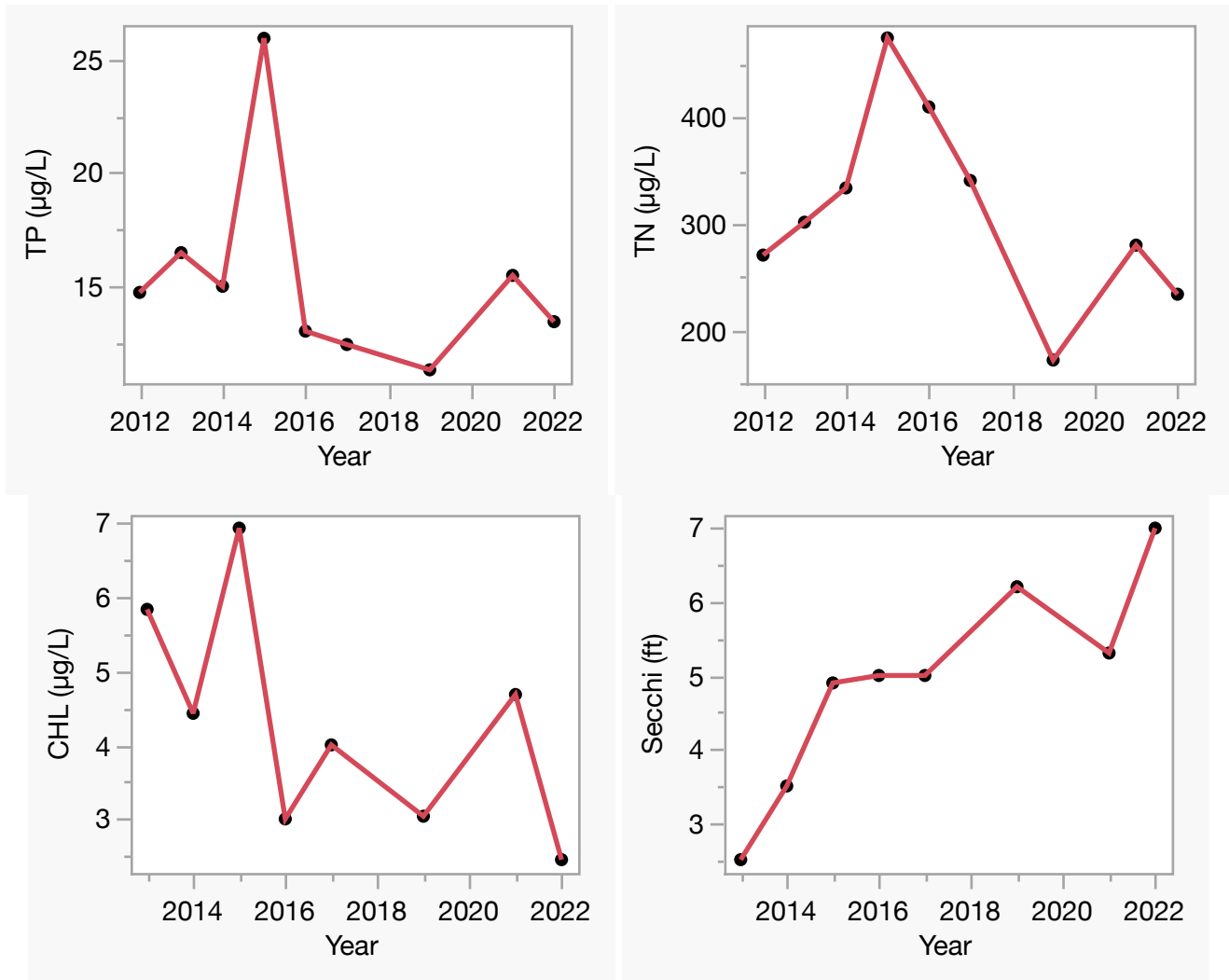
The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

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- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
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- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	11 - 26	15 (9)
Total Nitrogen ($\mu\text{g/L}$)	172 - 475	301 (9)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	2 - 7	4 (8)
Secchi (ft)	2.5 - 7.0	4.7 (8)
Secchi (m)	0.8 - 2.1	1.4 (8)
Color (Pt-Co Units)	4 - 16	11 (7)
Specific Conductance ($\mu\text{S/cm@25 C}$)	10000 - 36000	23536 (7)
Salinity (ppt)	6 - 22	14 (7)

Figure 2. Bayou Grande-1 trend plots of year by average. 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). Total phosphorus (TP No Trend, $R^2 = 0.09$, $p = 0.43$), total nitrogen (TN No Trend, $R^2 = 0.17$, $p = 0.28$), chlorophyll (CHL No Trend, $R^2 = 0.35$, $p = 0.12$) and Secchi depth (Secchi Increasing, $R^2 = 0.77$, $p = 0.00$).



**LAKEWATCH Report for Bayou Grande-2 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Lower Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

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Table 1. Base File Data.

County	Escambia
Name	Bayou Grande-2
GNIS Number	278243
Water Body Type	Estuary
Period of Record (years, range)	9 (2012 to 2022)
Latitude	30.3721
Longitude	-87.2947

Long-Term Data for Estuaries: Definitions

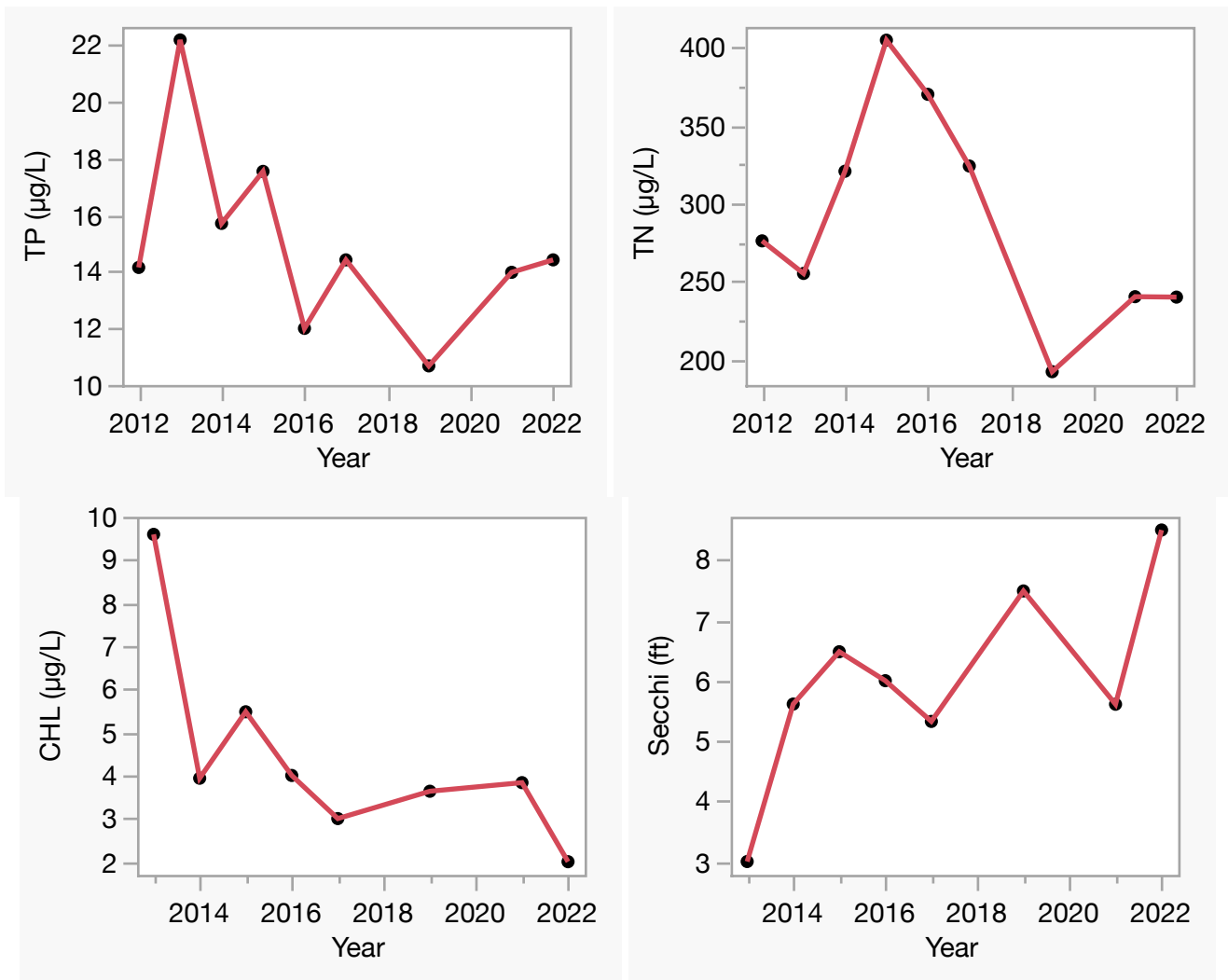
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Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	11 - 22	15 (9)
Total Nitrogen ($\mu\text{g/L}$)	192 - 405	284 (9)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	2 - 10	4 (8)
Secchi (ft)	3.0 - 8.5	5.8 (8)
Secchi (m)	0.9 - 2.6	1.8 (8)
Color (Pt-Co Units)	6 - 15	11 (7)
Specific Conductance ($\mu\text{S/cm@25 C}$)	15000 - 34000	25315 (7)
Salinity (ppt)	9 - 21	16 (7)

Figure 2. Bayou Grande-2 trend plots of year by average. 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). Total phosphorus (TP No Trend, $R^2 = 0.23$, $p = 0.20$), total nitrogen (TN No Trend, $R^2 = 0.19$, $p = 0.24$), chlorophyll (CHL No Trend, $R^2 = 0.49$, $p = 0.05$) and Secchi depth (Secchi No Trend, $R^2 = 0.49$, $p = 0.05$).



**LAKEWATCH Report for Bayou Grande-3 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Lower Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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Table 1. Base File Data.

County	Escambia
Name	Bayou Grande-3
GNIS Number	278243
Water Body Type	Estuary
Period of Record (years, range)	9 (2012 to 2022)
Latitude	30.3731
Longitude	-87.2792

Long-Term Data for Estuaries: Definitions

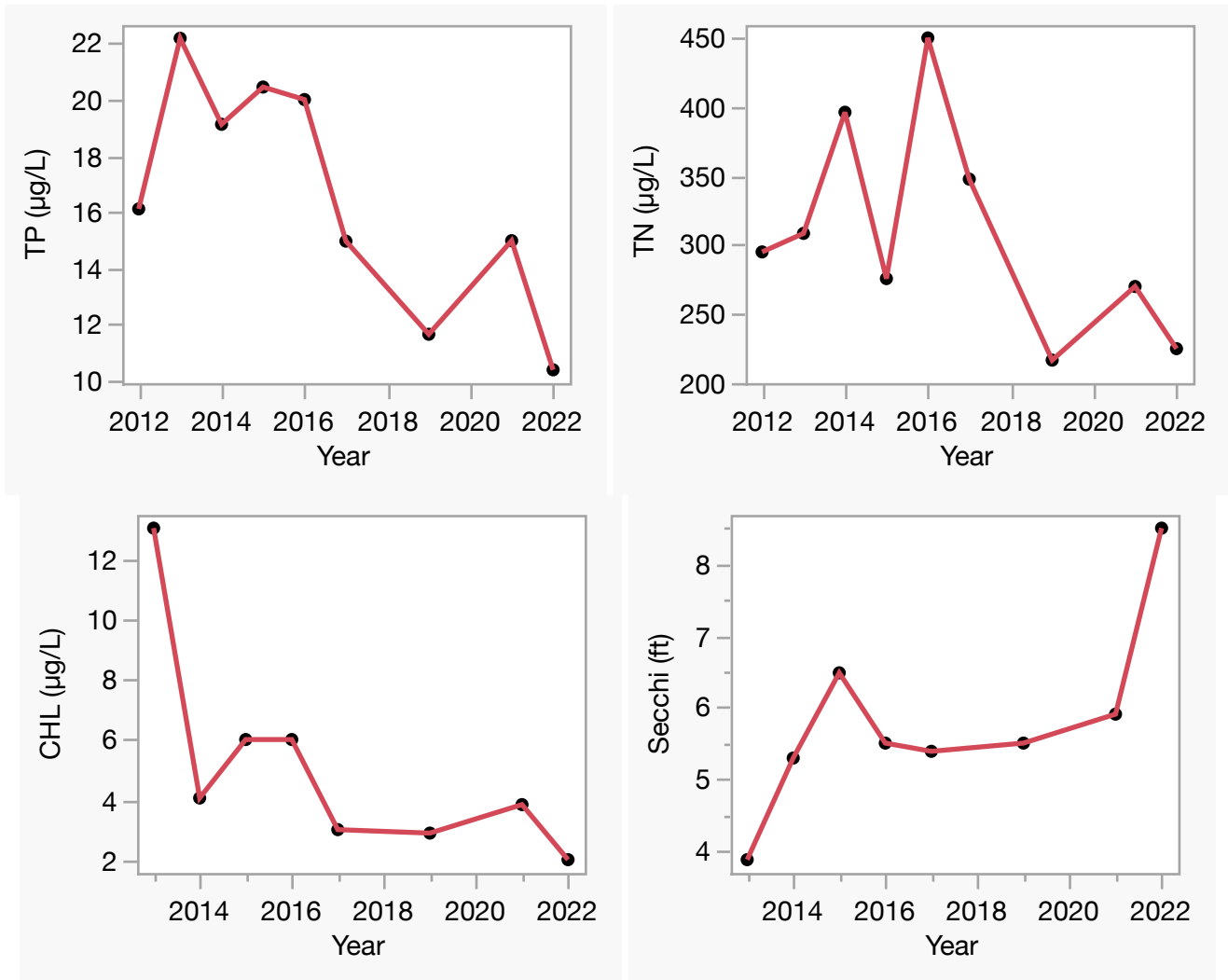
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- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
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- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	10 - 22	16 (9)
Total Nitrogen ($\mu\text{g/L}$)	217 - 450	301 (9)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	2 - 13	4 (8)
Secchi (ft)	3.9 - 8.5	5.7 (8)
Secchi (m)	1.2 - 2.6	1.7 (8)
Color (Pt-Co Units)	9 - 17	12 (7)
Specific Conductance ($\mu\text{S/cm@25 C}$)	20984 - 36000	26973 (7)
Salinity (ppt)	13 - 22	17 (7)

Figure 2. Bayou Grande-3 trend plots of year by average. 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). Total phosphorus (TP Decreasing, $R^2 = 0.57$, $p = 0.02$), total nitrogen (TN No Trend, $R^2 = 0.22$, $p = 0.20$), chlorophyll (CHL No Trend, $R^2 = 0.49$, $p = 0.05$) and Secchi depth (Secchi Increasing, $R^2 = 0.51$, $p = 0.05$).



**LAKEWATCH Report for Bayou Texar South-1 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Upper Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
<https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link:
<https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Bayou Texar South-1
GNIS Number	278246
Water Body Type	Estuary
Period of Record (years, range)	3 (2000 to 2002)
Latitude	30.4277
Longitude	-87.1900

Long-Term Data for Estuaries: Definitions

The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	16 - 32	22 (3)
Total Nitrogen ($\mu\text{g/L}$)	279 - 551	360 (3)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	3 - 12	6 (3)
Secchi (ft)	1.7 - 4.0	2.7 (3)
Secchi (m)	0.5 - 1.2	0.8 (3)
Color (Pt-Co Units)	10 - 25	16 (2)
Specific Conductance ($\mu\text{S/cm@25 C}$)	2000 - 12927	5085 (2)
Salinity (ppt)	1 - 8	3 (2)

**LAKEWATCH Report for Bayou Texar South-2 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Upper Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
<https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link:
<https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Bayou Texar South-2
GNIS Number	278246
Water Body Type	Estuary
Period of Record (years, range)	3 (2000 to 2002)
Latitude	30.4244
Longitude	-87.1885

Long-Term Data for Estuaries: Definitions

The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	21 - 35	26 (3)
Total Nitrogen ($\mu\text{g/L}$)	369 - 483	406 (3)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	4 - 15	9 (3)
Secchi (ft)	1.3 - 3.9	2.4 (3)
Secchi (m)	0.4 - 1.2	0.7 (3)
Color (Pt-Co Units)	14 - 18	16 (2)
Specific Conductance ($\mu\text{S/cm@25 C}$)	8246 - 13208	10436 (2)
Salinity (ppt)	5 - 8	6 (2)

**LAKEWATCH Report for Bayou Texar-1 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Upper Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
<https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link:
<https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Bayou Texar-1
GNIS Number	278246
Water Body Type	Estuary
Period of Record (years, range)	16 (2007 to 2022)
Latitude	30.4520
Longitude	-87.2003

Long-Term Data for Estuaries: Definitions

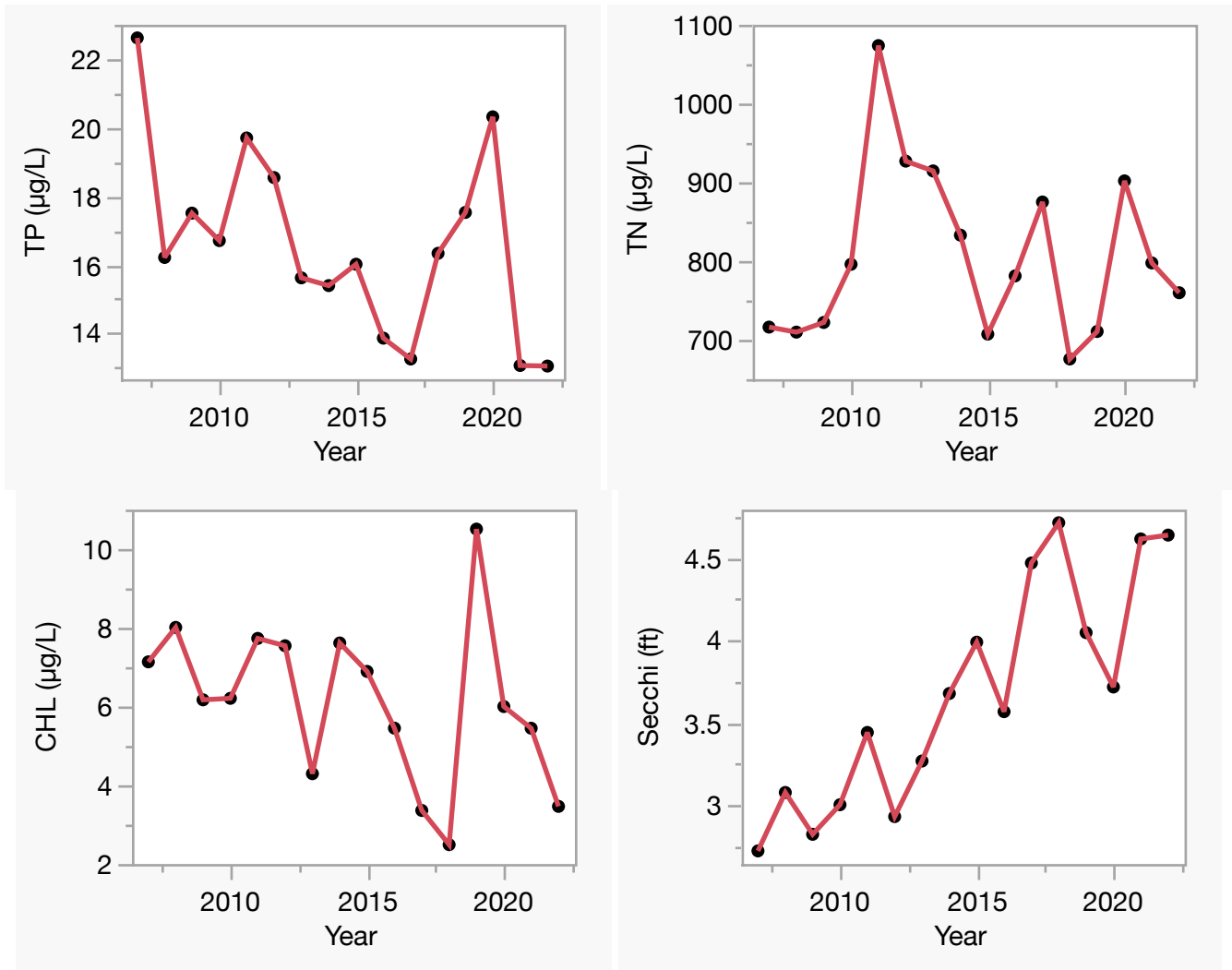
The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	13 - 23	16 (16)
Total Nitrogen ($\mu\text{g/L}$)	676 - 1074	800 (16)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	2 - 11	6 (16)
Secchi (ft)	2.7 - 4.7	3.6 (16)
Secchi (m)	0.8 - 1.4	1.1 (16)
Color (Pt-Co Units)	5 - 12	8 (16)
Specific Conductance ($\mu\text{S/cm@25 C}$)	4497 - 43000	11956 (16)
Salinity (ppt)	3 - 27	8 (16)

Figure 2. Bayou Texar-1 trend plots of year by average. 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). Total phosphorus (TP Decreasing, $R^2 = 0.27$, $p = 0.04$), total nitrogen (TN No Trend, $R^2 = 0.00$, $p = 0.89$), chlorophyll (CHL No Trend, $R^2 = 0.13$, $p = 0.17$) and Secchi depth (Secchi Increasing, $R^2 = 0.77$, $p = 0.00$).



**LAKEWATCH Report for Bayou Texar-2 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Upper Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
<https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link:
<https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Bayou Texar-2
GNIS Number	278246
Water Body Type	Estuary
Period of Record (years, range)	16 (2007 to 2022)
Latitude	30.4456
Longitude	-87.1878

Long-Term Data for Estuaries: Definitions

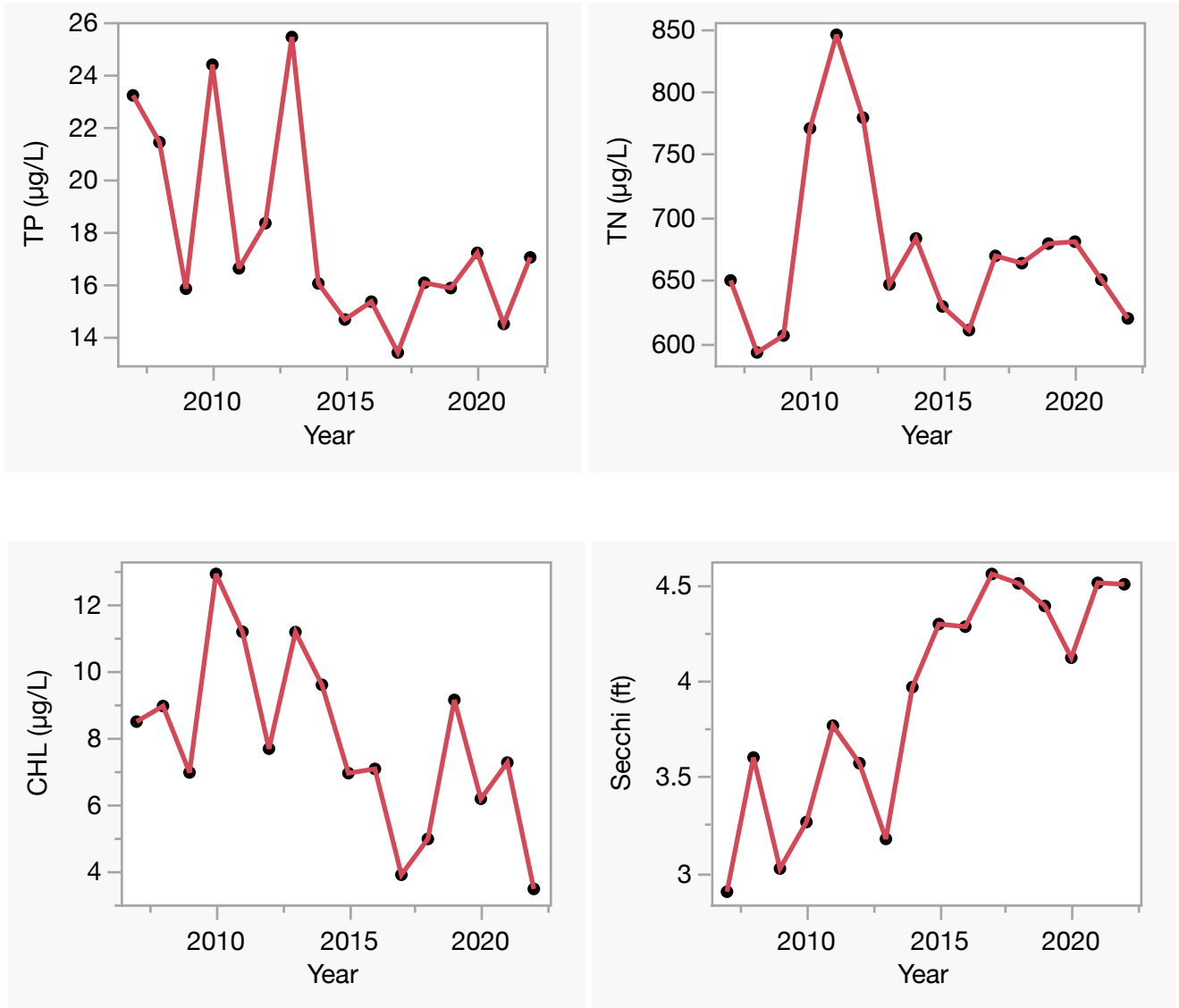
The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	13 - 25	17 (16)
Total Nitrogen ($\mu\text{g/L}$)	593 - 845	670 (16)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	3 - 13	7 (16)
Secchi (ft)	2.9 - 4.6	3.9 (16)
Secchi (m)	0.9 - 1.4	1.2 (16)
Color (Pt-Co Units)	4 - 13	9 (16)
Specific Conductance ($\mu\text{S/cm@25 C}$)	6741 - 24249	15002 (16)
Salinity (ppt)	4 - 15	9 (16)

Figure 2. Bayou Texar-2 trend plots of year by average. 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). Total phosphorus (TP Decreasing, $R^2 = 0.33$, $p = 0.02$), total nitrogen (TN No Trend, $R^2 = 0.03$, $p = 0.53$), chlorophyll (CHL Decreasing, $R^2 = 0.34$, $p = 0.02$) and Secchi depth (Secchi Increasing, $R^2 = 0.75$, $p = 0.00$).



**LAKEWATCH Report for Bayou Texar-3 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Upper Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
<https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link:
<https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Bayou Texar-3
GNIS Number	278246
Water Body Type	Estuary
Period of Record (years, range)	16 (2007 to 2022)
Latitude	30.4344
Longitude	-87.1860

Long-Term Data for Estuaries: Definitions

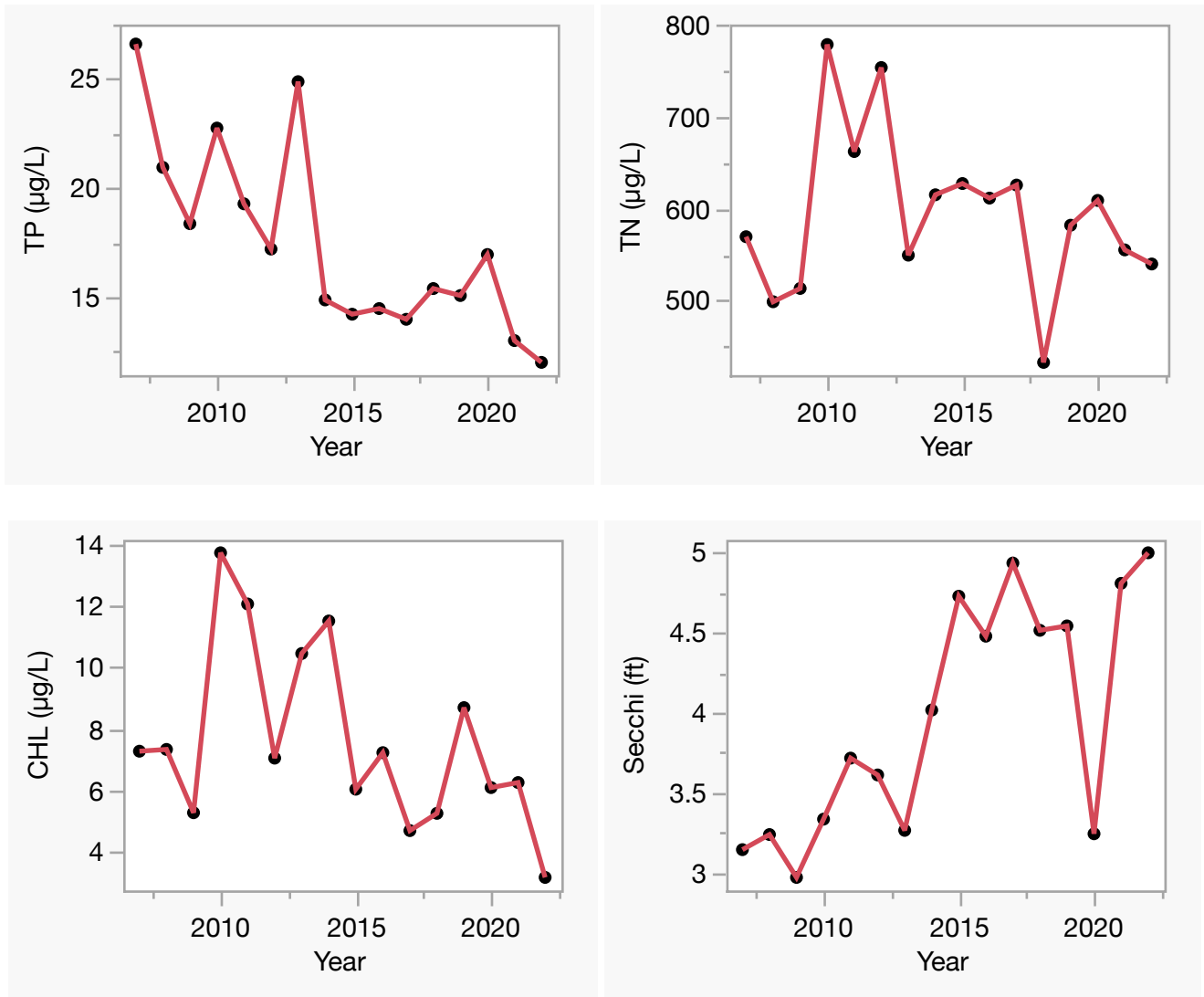
The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	12 - 27	17 (16)
Total Nitrogen ($\mu\text{g/L}$)	433 - 778	589 (16)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	3 - 14	7 (16)
Secchi (ft)	3.0 - 5.0	3.9 (16)
Secchi (m)	0.9 - 1.5	1.2 (16)
Color (Pt-Co Units)	5 - 14	11 (16)
Specific Conductance ($\mu\text{S/cm@25 C}$)	8406 - 27907	16169 (16)
Salinity (ppt)	5 - 17	10 (16)

Figure 2. Bayou Texar-3 trend plots of year by average. 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). Total phosphorus (TP Decreasing, $R^2 = 0.61$, $p = 0.00$), total nitrogen (TN No Trend, $R^2 = 0.04$, $p = 0.46$), chlorophyll (CHL No Trend, $R^2 = 0.20$, $p = 0.08$) and Secchi depth (Secchi Increasing, $R^2 = 0.57$, $p = 0.00$).



**LAKEWATCH Report for Big Lagoon-1 in Escambia County
Estuary and Estuary Segment: Perdido Bay Big Lagoon
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link: <https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link: <https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Big Lagoon-1
GNIS Number	
Water Body Type	Estuary
Period of Record (years, range)	3 (2020 to 2022)
Latitude	30.3087
Longitude	-87.3881

Long-Term Data for Estuaries: Definitions

The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	12 - 14	13 (3)
Total Nitrogen ($\mu\text{g/L}$)	185 - 277	232 (3)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	2 - 3	2 (3)
Secchi (ft)	8.8 - 12.9	10.1 (3)
Secchi (m)	2.7 - 3.9	3.1 (3)
Color (Pt-Co Units)	6 - 14	9 (2)
Specific Conductance ($\mu\text{S/cm@25 C}$)	20000 - 29496	24288 (2)
Salinity (ppt)	12 - 18	15 (2)

**LAKEWATCH Report for Big Lagoon-2 in Escambia County
Estuary and Estuary Segment: Perdido Bay Big Lagoon
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link: <https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link: <https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Big Lagoon-2
GNIS Number	
Water Body Type	Estuary
Period of Record (years, range)	3 (2020 to 2022)
Latitude	30.3259
Longitude	-87.3535

Long-Term Data for Estuaries: Definitions

The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	12 - 15	13 (3)
Total Nitrogen ($\mu\text{g/L}$)	174 - 253	210 (3)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	2 - 2	2 (3)
Secchi (ft)	8.9 - 12.4	10.4 (3)
Secchi (m)	2.7 - 3.8	3.2 (3)
Color (Pt-Co Units)	11 - 14	12 (2)
Specific Conductance ($\mu\text{S/cm@25 C}$)	22271 - 29000	25414 (2)
Salinity (ppt)	14 - 18	16 (2)

**LAKEWATCH Report for Big Lagoon-3 in Escambia County
Estuary and Estuary Segment: Perdido Bay Big Lagoon
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
<https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link:
<https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Big Lagoon-3
GNIS Number	
Water Body Type	Estuary
Period of Record (years, range)	3 (2020 to 2022)
Latitude	30.3242
Longitude	-87.3307

Long-Term Data for Estuaries: Definitions

The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	10 - 14	12 (3)
Total Nitrogen ($\mu\text{g/L}$)	155 - 284	197 (3)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	2 - 2	2 (3)
Secchi (ft)	9.3 - 12.5	10.8 (3)
Secchi (m)	2.8 - 3.8	3.3 (3)
Color (Pt-Co Units)	8 - 12	10 (2)
Specific Conductance ($\mu\text{S/cm@25 C}$)	20494 - 27000	23523 (2)
Salinity (ppt)	13 - 17	14 (2)

**LAKEWATCH Report for Pensacola Bay-1 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Upper Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
<https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link:
<https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Pensacola Bay-1
GNIS Number	
Water Body Type	Estuary
Period of Record (years, range)	2 (2019 to 2020)
Latitude	30.4140
Longitude	-87.1874

Long-Term Data for Estuaries: Definitions

The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	7 - 16	10 (2)
Total Nitrogen ($\mu\text{g/L}$)	296 - 300	298 (2)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	3 - 7	4 (2)
Secchi (ft)	6.6 - 8.5	7.5 (2)
Secchi (m)	2.0 - 2.6	2.3 (2)
Color (Pt-Co Units)	-	(0)
Specific Conductance ($\mu\text{S/cm@25 C}$)	-	(0)
Salinity (ppt)	-	(0)

**LAKEWATCH Report for Pensacola Bay-2 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Upper Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link: <https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link: <https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Pensacola Bay-2
GNIS Number	
Water Body Type	Estuary
Period of Record (years, range)	2 (2019 to 2020)
Latitude	30.4071
Longitude	-87.1853

Long-Term Data for Estuaries: Definitions

The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	13 - 17	15 (2)
Total Nitrogen ($\mu\text{g/L}$)	269 - 280	275 (2)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	4 - 6	5 (2)
Secchi (ft)	7.0 - 7.6	7.3 (2)
Secchi (m)	2.1 - 2.3	2.2 (2)
Color (Pt-Co Units)	-	(0)
Specific Conductance ($\mu\text{S/cm@25 C}$)	-	(0)
Salinity (ppt)	-	(0)

**LAKEWATCH Report for Pensacola Bay-3 in Escambia County
Estuary and Estuary Segment: Pensacola Bay Upper Pensacola Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link: <https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link: <https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Pensacola Bay-3
GNIS Number	
Water Body Type	Estuary
Period of Record (years, range)	2 (2019 to 2020)
Latitude	30.3965
Longitude	-87.1800

Long-Term Data for Estuaries: Definitions

The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	14 - 15	14 (2)
Total Nitrogen ($\mu\text{g/L}$)	180 - 310	236 (2)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	5 - 8	6 (2)
Secchi (ft)	6.8 - 8.1	7.4 (2)
Secchi (m)	2.1 - 2.5	2.3 (2)
Color (Pt-Co Units)	-	(0)
Specific Conductance ($\mu\text{S/cm@25 C}$)	-	(0)
Salinity (ppt)	-	(0)

**LAKEWATCH Report for Perdido Bay-1 in Escambia County
Estuary and Estuary Segment: Perdido Bay Lower Perdido Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
<https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link:
<https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Perdido Bay-1
GNIS Number	124603
Water Body Type	Estuary
Period of Record (years, range)	9 (2014 to 2022)
Latitude	30.3239
Longitude	-87.5044

Long-Term Data for Estuaries: Definitions

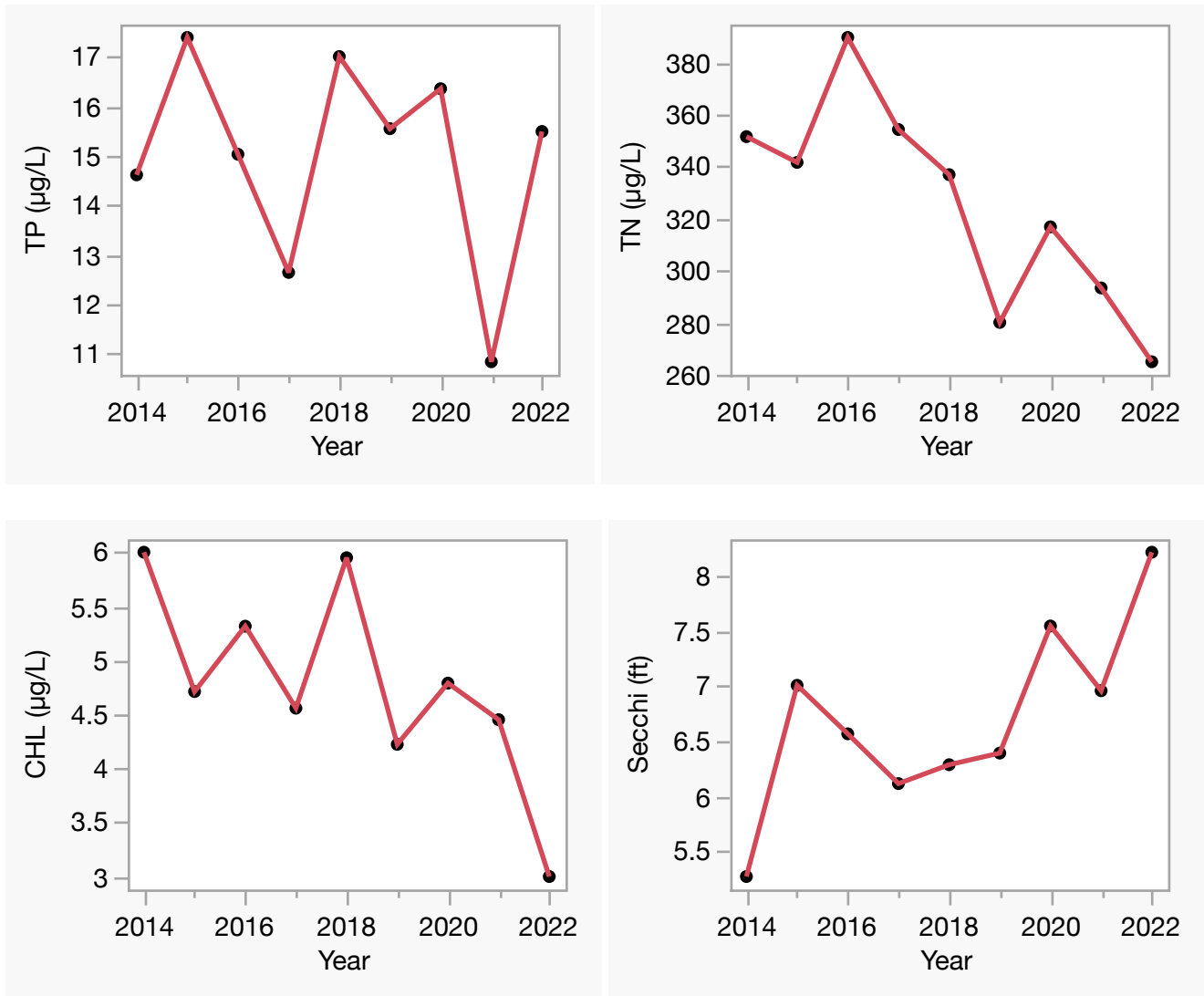
The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	11 - 17	15 (9)
Total Nitrogen ($\mu\text{g/L}$)	265 - 390	323 (9)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	3 - 6	5 (9)
Secchi (ft)	5.3 - 8.2	6.7 (9)
Secchi (m)	1.6 - 2.5	2.0 (9)
Color (Pt-Co Units)	11 - 26	15 (9)
Specific Conductance ($\mu\text{S/cm@25 C}$)	16432 - 27000	22856 (9)
Salinity (ppt)	10 - 17	14 (9)

Figure 2. Perdido Bay-1 trend plots of year by average. 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). Total phosphorus (TP No Trend, $R^2 = 0.05$, $p = 0.55$), total nitrogen (TN Decreasing, $R^2 = 0.66$, $p = 0.01$), chlorophyll (CHL Decreasing, $R^2 = 0.49$, $p = 0.03$) and Secchi depth (Secchi Increasing, $R^2 = 0.55$, $p = 0.02$).



**LAKEWATCH Report for Perdido Bay-2 in Escambia County
Estuary and Estuary Segment: Perdido Bay Central Perdido Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link:
<https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link:
<https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Perdido Bay-2
GNIS Number	124603
Water Body Type	Estuary
Period of Record (years, range)	9 (2014 to 2022)
Latitude	30.3222
Longitude	-87.4575

Long-Term Data for Estuaries: Definitions

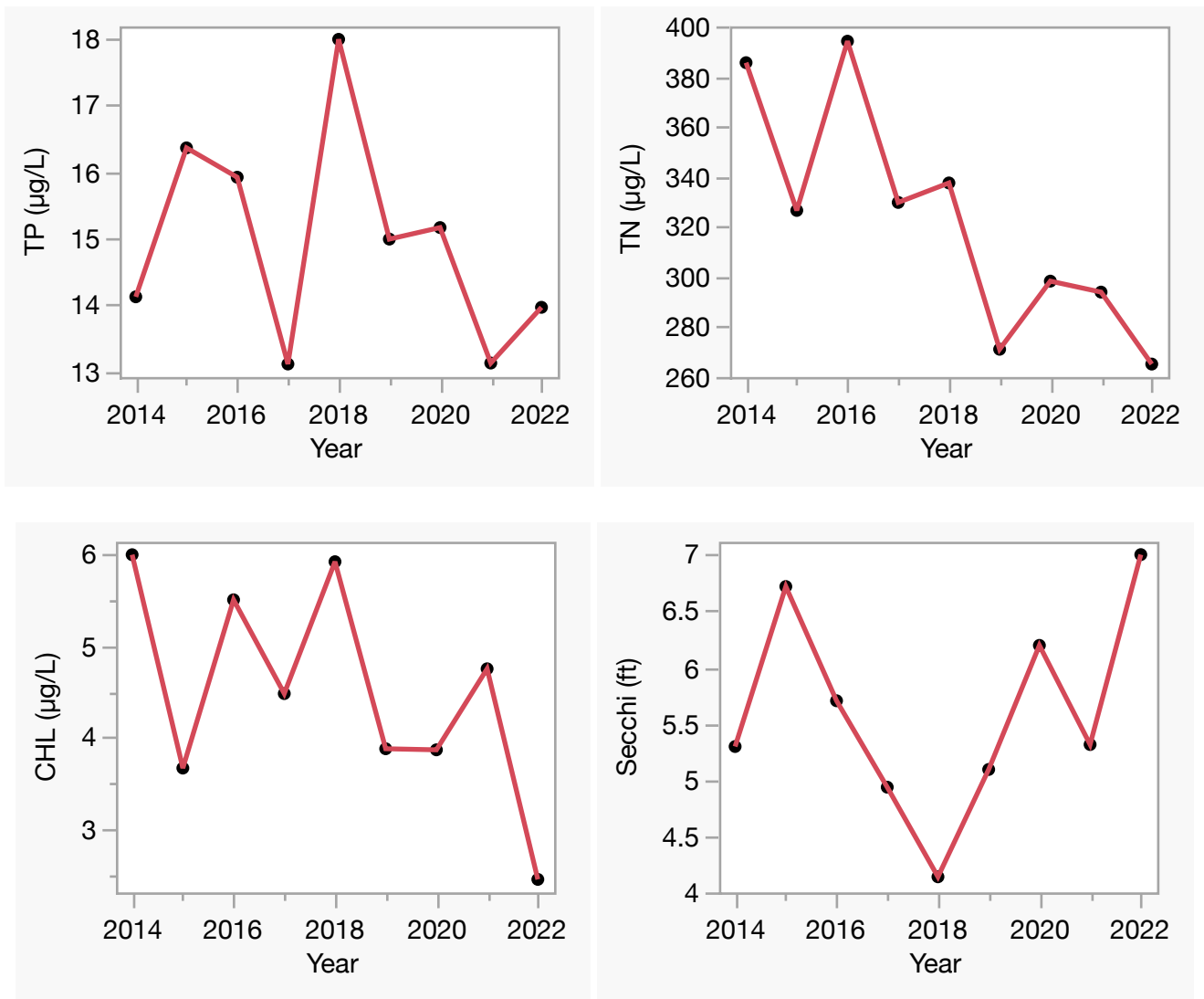
The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	13 - 18	15 (9)
Total Nitrogen ($\mu\text{g/L}$)	265 - 394	319 (9)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	2 - 6	4 (9)
Secchi (ft)	4.1 - 7.0	5.5 (9)
Secchi (m)	1.3 - 2.1	1.7 (9)
Color (Pt-Co Units)	13 - 26	17 (9)
Specific Conductance ($\mu\text{S/cm@25 C}$)	18974 - 28234	23692 (9)
Salinity (ppt)	12 - 17	15 (9)

Figure 2. Perdido Bay-2 trend plots of year by average. 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). Total phosphorus (TP No Trend, $R^2 = 0.08$, $p = 0.46$), total nitrogen (TN Decreasing, $R^2 = 0.69$, $p = 0.01$), chlorophyll (CHL No Trend, $R^2 = 0.33$, $p = 0.10$) and Secchi depth (Secchi No Trend, $R^2 = 0.04$, $p = 0.63$).



**LAKEWATCH Report for Perdido Bay-3 in Escambia County
Estuary and Estuary Segment: Perdido Bay Central Perdido Bay
Using Data Downloaded 12/9/2022**

Introduction for Estuaries

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 averages and ranges and the final part are trend plots for nutrients, chlorophyll, and Secchi depth. **Plots were only made for systems with five or more years of data.**

The near shore Florida coastline is separated into estuary and estuary segments within the estuary. Deeper coastal waters are separated into coastal nutrient regions and coastal nutrient segments within the regions. Numeric nutrient criteria are established for all estuary segments, including criteria for total nitrogen, total phosphorus, and chlorophyll *a*. For open ocean coastal waters, numeric criteria are established for chlorophyll *a*, that is derived from satellite remote sensing techniques. For those locations without defined segments there are narrative nutrient criteria (e.g., Florida Keys Halo Zone).

The maps defining individual estuaries and coastal segments can be found at the following link: <https://www.flrules.org/Gateway/reference.asp?No=Ref-05420>

The individual nutrient criteria can be found at the following link: <https://www.flrules.org/gateway/RuleNo.asp?title=SURFACE%20WATER%20QUALITY%20STANDARDS&ID=62-302.532>

Base File Data for Estuaries: Definitions:

- **County:** Name of county adjacent to the system.
- **Name:** System name that LAKEWATCH uses for the station.
- **GNIS Number:** Number created by USGS's Geographic Names Information 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 1. Base File Data.

County	Escambia
Name	Perdido Bay-3
GNIS Number	124603
Water Body Type	Estuary
Period of Record (years, range)	9 (2014 to 2022)
Latitude	30.3456
Longitude	-87.4417

Long-Term Data for Estuaries: Definitions

The following long-term data are the primary trophic state parameters collected by LAKEWATCH volunteers and classification variables color and specific conductance (LAKEWATCH recently began analyzing samples quarterly for color and specific conductance):

- **Total Phosphorus ($\mu\text{g/L}$):** Nutrient most often limiting growth of plant/algae.
- **Total Nitrogen ($\mu\text{g/L}$):** Nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10 (by mass).
- **Chlorophyll-uncorrected ($\mu\text{g/L}$):** Chlorophyll concentrations are used to measure relative abundances of open water algae.
- **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 filtered out.
- **Specific Conductance ($\mu\text{S/cm@25}^\circ\text{C}$), Salinity (ppt):** Measurement of the ability of water to conduct electricity and can be used to estimate the amount of dissolved materials in water.

Table 2. Long-term trophic state data collected monthly by LAKEWATCH volunteers and color and specific conductance/salinity (collected quarterly).

Parameter	Minimum and Maximum Annual Geometric Means	Grand Geometric Mean (Sampling years)
Total Phosphorus ($\mu\text{g/L}$)	13 - 21	15 (9)
Total Nitrogen ($\mu\text{g/L}$)	245 - 394	319 (9)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	3 - 6	5 (9)
Secchi (ft)	5.1 - 8.9	6.1 (9)
Secchi (m)	1.5 - 2.7	1.9 (9)
Color (Pt-Co Units)	11 - 22	16 (9)
Specific Conductance ($\mu\text{S/cm@25 C}$)	18166 - 27000	22830 (9)
Salinity (ppt)	11 - 17	14 (9)

Figure 2. Perdido Bay-3 trend plots of year by average. 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). Total phosphorus (TP No Trend, $R^2 = 0.07$, $p = 0.48$), total nitrogen (TN Decreasing, $R^2 = 0.72$, $p = 0.00$), chlorophyll (CHL Decreasing, $R^2 = 0.57$, $p = 0.02$) and Secchi depth (Secchi Increasing, $R^2 = 0.49$, $p = 0.03$).

