

**LAKEWATCH Report for Little Cockroach Bay-1 in Hillsborough County  
Estuary and Estuary Segment: Tampa Bay Middle Tampa Bay  
Using Data Downloaded 2-12-2019**

**Introduction for Estuary**

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.
- **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	Hillsborough
Name	Little Cockroach Bay-1
Water Body Type	Estuary
Period of Record (years, range)	1 (2001 to 2001)
Latitude	27.7159
Longitude	-82.4902

## Long-Term Data for Estuaries: Definitions

- **Total Phosphorus ( $\mu\text{g/L}$ ):** The nutrient most often limiting growth of plant/algae in Florida's fresh and saltwater environments.
- **Total Nitrogen ( $\mu\text{g/L}$ ):** Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected ( $\mu\text{g/L}$ ):** Chlorophyll concentrations are used to measure relative abundances of open water algal population.
- **Secchi (ft), Secchi (m):** Secchi measurements are estimates of water clarity (how far one can see into the water) and are listed with English and metric units.
- **Color (Pt-Co Units):** LAKEWATCH measures true color, which is the color of the water after particles have been filter 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 dissolve 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 ( $\mu\text{g/L}$ )	99 - 99	99 (1)
Total Nitrogen ( $\mu\text{g/L}$ )	540 - 540	540 (1)
Chlorophyll- uncorrected ( $\mu\text{g/L}$ )	5 - 5	5 (1)
Secchi (ft)	4.0 - 4.0	4.0 (1)
Secchi (m)	1.2 - 1.2	1.2 (1)
Color (Pt-Co Units)	9 - 9	9 (1)
Specific Conductance ( $\mu\text{S/cm@25 C}$ )	51000 - 51000	51000 (1)
Salinity (ppt)	31.8 - 31.8	31.8 (1)

**LAKEWATCH Report for Little Cockroach Bay-2 in Hillsborough County  
Estuary and Estuary Segment: Tampa Bay Middle Tampa Bay  
Using Data Downloaded 2-12-2019**

**Introduction for Estuary**

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.
- **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	Hillsborough
Name	Little Cockroach Bay-2
Water Body Type	Estuary
Period of Record (years, range)	1 (2001 to 2001)
Latitude	27.7116
Longitude	-82.5033

## Long-Term Data for Estuaries: Definitions

- **Total Phosphorus ( $\mu\text{g/L}$ ):** The nutrient most often limiting growth of plant/algae in Florida's fresh and saltwater environments.
- **Total Nitrogen ( $\mu\text{g/L}$ ):** Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected ( $\mu\text{g/L}$ ):** Chlorophyll concentrations are used to measure relative abundances of open water algal population.
- **Secchi (ft), Secchi (m):** Secchi measurements are estimates of water clarity (how far one can see into the water) and are listed with English and metric units.
- **Color (Pt-Co Units):** LAKEWATCH measures true color, which is the color of the water after particles have been filter 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 dissolve 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 ( $\mu\text{g/L}$ )	143 - 143	143 (1)
Total Nitrogen ( $\mu\text{g/L}$ )	690 - 690	690 (1)
Chlorophyll- uncorrected ( $\mu\text{g/L}$ )	9 - 9	9 (1)
Secchi (ft)	4.0 - 4.0	4.0 (1)
Secchi (m)	1.2 - 1.2	1.2 (1)
Color (Pt-Co Units)	13 - 13	13 (1)
Specific Conductance ( $\mu\text{S/cm@25 C}$ )	52000 - 52000	52000 (1)
Salinity (ppt)	32.4 - 32.4	32.4 (1)

**LAKEWATCH Report for Little Cockroach Bay-3 in Hillsborough County  
Estuary and Estuary Segment: Tampa Bay Middle Tampa Bay  
Using Data Downloaded 2-12-2019**

**Introduction for Estuary**

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.
- **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	Hillsborough
Name	Little Cockroach Bay-3
Water Body Type	Estuary
Period of Record (years, range)	1 (2001 to 2001)
Latitude	27.7082
Longitude	-82.5079

## Long-Term Data for Estuaries: Definitions

- **Total Phosphorus ( $\mu\text{g/L}$ ):** The nutrient most often limiting growth of plant/algae in Florida's fresh and saltwater environments.
- **Total Nitrogen ( $\mu\text{g/L}$ ):** Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected ( $\mu\text{g/L}$ ):** Chlorophyll concentrations are used to measure relative abundances of open water algal population.
- **Secchi (ft), Secchi (m):** Secchi measurements are estimates of water clarity (how far one can see into the water) and are listed with English and metric units.
- **Color (Pt-Co Units):** LAKEWATCH measures true color, which is the color of the water after particles have been filter 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 dissolve 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 ( $\mu\text{g/L}$ )	127 - 127	127 (1)
Total Nitrogen ( $\mu\text{g/L}$ )	710 - 710	710 (1)
Chlorophyll- uncorrected ( $\mu\text{g/L}$ )	12 - 12	12 (1)
Secchi (ft)	3.3 - 3.3	3.3 (1)
Secchi (m)	1.0 - 1.0	1.0 (1)
Color (Pt-Co Units)	15 - 15	15 (1)
Specific Conductance ( $\mu\text{S/cm@25 C}$ )	53000 - 53000	53000 (1)
Salinity (ppt)	33.1 - 33.1	33.1 (1)

**LAKEWATCH Report for Little Cockroach Bay-4 in Hillsborough County  
Estuary and Estuary Segment: Tampa Bay Middle Tampa Bay  
Using Data Downloaded 2-12-2019**

**Introduction for Estuary**

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.
- **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	Hillsborough
Name	Little Cockroach Bay-4
Water Body Type	Estuary
Period of Record (years, range)	1 (2001 to 2001)
Latitude	27.7102
Longitude	-82.4885

## Long-Term Data for Estuaries: Definitions

- **Total Phosphorus ( $\mu\text{g/L}$ ):** The nutrient most often limiting growth of plant/algae in Florida's fresh and saltwater environments.
- **Total Nitrogen ( $\mu\text{g/L}$ ):** Another nutrient needed for aquatic plant/algae growth but only limiting when nitrogen to phosphorus ratios are generally less than 10.
- **Chlorophyll-uncorrected ( $\mu\text{g/L}$ ):** Chlorophyll concentrations are used to measure relative abundances of open water algal population.
- **Secchi (ft), Secchi (m):** Secchi measurements are estimates of water clarity (how far one can see into the water) and are listed with English and metric units.
- **Color (Pt-Co Units):** LAKEWATCH measures true color, which is the color of the water after particles have been filter 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 dissolve 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 ( $\mu\text{g/L}$ )	142 - 142	142 (1)
Total Nitrogen ( $\mu\text{g/L}$ )	650 - 650	650 (1)
Chlorophyll- uncorrected ( $\mu\text{g/L}$ )	9 - 9	9 (1)
Secchi (ft)	3.8 - 3.8	3.8 (1)
Secchi (m)	1.2 - 1.2	1.2 (1)
Color (Pt-Co Units)	13 - 13	13 (1)
Specific Conductance ( $\mu\text{S/cm@25 C}$ )	50000 - 50000	50000 (1)
Salinity (ppt)	31.2 - 31.2	31.2 (1)