

LAKEWATCH Report for Jupiter River-1 in Palm Beach County
Estuary and Estuary Segment: Loxahatchee River Estuary Lower Loxahatchee
Using Data Downloaded 12/9/2020

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	Palm Beach
Name	Jupiter River-1
GNIS Number	
Water Body Type	Estuary
Period of Record (years, range)	2 (2002 to 2003)
Latitude	26.9484
Longitude	-80.0821

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 ($\mu\text{g/L}$)	24 - 2003	26 (2)
Total Nitrogen ($\mu\text{g/L}$)	230 - 230	230 (2)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	1 - 8	3 (2)
Secchi (ft)	4.0 - 4.5	4.2 (2.0)
Secchi (m)	1.2 - 1.4	1.3 (2.0)
Color (Pt-Co Units)	8 - 11	9 (2)
Specific Conductance ($\mu\text{S/cm@25 C}$)	47000 - 49000	47990 (2)
Salinity (ppt)	29 - 31	30 (2)

**LAKEWATCH Report for Jupiter River-2 in Palm Beach County
Estuary and Estuary Segment: Loxahatchee River Estuary Lower Loxahatchee
Using Data Downloaded 12/9/2020**

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	Palm Beach
Name	Jupiter River-2
GNIS Number	
Water Body Type	Estuary
Period of Record (years, range)	2 (2002 to 2003)
Latitude	26.9416
Longitude	-80.0863

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 ($\mu\text{g/L}$)	23 - 2003	26 (2)
Total Nitrogen ($\mu\text{g/L}$)	170 - 240	202 (2)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	2 - 8	4 (2)
Secchi (ft)	4.5 - 5.5	5.0 (2.0)
Secchi (m)	1.4 - 1.7	1.5 (2.0)
Color (Pt-Co Units)	8 - 12	10 (2)
Specific Conductance ($\mu\text{S/cm@25 C}$)	44000 - 46000	44989 (2)
Salinity (ppt)	27 - 29	28 (2)

LAKEWATCH Report for Jupiter River-3 in Palm Beach County
Estuary and Estuary Segment: Loxahatchee River Estuary Lower Loxahatchee
Using Data Downloaded 12/9/2020

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	Palm Beach
Name	Jupiter River-3
GNIS Number	
Water Body Type	Estuary
Period of Record (years, range)	2 (2002 to 2003)
Latitude	26.9484
Longitude	-80.0895

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 ($\mu\text{g/L}$)	20 - 2003	27 (2)
Total Nitrogen ($\mu\text{g/L}$)	180 - 350	251 (2)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	1 - 6	2 (2)
Secchi (ft)	4.0 - 4.3	4.1 (2.0)
Secchi (m)	1.2 - 1.3	1.3 (2.0)
Color (Pt-Co Units)	7 - 14	10 (2)
Specific Conductance ($\mu\text{S/cm@25 C}$)	45000 - 45000	45000 (2)
Salinity (ppt)	28 - 28	28 (2)

LAKEWATCH Report for Worth-4 in Palm Beach County
Estuary and Estuary Segment: Lake Worth Lagoon Northern Lake Worth Lagoon
Using Data Downloaded 12/9/2020

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	Palm Beach
Name	Worth-4
GNIS Number	293537
Water Body Type	Estuary
Period of Record (years, range)	1 (2002 to 2002)
Latitude	26.7652
Longitude	-80.0449

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 ($\mu\text{g/L}$)	17 - 2002	17 (1)
Total Nitrogen ($\mu\text{g/L}$)	230 - 230	230 (1)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	4 - 4	4 (1)
Secchi (ft)	10.0 - 10.0	10.0 (1.0)
Secchi (m)	3.0 - 3.0	3.0 (1.0)
Color (Pt-Co Units)	-	(0)
Specific Conductance ($\mu\text{S/cm@25 C}$)	-	(0)
Salinity (ppt)	-	(0)

LAKEWATCH Report for Worth-5 in Palm Beach County
Estuary and Estuary Segment: Lake Worth Lagoon Northern Lake Worth Lagoon
Using Data Downloaded 12/9/2020

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	Palm Beach
Name	Worth-5
GNIS Number	293537
Water Body Type	Estuary
Period of Record (years, range)	1 (2002 to 2002)
Latitude	26.7260
Longitude	-80.0456

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 - 2002	11 (1)
Total Nitrogen ($\mu\text{g/L}$)	110 - 110	110 (1)
Chlorophyll- uncorrected ($\mu\text{g/L}$)	1 - 1	1 (1)
Secchi (ft)	18.0 - 18.0	18.0 (1.0)
Secchi (m)	5.5 - 5.5	5.5 (1.0)
Color (Pt-Co Units)	1 - 1	1 (1)
Specific Conductance ($\mu\text{S/cm@25 C}$)	52000 - 52000	52000 (1)
Salinity (ppt)	32 - 32	32 (1)

