



Dear Friend of LAKEWATCH,

February 20, 2009

Florida LAKEWATCH records show that **Blairstone in Leon County has been sampled by LAKEWATCH volunteers for a total of 97 months**. The raw data are enclosed in this Data Report as tables and graphs. As you look through the Data Report, you may ask “What do these numbers mean?” or “How can this information be useful to me?” We’ve provided you with the following summaries that describe two common ways in which your LAKEWATCH data can be used.

The first summary, the Trophic State Summary describes how and why Blairstone is classified into one of four categories called Trophic States. The second summary, Florida Lake Regions Summary, places Blairstone into one of forty-seven Florida Lake Regions.

In addition to these summaries the following handouts are available upon request or can be downloaded from our web page if you would like more information about how to interpret the data, trophic states or lake regions:

- □ *Explanation of the Florida LAKEWATCH Data Packet* — leads you through the tables and graphs and shows you how to spot trends and patterns;
- □ *Trophic State: A Waterbody’s Ability to Support Plants, Fish, and Wildlife*— explains the four trophic states used by the Florida LAKEWATCH program ;
- □ *Florida Lake Regions: A Classification System* — explains the development of 47 Florida Lake Regions and discusses why it’s important for you to know which Lake Region your lake is in.

We realize that this is a lot of reading material. However, being familiar with this information can help you become more effective in the water management arena. For example, you can communicate more effectively with water management professionals; develop management goals for your water body; establish a baseline of water chemistry for future reference; or document changes that might be occurring.

We encourage you to share information from your data packet with others so they can become better informed. We can provide data in printed form, on computer disk, or via e-mail. Please don’t hesitate to call us with your questions or comments.

Sincerely,

David L. Watson  
Florida LAKEWATCH Regional Coordinator

Enclosures

# Trophic State\* Summary

**Blairstone** has been sampled in the Florida LAKEWATCH program for a total of **97** months. To determine the trophic state classification for **Blairstone** we calculated averages from **February 16, 1993** to **September 13, 2008** for each of the four LAKEWATCH water chemistry parameters (total chlorophyll, total phosphorus, total nitrogen, and water clarity) and compared those averages with the four Trophic State ranges\*. The results are as follows:

- total chlorophyll for Blairstone is 29  $\mu\text{g/L}$  which falls in the **eutrophic** range.
- total phosphorus for Blairstone is 52  $\mu\text{g/L}$  which falls in the **eutrophic** range.
- total nitrogen for Blairstone is 846  $\mu\text{g/L}$  which falls in the **eutrophic** range.
- water clarity for Blairstone is 2.7 feet which falls in the **hypereutrophic** range.

## How LAKEWATCH Determines Your Waterbody's Trophic Classification

It's possible that one or more of the four water chemistry parameters used above fell into different trophic ranges. (For example, a waterbody may have water clarity in the *oligotrophic* range, and its total nitrogen levels may be in the *eutrophic* range.) When one or more of the four LAKEWATCH parameters falls into different trophic ranges, **LAKEWATCH uses the total chlorophyll averages to determine the overall trophic state**. Since the total chlorophyll measurement indicates how much algae is actually being produced in a waterbody, it's the most direct indicator of biological productivity. The other three parameters are more limited in that they only provide information about the *potential* for biological productivity.

Don't be alarmed if LAKEWATCH parameters for your waterbody fall into different trophic ranges. If this happens, it simply suggests that you might want to take a closer look to determine why. Feel free to talk with the LAKEWATCH staff to see if there is cause for concern or if perhaps further study is warranted.

**\* These criteria were developed by two lake scientists, Forsberg and Ryding in 1980. For more information, see the *Trophic State: A Waterbody's Ability to Support Plants, Fish, and Wildlife* handout .**

# Florida Lake Regions\* Summary

## Which Lake Region is Blairstone in?

**Blairstone is located in the Tifton/Tallahassee Uplands Region which is described as:**

*The characteristics of this region change distinctly from west to east, and it contains a heterogeneous mosaic of mixed forest, pasture, and agricultural land throughout it. Lakes in this region tend to be slightly acidic to neutral, colored, soft water lakes with moderate nutrient values. Some lakes have high pH and conductivity values because groundwater is pumped in to counteract draining.*

## How does Blairstone compare to other lakes in its region?

Blairstone has been sampled by LAKEWATCH volunteers from **February 16, 1993** to **September 13, 2008** for a total of **97** months. An average has been calculated for each parameter sampled (total phosphorus, total nitrogen, total chlorophyll, and water clarity or “Secchi Depth” and is referred to in the table below as the “Average for Blairstone”. Averages were also calculated for other lakes in the Tifton/Tallahassee Uplands Region. These averages have been grouped into ranges from low to high and are shown in the table below. Using the table, you can see how Blairstone compares to other water bodies in this region.

<b>Tifton/Tallahassee Uplands Region</b>				
	<b>Total Phosphorus (µg/L)</b>	<b>Total Nitrogen (µg/L)</b>	<b>Total Chlorophyll (µg/L)</b>	<b>Secchi Depth (ft)</b>
<b>Average for Blairstone</b>	52	846	29	2.7
<b>Low Range<sup>1</sup></b>	3 - 15	227 - 396	1 - 4	0.7 - 3
<b>Low to Middle Range<sup>2</sup></b>	15 - 26	396 - 538	4 - 12	3 - 4.3
<b>Middle to High Range<sup>3</sup></b>	26 - 47	538 - 697	12 - 25	4.3 - 6.9
<b>High Range<sup>4</sup></b>	47 - 297	697 - 3323	25 - 216	6.9 - 19
<b>Number of lakes used to define each range</b>	37	36	36	27

Keep in mind that if the number of lakes that were used to define each range (shown in the bottom row of the table) is small, the range of water chemistry conditions listed may not present an accurate picture of your Lake Region's typical characteristics. Don't be alarmed if Blairstone is at one end of the spectrum (High Range or Low Range) or perhaps outside the range altogether. The existence of an extremely high or low value merely indicates there are factors you might want to take a closer look at in order to identify the cause. If you have a concern, we encourage you to talk with the LAKEWATCH staff about it.

<sup>1</sup>Low range represents the minimum value to 25th percentile. This means that 75% of the lakes sampled in this study have values higher than Blairstone.

<sup>2</sup>Low to middle range represents the 25th to 50th percentile. This means that 50% of the lakes sampled in this study have values higher than Blairstone, and at least 25% of the lakes sampled have values lower.

<sup>3</sup>Middle to high range represents the 50th to 75th percentile. This means that 25% of the lakes sampled in this study have values higher than Blairstone, and at least 50% of the lakes sampled have values lower.

<sup>4</sup>High range represents the 75th to maximum value. This means that at least 75% of the lakes sampled in this study have values lower than Blairstone.

\* This classification system was created by grouping lakes based on similarities in physiography, geology, soils, hydrology, water chemistry, vegetation, and climate. This project resulted in the definition of 47 regions, which are described in a final report Lake Regions of Florida (Griffith, G.E., et al. 1997), published by the U.S. EPA (EPA/R-97/127). For more information see the Florida Lake Regions Classification System handout.