



# LAKEWATCH

Dedicated to Sharing Information About Water Management and the Florida LAKEWATCH Program

Volume 91 Winter 2020



## INSIDE THIS ISSUE:

End of the Year Reflections . . . . .	2
Protecting Water through Pesticide Safety . . . . .	5
Active Florida LAKEWATCH Volunteer Signs . . . . .	7
Volunteer Photos . . . . .	9
Hot Off The Press: A New Circular . . . . .	10

## End of the Year Reflections

By Mark Hoyer

They say “Hindsight is 20/20” but I’m sure not many want to look back at 2020!

It has been a long hard year for everyone on the planet and LAKEWATCH hopes that 2021 will be a much better year for everyone, in all aspects of life!

COVID certainly caused and will continue to cause problems. It forced the University of Florida to shut down in March 2020 and LAKEWATCH suspended sampling efforts in April and May. I could continue to list the problems, but I am at heart an optimist and thus will focus on the following silver linings that occurred in 2020:

One of the most important things that happened in 2020 was the birth of my first Grandchild, Amelia Grace Hoyer on January 28, 2020. Too early to tell, but I see the potential for a next generation Limnologist.



Miss Amelia Grace admiring Lake Tekapo, New Zealand.  
Credits Garrett Hoyer.

During the LAKEWATCH shutdown, we were able to purchase and set up a new spectrophotometer to analyze samples for total phosphorus. The “Old Spec” had been a workhorse for over 25 years so it was time to give it a rest.

LAKEWATCH volunteers were allowed to begin sampling in June so we only missed data from two months, which is inconsequential for looking at trends and annual means.

Regional Coordinators and Laboratory staff were cleared to come back to work in the middle of June and after a carefully controlled start are back in business training volunteers and processing samples.

During the lockdown, Laboratory Manager Christy Horsburgh and Regional Coordinator Marina Schwartz worked out a seamless process for uploading LAKEWATCH data quarterly into the Florida Department of Environmental Protection's data storage and retrieval system called WIN (Watershed Information System). This makes the data available for everyone's use.

We finalized the hire of a new Laboratory Technician (Colton Hasson) and Regional Coordinator (Marina Schwartz) who have both quickly become part of the LAKEWATCH family.

Our research staff has also been extremely productive this year using LAKEWATCH data to publish several articles in peer-reviewed journals with several more still in review for 2021. The following are a few of the highlighted publications:

Hoyer, M. V., W. T. Haller, J. Ferrell, D. Jones. 2020. Legacy herbicides in lake sediments are not preventing the growth of submersed aquatic plants in Lake Istokpoga. J. Aquatic Plant Management. 58: 47-54.

Jeppesen E., D. E. Canfield Jr, R. W. Bachmann, M. Søndergaard, K. E. Havens, L. S. Johansson, T. L. Lauridsen, T. Sh, R. P. Rutter, G. Warren, J. Gaohua, M. V. Hoyer. 2020. Towards predicting climate change effects on lakes: a comparative study of 1600 shallow lakes from subtropical Florida and temperate Denmark reveals substantial differences in nutrient dynamics, metabolism, trophic structure, and top-down control. Inland Waters. <https://doi.org/10.1080/20442041.2020.1711681>.

Weeks, E.N.I., M. V. Hoyer, J. L. Gillett-Kaufman. and 2020. Improved transfer of integrated aquatic weed management knowledge following face-to-face training with citizen scientists. Journal Aquatic Plant Management. 58:.

Canfield Jr. DE, R. W. Bachmann, M. V. Hoyer, V. Lecours, R. Copeland. 2020. Lake Regions of Florida: Patterns between lake water and surficial groundwater chemistry. Florida Scientist. 83:21-41.

Anderson, C. C., M. V. Hoyer, D. E. Canfield Jr. 2020. Assessing factors that influence lake water–column total phosphorus variability within Florida’s nutrient zones. *Florida Scientist*. 83:1-10.

Hoyer, M. V. 2020. A beginner's guide to water management—Common aquatic birds using Florida lakes. Circular # 113, FA229. Program of Fisheries and Aquatic Sciences, School of Forest Resources and Conservation, University of Florida/Institute of Food and Agricultural Sciences. Library, University of Florida. Gainesville, Florida.

Finally, I thank all of our LAKEWATCH volunteers, staff, and associated family for their tireless efforts in helping everyone understand and better manage our Florida aquatic resources. I encourage you to look for the silver linings from 2020 and move on to 2021 with a positive attitude.

Have a Merry Christmas and Happy New Year!

Mark Hoyer

Director of Florida LAKEWATCH





# The Pesticide Information Office: Protecting Water through Pesticide Safety

*Article by Dr. Brett Wells Bultemeier, Extension Assistant Professor Pesticide Information Office, UF IFAS Extension*

The United States Environmental Protection Agency (EPA), through the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) states that all registered products, when used according to the label “will not generally cause unreasonable effects on people or the environment”. This single statement comes from an abundance of tests, data collection, public comment, and analysis to ensure there is a margin of safety built in as well. However, the small caveat at the beginning of that statement “when used according to the label” requires more action than just lab experiments performed for the EPA. Knowing how to read a label, how to interpret a label, and how to ensure personal and environmental safety is THE mission of the Pesticide Information Office at the University of Florida, and has been a personal goal of mine for the over 20 years I have worked with Pesticides.

My introduction to pesticides, was like much in life, a happy accident. I was on a camping trip in Indiana with a group of fellow spelunkers enjoying hopped beverages, when I mentioned I was looking for a summer internship in marine biology and not having any luck. I had lived in Florida as a child and LOVED the ocean and, like many, wanted to work on the ocean for my job. However, being in college in Indiana presented few of those opportunities, so I made the best of what I could. Someone on that camping trip mentioned they worked for a company that did something similar, they controlled invasive species in the lakes and ponds throughout Indiana, Michigan, and into Ohio. Well it wasn't saltwater and beaches, but water is water, right???



For the next 4 summers I was pulled into the world of aquatic invasive plant management. I quickly shifted from wanting to swim with Flipper, to learning more about aquatic plants. It also helps that marine biology was unbelievably competitive, with students PAYING to do summer internships, whereas I was earning a decent wage AND learning. My interest finally led me back to what I always considered home, north central Florida, as I attended graduate school for my masters and PhD at the Center for Aquatic Invasive Plants

at the University of Florida. After graduation I worked for a company that specialized in aquatic management and mosquito control. There I worked to help train the operational staff about aquatic invasive plants and pesticide use and safety. It was during those 7 years I shifted more towards pesticide safety and understanding how to teach folks pesticide use and safety “according to the label”.

After almost 8 years away from the greatest institution around (Go Gators!) I came home yet again, back to the Center for Aquatic and Invasive Plants, but now with the Pesticide Information Office (PIO). In November of 2019 I came on board...and it has been so very quiet since that time! The PIO is tasked with helping to certify and train the nearly 60,000 licensed applicators in the state of Florida. We help to prepare study manuals, write and proctor, through our county extension network, the exams, and offer numerous continuing education unit (CEU) opportunities. Although our primary focus is on ensuring Floridians have what they need to get and maintain their license, our deeper mission is to ensure that ALL pesticides are used according to the label, thus protecting people and the environment.

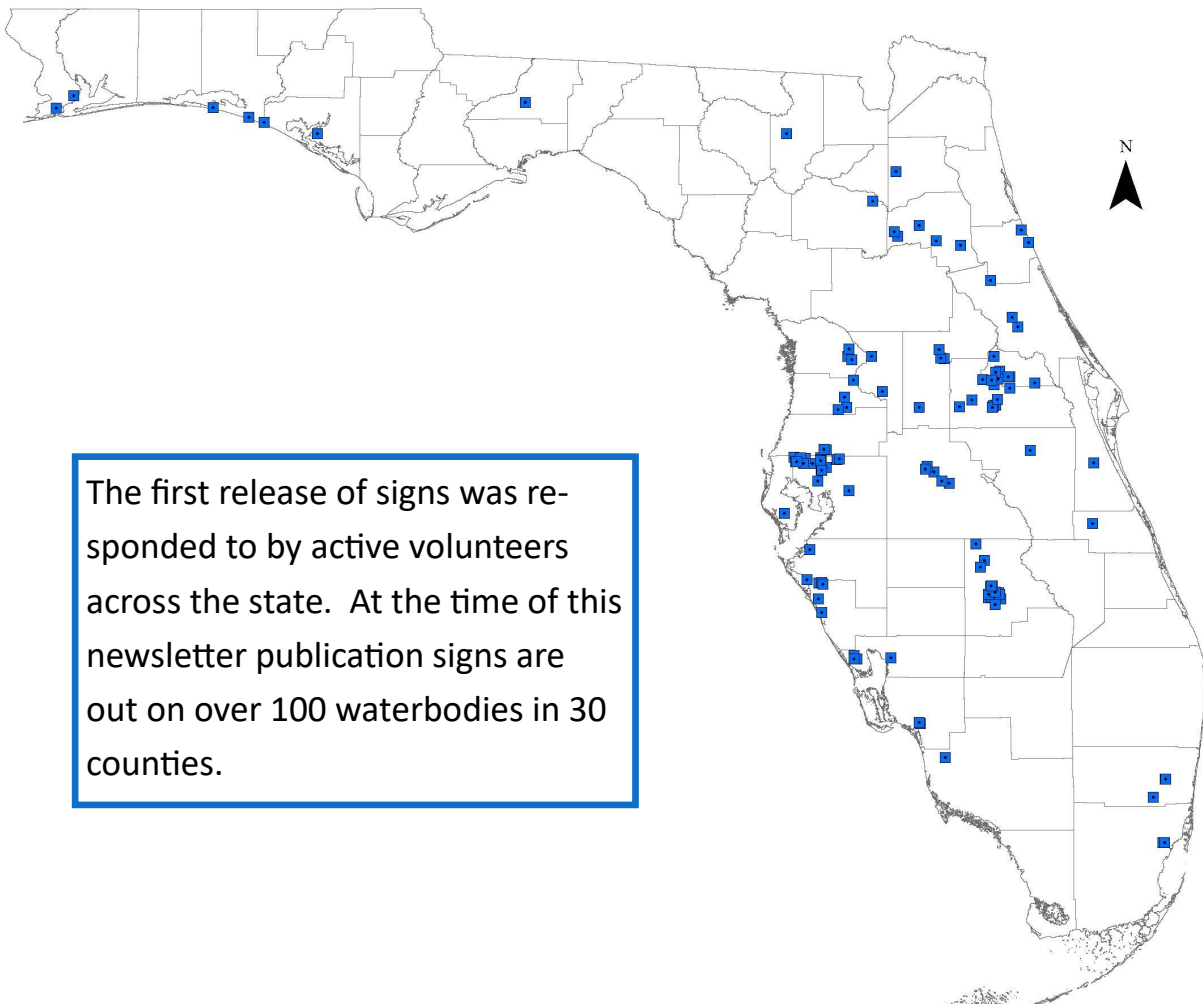
You may be wondering, “why is this pesticide guy writing to the Lakewatch crowd?”. A solid question, one that starts with my roots in aquatic plant management. Water is important, perhaps our most precious resource, and part of protecting that resource is making sure pesticides aren’t misused to possibly damage that resource. I see our missions overlapping in that Lakewatch monitors our waters and teaches people more about WHY and HOW to care for that water. The PIO helps to make sure people understand that misusing a pesticide or failing to follow a label can harm that same water.

We offer a host of study materials through the UF/IFAS Bookstore <http://ifasbooks.ifas.ufl.edu/c-76-pesticides-exam-study-materials.aspx> that can help study for any pesticide license exam and ensure an understanding of pesticide applications in Florida. Additionally there are numerous CEU opportunities on our Canvas site <https://ifas-pest.catalog.instructure.com/> where numerous aquatic and natural area CEUs can be found. You can also follow our blog at <http://blogs.ifas.ufl.edu/pesticideinformation/> These offerings will be refreshed and upgraded in the coming years and our website <https://pested.ifas.ufl.edu/> will be updated as well. So, if you have any pesticide safety questions, need a license, or just want to know how you can be involved with ensuring the state of Florida ALWAYS follows the label instructions give us a shout.

## Active Florida LAKEWATCH Volunteer Signs

Throughout 2018 and 2019 Florida LAKEWATCH volunteers were asked questions in a survey that covered several aspects of their experience with the program. One of the questions focused on how they would like to be recognized for their hard work. From those answers we decided to design and make signs for active volunteers to put out in their community; at boat ramps, parks, and docks. These signs let other waterbody users know that there is an active Florida LAKEWATCH volunteer sampling the waterbody, and directs them to find information and data at the LAKEWATCH website. Active volunteers were given the choice between an anonymous sign, or one with a line where they can add their name and contact information if desired. The signs are plastic and made to withstand all the conditions Florida weather can throw at them. If you're an active volunteer interested in displaying a sign around your waterbody please reach out to us at:

[fl-lakewatch@ufl.edu](mailto:fl-lakewatch@ufl.edu)



If you're a volunteer actively sampling a waterbody, and are interested in displaying a sign around your waterbody please reach out to us at: [fl-lakewatch@ufl.edu](mailto:fl-lakewatch@ufl.edu)



Florida LAKEWATCH sign with volunteer information line



Florida LAKEWATCH anonymous sign





## Volunteer signs displayed at lakes

Left: Lake Otis Park (Photo by LAKEWATCH Volunteer Suzanne Lindsey).

Below: Lake Alto boat ramp (Photo by LAKEWATCH John Vance)



**Don't forget to enter your filtering time for each station. This ensures we can upload your data to the Department of Environmental Protection.**

### Date and Time of Chlorophyll Filtration:

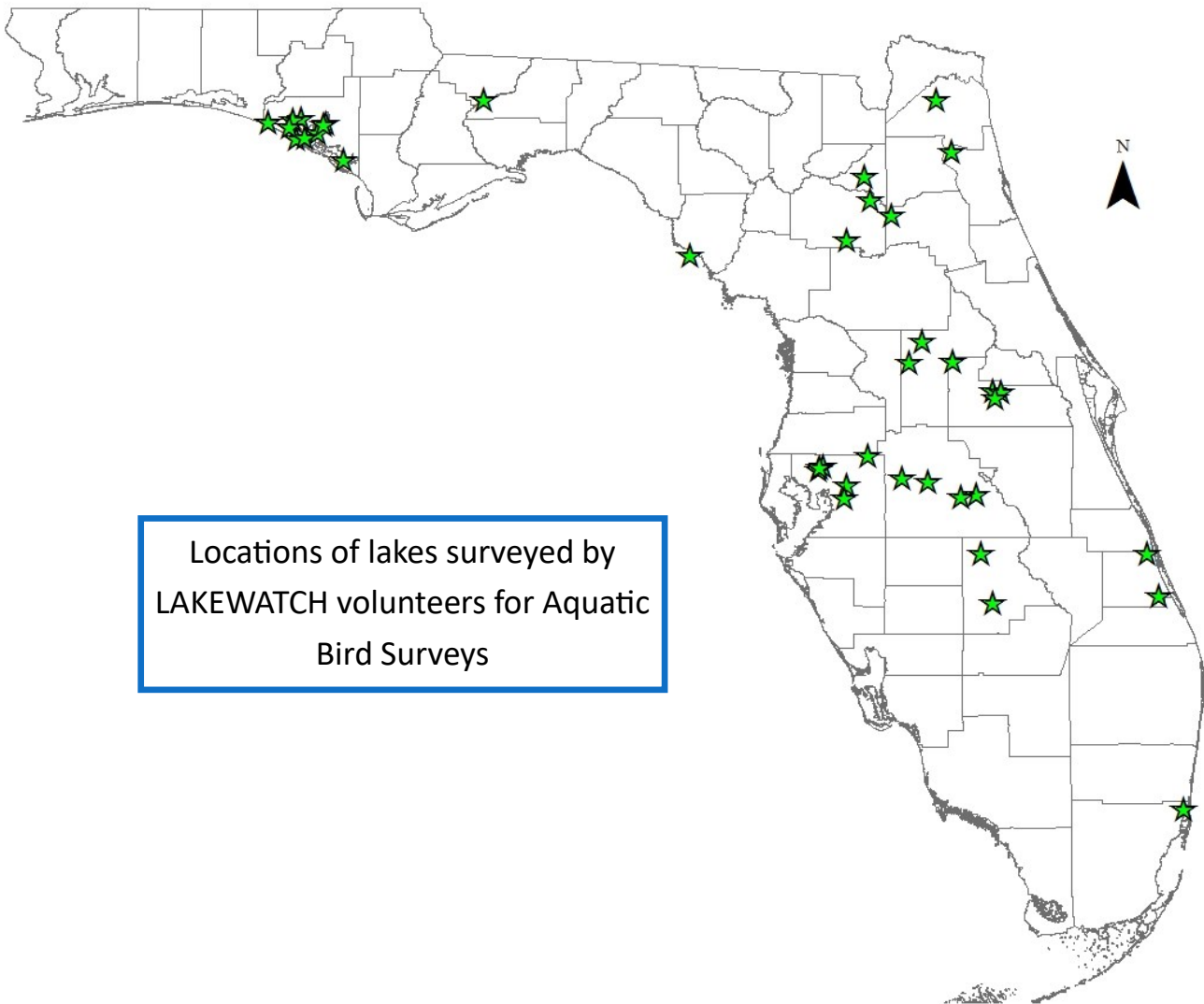
Station	Filtering Date	Filtering Time
Sta 1	10/2/2019	10:00 AM
Sta 2	10/2/2019	10:15 AM
Sta 3	10/2/2019	10:30 AM
Sta 4		
Sta 5		

## Hot Off The Press: A New Circular

Florida LAKEWATCH produces information circulars to help share information and address commonly asked questions about Florida lakes and their companions. Our newest one is hot off the press. **Informational Circular 113:**

### **A beginners Guide to Water Management – Common Aquatic Birds Using Florida Lakes**

The purpose of this information circular is to briefly describe Florida LAKEWATCH and LAKEWATCH's volunteer aquatic bird monitoring program. It uses current research information to describe how aquatic birds are related to lake morphology, water chemistry and aquatic plants. Finally, it identifies and describe some characteristics of the most common aquatic birds observed on lake systems by Florida LAKEWATCH volunteers as they participated in LAKEWATCH's aquatic bird surveys.



## A Beginner's Guide to Water Management—Common Aquatic Birds Using Florida Lakes<sup>1</sup>

Mark V. Hoyer<sup>2</sup>



Figure 1. Green-backed heron. Credits: Lawrence Korhnak

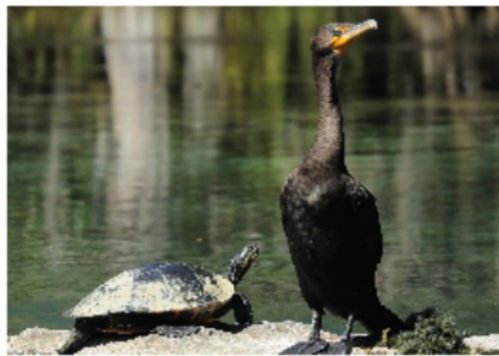


Figure 3. Double-crested cormorant. Credits: Lawrence Korhnak



Figure 2. Snowy egret. Credits: Lawrence Korhnak



Figure 4. Wood duck. Credits: Lawrence Korhnak

Florida LAKEWATCH Informational Circular 113 A beginners Guide to Water Management – Common Aquatic Birds Using Florida Lakes

LAKEWATCH thanks its volunteers for providing the data used in creating this publication. We couldn't do this without YOU!

If you would like to participate the Aquatic Bird Surveys, download your data sheet at <https://lakewatch.ifas.ufl.edu/media/lakewatchifasufledu/for-volunteers/Field-Sheet-Aquatic-Birds-2019.pdf>

Don't forget to check out our other circulars for more information on lakes! Find them at <https://lakewatch.ifas.ufl.edu/extension/information-circulars/>

Have a great photo from a day out on the water?

An inspiring story to share?

A fun fact or recipe?

We would love to see what you've got. Send your submissions to:

FL-LAKEWATCH@UFL.EDU



---

This newsletter is generated by the Florida LAKEWATCH program, within UF/IFAS. Support for the LAKEWATCH program is provided by the Florida Legislature, grants and donations. For more information about LAKEWATCH, to inquire about volunteer training sessions, or to submit materials for inclusion in this publication, write to:

Florida LAKEWATCH  
Fisheries and Aquatic Sciences  
School of Forest Resources and Conservation  
PO Box 110600  
Gainesville FL 32611-0600  
or call  
1-800-LAKEWATCH (800-525-3928),  
(352) 392-4817,  
E-mail: [fl-lakewatch@ufl.edu](mailto:fl-lakewatch@ufl.edu)  
Website: <http://lakewatch.ifas.ufl.edu/>

All unsolicited articles, photographs, artwork or other written material must include contributor's name, address and phone number. Opinions expressed are solely those of the individual contributor and do not necessarily reflect the opinion or policy of the Florida LAKEWATCH program.