

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

Volume 88 Spring 2020

# WHAT'S NEW AT FLORIDA LAKEWATCH

LAKEWATCH is seeing BIG changes in 2020! From new hires to new data sheets, we've put together everything you need to know.

Plus! What do we do with all your data?

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# LAKEWATCH Laboratory Audit and SOP Changes

LAKEWATCH staff were extremely busy in 2019 and are not slowing down in 2020. You probably read of Claude Brown's retirement from our program in the last Newsletter. We wish Claude the best in his retirement! Over the last few years we transitioned operations of the laboratory activities to Christy Horsburgh who is currently our Laboratory Manager. Christy is doing an excellent job and the laboratory is running as smooth as ever processing over 24,000 in 2018 and 2019 combined (including phosphorus, nitrogen, chlorophyll, specific conductance and color on each sample).



Christy had her hands full in 2019 because the Florida Department of Environmental Protection's (FDEP) department of Aquatic Ecology and Quality Assurance section conducted an audit of the Florida LAKEWATCH laboratory in accordance with Rules 62-160.650 and 62-160.670, Florida Administrative Code (F.A.C.). The purpose of the audit was to verify that LAKEWATCH is complying with the quality assurance (QA) requirements of the Florida LAKEWATCH Standard Operating Procedure (SOP, Draft October 2018) and the QA Rules, Chapter 62-160, F.A.C., and correctly implementing approved analytical methods, including acceptable quality control, and maintaining adequate laboratory documentation. We have completed the audit and have adjusted our SOP according to issues FDEP found during the audit. The adjusted SOP entitled "Florida LAKEWATCH Water Chemistry Field Sampling and Laboratory Protocols" can be found on our brand new LAKEWATCH website (https://lakewatch.ifas.ufl.edu/), which you can read more about later in this newsletter.

In conjunction with the laboratory audit, all working data sheets (both field and laboratory) have been changed to facilitate uploading LAKEWATCH data to WIN, the Watershed Information Network. WIN provides a modern, centralized environmental data management platform (excluding regulatory databases) as a successor to Florida STORET (STOrage and RETrieval). WIN provides front-end quality assurance, data input, storage, and reporting of surface water and ground water data. WIN provides a platform for data providers to submit their data and perform data quality checking interactively prior to allowing the data to be migrated into the published WIN environment. WIN is used to store and manage data, and to report data to interested users and the U.S. Environmental Protection Agency (U.S. EPA). In 2020, LAKEWATCH has successfully accomplished all changes and will now be loading all data directly to WIN.

# Welcome Aboard New Hires!



**Marina** Schwartz has worked as a biological scientist with Florida LAKE-WATCH since 2018 and has been hired on as the newest Regional Coordinator. Marina works closely with LAKEWATCH staff in multiple aspects of limnological research and data management, coordinates and trains volunteers, and facilitates regional meetings.

Marina is a Florida native from the Tampa area. Marina received her Bach-

elor of Science degree in Integrative Animal Biology from the University of South Florida in 2016 and a Master of Science Degree in Fisheries and Aquatic Sciences from the University of Florida in 2019.

Marina and her husband, Andy, love to travel, and enjoy finding new hiking, camping, and fishing adventures across the United States. She is always in pursuit of the perfect cup of coffee.

You can contact Marina at: (mevanskeene@ufl.edu) or (352) 273-3640



**Colton** Hasson has worked as a Laboratory assistant since 2013 and has been hired on as the newest Laboratory Technician. Colton cleans glassware and sampling bottles and bags them for transportation. He also assists with keeping the laboratory clean.

Colton is currently enrolled at Santa Fe College where his studies focus on biology and science.

Colton is a sports enthusiast, including football, basketball, baseball, soccer and golf. He was born in Gainesville and bleeds orange and blue! Go Gators!



# Did You Know...

The plant genus *Utricularia* commonly known as bladderwort, is a carnivorous plant. This means that it gets its nutrition from living things, typically microscopic animals known as zooplankton that it traps in its 'bladders', the small pouches seen here.

Photo by Sturgis McKeever, Georgia Southern University, Bugwood.org

# LAKEWATCH Has New Data Sheets

One of the changes to our SOP from the recent laboratory audit by the Florida Department of Environmental Protection's (FDEP) department of Aquatic Ecology and Quality Assurance section involves a change to both our laboratory and volunteer data sheets.

These changes to our SOP involve you, our volunteers! We have started incorporating these new sheets into your restocking supplies and request that you start using them as soon as possible. If you have the potential to print these sheets, you will find them (both fresh and saline versions) on the website on the 'Volunteers' page. Please start using them on your next sampling trip.

What has changed? We have added two sections to the data sheets (see example on page 5). Please remember to fill in these new sections as they are part of our new SOPs. Use the column titled '**Sampling Time'** to denote the time at each station as you collect your water samples. Use the section titled '**Date and Time of Chlorophyll Filtration**' to record the times you filter the chlorophyll samples. Make sure to add the date and time of this activity for <u>each individual station</u>.



These changes allow us to archive our LAKEWATCH data into FDEP's data storage and retrieval system called WIN (Watershed information Network). Once in WIN the data can be used by FDEP for management of our aquatic systems, which was one of the original goals when forming the LAKEWATCH program. Thank you for your continued hard work and dedication, and for helping us with these changes.

#### Florida LAKEWATCH Freshwater Data Sheet

Waterbody Name:		My Lake		County:	Alachua	Alachua	
Sampler:	Dan W.						
Phone:(352)	415-7070		Sampling Date	: 10/2/2019			

Yes X No : Surface Water Collected for Total Phosphorus and Total Nitrogen.

Yes X No : Surface Water Collected for Chlorophyll and Filtered Within 48 Hours.

Yes X No :: Secchi Depth Reading Taken

#### Secchi Disc Measurements:

• For **Secchi depth** and **water depth** measurements, please indicate the number of feet and then estimate and circle the appropriate fraction, if needed.

• If your disc is visible on the bottom write B, if your disc disappears in the weeds write W, in the vanishing point column and the depth at which your disc disappears.

Va	nishing Point	Sun Code Number	Sun Code Key Use the codes from below to fill in the Sun Code Number column.	Water Depth	Sampling Time
Sta 1	6 ft. 1/4 1/2 3/4	1	1 = full sun	10 ft. 1/4 1/2 3/4	9:35 AM
Sta 2	8 ft. 1/4 1/2 3/4	1	2 = haze over sun	10 ft. 1/4 1/2 3/4	9:40 AM
Sta 3	6 ft. 1/4 1/2 3/4	1	3 = thin cloud	10 ft. 1/4 1/2 3/4	9:45 AM
Sta 4	ft. 1/4 1/2 3/4		4 = medium cloud cover	ft. 1/4 1/2 3/4	
Sta 5	ft. 1/4 1/2 3/4		5 = heavy cloud cover	ft. 1/4 1/2 3/4	

#### 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			

DESCRIBE any unique occurrences since your last sampling date, either in the lake or on the local watershed:

If you wish to record lake levels of your lake, please fill in this last section.

#### Lake Level Measurements:

Please circle or describe the type of gauge located in the lake and then record the lake level. **Type of Staff Gauge:** WMD / City / LCWA / USGS / Other (Please

describe):\_\_\_\_\_\_

Rain	(in.)	since	last n	eport			
i \am	(111.)	SILICE	lastin	sport.	5 32 93	- 3232 - 23	

Call LAKEWATCH (1-800-LAKEWAT) if you have any questions on how to get started.

## We Have a New Website!

Over the past several months LAKEWATCH staff have been working diligently with University of Florida office of Communications to bring you a new and improved Florida LAKE-WATCH website! The new site launched in mid-January and has several noteworthy improvements.





#### FLORIDA LAKEWATCH

Florida LAKEWATCH is a citizen volunteer lake monitoring program that facilitates "hands-on" citizen participation in the management of Florida lakes, estuaries, rivers and springs through monthly monitoring activities.

Coordinated through the University of Florida's Institute of Food and Agricultural Sciences/SFRC Fisheries and Aquatic Sciences, the program has been in existence since 1986. In 1991, the Florida Legislature recognized the importance of the program and established Florida LAKEWATCH in the state statutes (Florida Statute 1004.49.). LAKEWATCH is now one of the largest lake monitoring programs in the nation with over 1800 trained citizens currently monitoring 525 lakes, 175 estuary stations, 125 river stations, 20 coastal dune lakes and 10 spring runs in 57 counties.

For Volunteers	Resources	Newsletters	Events
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Our new site is easier to navigate, with dropdown menus (blue) and easy to find emphasis buttons (orange). Under the 'Data/Reports' Tab you can now easily access your Water Quality Reports, all stored in alphabetical order by county, as well as the Meta Data and Annual Means.

## UF IFAS

#### FLORIDA LAKEWATCH



#### **REPORTS (ALPHABETICAL BY COUNTY)**

LAKE REPORTS / ESTUARY REPORTS / DUNE LAKE REPORTS / PLANT REPORTS / RIVER REPORTS / META DATA AND ANNUAL MEANS

#### UPCOMING EVENTS



Pickup - Lake, Marion, Sumter Counties Tuesday February 11

Pickup - Seminole County Wednesday February 12

Pickup - Pinellas, Hernando, Sumter Counties Tuesday February 18

FULL CALENDAR 🔶

You now have access to our calendar where you can see upcoming events and schedules including water sample pickups and regional meetings.

We've added some helpful resources for volunteers including new training videos. All of our circulars, pamphlets, and newsletters are downloadable in PDF format under the 'Resources' Tab. Our new site is even mobile friendly!

You can now donate directly to our student endowed assistantship to help fund graduate students at Florida LAKEWATCH. More detailed information can be found under the 'Teaching' tab on the website, and you can give by clicking the gift icon in the upper right hand corner of the homepage.



You can access the new website at the same URL: https://lakewatch.ifas.ufl.edu/

# **Meet Your Regional Coordinators**

For anyone not familiar with how the LAKEWATCH program is setup it is essentially made of three different groups. LAKEWATCH has a large group of citizen scientist volunteers and stakeholders spread across the state's lakes, streams, springs, and coastal estuaries. The LAKEWATCH water lab consists of a laboratory manager and four laboratory technicians that process and analyze the thousands of samples collected every year. The liaison between these two groups are the Regional Coordinators. LAKEWATCH Regional Coordinators are the backbone of field operations and interface between our citizen scientists and laboratory operations. Their responsibilities are to train and supervise citizen volunteers in the monitoring of water quality in Florida waterbodies, schedule collection center pickups, host volunteer meetings, and field questions from volunteers, the general public, and other stakeholders about anything and everything related to Florida's waterbodies. They answer these questions to the best of their ability or forward them to agency personnel that can best address their concerns. They also coordinate and assist in Florida LAKEWATCH special studies and research projects and help compile the data collected by volunteers. With LAKEWATCH's most recent hire there are now three Regional Coordinators. All three work as a team on LAKEWATCH business, but each have their own set of counties that they are responsible for.



Dan Willis:

Dan has been LAKEWATCH in one form or another since 1991, and be-

came a coordinator in 1993. Dan was born and raised in Okeechobee, and earned his Bachelor's and Master's degrees from UF. His region is South Florida;

which includes the counties: Brevard, Broward, Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Hillsborough, Indian River, Lee, Manatee, Martin, Miami-Dade, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Sarasota, and St. Lucie.

Dan's email is djwillis@ufl.edu

**Dan's Region** 





Jason "mo" Bennett:

Mo has been with LAKEWATCH since 2006 and became a Regional Coordinator in 2017. Mo is originally from Missouri (hence the nickname) and

earned his Bachelor's degree from UMKC before moving to Florida in 2003 to earn his Master's degree from UF. Mo's region is North Florida

and the Panhandle; which includes the counties: Alachua, Baker, Bay, Bradford, Calhoun, Clay, Columbia, Dixie, Duval, Escambia, Flagler, Franklin, Gadsden, Gilchrist, Gulf, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Leon, Levy, Liberty, Madison, Marion, Nassau, Okaloosa, Putnam, Santa Rosa, Seminole, St. John's, Suwannee, Taylor, Union, Volusia, Wakulla, Walton, and Washington.





Marina Schwartz:

Marina started her position as LAKE-WATCH's newest Regional Coordinator in early 2020 after completing her Master's work under LAKEWATCH's founder, Dr. Dan Canfield. In addition she has a large role in LAKEWATCH data manage-

ment and public communication. She is from Tampa, and earned her Bachelor's degree from USF before coming to UF to earn her Master's degree. Marina's region is in Central Florida and includes the counties: Citrus, Hernando, Lake, Polk, and Sumter.

Marina's email is mevanskeene@ufl.edu



Marina's Region





#### Mary Lettelier:

Working along with our team of Regional Coordinator is our Office Assistant, Mary. She handles data entry, sampling inventories, and meeting organization. Mary also has direct contact with volunteers on a daily basis as the primary contact person for most volunteers through the LAKE-WATCH hotline and email address. For many of our volunteers Mary is the voice of LAKEWATCH.

# Lake Istokpoga Habitat Management Plan

For the last two years, LAKEWATCH's Director was heavily involved in the development of a stakeholder driven habitat management plan for Lake Istokpoga. Stakeholder engagement in habitat management was strategic, adaptive, and included a variety of methods to ensure the highest level of participation possible. Initially, a broad-based situation analysis was conducted to assess baseline stakeholder knowledge, attitudes, and perspectives regarding management of Lake Istokpoga and their general value orientations. A permanent committee, Lake Istokpoga Habitat Advisory Committee, or LIHAC was formed of representatives from key stakeholder groups in order to identify objectives; develop habitatmanagement options; assess trade-offs between objectives; and to assess plans for continued monitoring, review, and adaptive management. A wider array of stakeholders and the general public was engaged through public meetings and a stakeholder survey to obtain input from stakeholders at large who had not personally engaged with the LIHAC or public meetings. A website was maintained to document plan development and stakeholder input

#### https://lakeistokpoga.wordpress.com/

A summary of the management plan can be found using the following link:



https://lakewatch.ifas.ufl.edu/extension/lake-management-plans/

Lake Istokpoga Habitat Advisory Committee, University of Florida Habitat Planning Team, and FWC staff meet on Lake Istokpoga discussing management options.

## How Your Data are Used

One of the questions we often get from active and perspective volunteers in the LAKE-WATCH program is about how their water chemistry data are used. Besides being used by the Florida Department of Environmental Protection, as well as several other state agencies and authorities, the data are used by research professionals at the University of Florida and around the world. In 2019 and 2020 alone the research side of LAKEWATCH has been very busy publishing the following manuscripts, all using some data collected by our LAKEWATCH Citizen Scientists:

- *Xiong C., and M. V. Hoyer. 2019. Influence of land use and rainfall variability on nutrient concentrations in Florida lakes. Lake and Reservoir Management.* 35:25-38.
- Canfield Jr. DE, R. W. Bachmann, M. V. Hoyer, L. S. Johansson, M. Søndergaard, E. Jeppesen. 2019. <u>To</u> <u>measure chlorophyll or phytoplankton biovolume: an aquatic conundrum with implications for the</u> <u>management of lakes, Lake and Reservoir Management</u>, DOI: 10.1080/10402381.2019.1607958
- Hoyer M. V., M. K. Schwartz, C. A. Horsburgh. 2019. <u>Empirical analyses of water quality, long-term fish,</u> <u>and aquatic plant population data in relation to aquatic plant management actions</u>. Aquatics 41(3): 16 -27.
- Hoyer, M. V., W. T. Haller, J. Ferrell, D. Jones. 2020. <u>Legacy herbicides in lake sediments are not preventing</u> <u>the growth of submersed aquatic plants in Lake Istokpoga</u>. 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. <u>Towards predicting climate change</u> <u>effects on lakes: a comparative study of 1600 shallow lakes from subtropical Florida and temperate</u> <u>Denmark reveals substantial differences in nutrient dynamics, metabolism, trophic structure and topdown control.</u> Inland Waters. In Press.
- Weeks, E.N.I., J.L, Gillett-Kaufman, and M. V. Hoyer M.V. 2020. <u>A survey of hydrilla management educa-</u> <u>tional materials for optimal stakeholder preference, learning, and knowledge transfer in Florida</u>. J. Aquat. Plant Manage. 58:55-60
- Weeks, E.N.I., M. V. Hoyer, and J. L. Gillett-Kaufman. 2020. <u>Improved transfer of integrated aquatic weed</u> <u>management knowledge following face-to-face training with citizen scientists</u>. Journal Aquatic Plant Management. In Press.
- Canfield Jr. DE, R. W. Bachmann, M. V. Hoyer, V. Lecours, R. Copeland. 2020. <u>Lake Regions of Florida:</u> <u>Patterns between lake water and surficial groundwater chemistry</u>. Florida Scientist. In Press.
- García Girón, Jorge & Heino, Jani & Baastrup-Spohr, Lars & Bove, Claudia & Clayton, John & Winton, Martin & Feldmann, Tõnu & Fernández-Aláez, Margarita & Ecke, Frauke & Grillas, Patrick & Hoyer, Mark & Kolada, Agnieszka & Kosten, Sarian & Lukács, Balázs & Mjelde, Marit & Mormul, Roger & Alahuhta, Janne. (2020). <u>Global patterns and determinants of lake macrophyte taxonomic, functional and phylogenetic beta diversity</u>. Science of The Total Environment. 138021. 10.1016/j.scitotenv.2020.138021.

All of the LAKEWATCH research and publishing accomplishments rest firmly on the backs of our dedicated Citizen Scientists who continue to dedicate their time and talents to make all of this happen and we thank them!

# North American Lake Management Society

# 2020 Lakes Appreciation Month Student

# **Poster Contest**



POSTER CONTEST

Three students will win a \$300 cash prize! \$250 to the artist's school / \$50 to the artist



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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: <u>fl-lakewatch@ufl.edu</u> Website: <u>http://lakewatch.ifas.ufl.edu/</u>

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.

# July has been Lakes Appreciation Month for the past 22 years. This spring, we are inviting elementary, middle, and high school students to **submit posters reflecting on how important lakes are to all of us**. Three students will win a \$300 cash prize! Submitted artwork will be a big part of NALMS' celebrations through July across North America. Show us your love for lakes by sending us your artwork! For more information, contest rules, and submission instructions please visit

https://www.nalms.org/lakes-appreciation-month/ poster-contest/