



# The Water Drop and Lake Monitor

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Ferrum College

Edited By: Chelsea Zizzi

## Introduction to the Smith Mountain Lake Water Quality Program

Welcome to our 34th year of water quality monitoring at Smith Mountain Lake. This will be quite a unique year for us. Instead of our usual training with strawberry shortcake, we went “virtual”. Here are the training videos for your reference this summer :

Channel link: <https://www.youtube.com/channel UCKU28hIFOe8QgbHYSaMJmWQ>

Playlist link: <https://www.youtube.com/playlist?list=PL86GGPYuG1pd1PhVzberJ6lies5ZDgpmN>

### Tips for Water Sampling:

- Remember to clearly mark the large filter paper around the edge using ONLY pencil.
- Make sure to place your filters in the small black bag, sunlight destroys them.
- Please fold your small filters two times to prevent rubbing off the chlorophyll.
- Remember to sample within the dates of the sampling week.
- If your sampling hose is too short, please sample as deeply as possible with the one you have.
- Advanced Monitors: Remember to collect water samples at twice the secchi depth reading

We are looking forward to working with each and everyone of you throughout this summer and would like to **thank you**, as the project would not be possible without your ongoing participation and support. Your interest and input in the program ensures a healthy, clean lake for our enjoyment now and for future generations. We will continue to keep you up-to-date this summer by publishing this newsletter which will contain information about our progress and the water quality monitoring program. Once again thank you all for your interest and participation!

The Smith Mountain Lake Association & Ferrum College Water Quality Monitoring Program are dedicating the 2020 monitoring season to the memory of Dr. Carolyn Thomas, one of the founders of the program. Carolyn passed away in January after a courageous two-year battle with cancer. Carolyn's passion for water quality was evident every time she ventured out on the lake. You can see that demonstrated in this interview with John Carlin from a few years ago (<https://youtu.be/V4JyexWBbj8>). One of the traditions of the college's sampling trips is to count Great Blue Herons, Carolyn's Spirit Animal. From now on when one is sighted we hope you will be reminded of Carolyn's passion, her dedication to SML, and her love of Citizen Scientists like yourselves.

**Please remember that your safety and health are our number one priority. Please don't engage in any sampling activity that you feel places you in any danger or compromises your well-being.**

So what happens to the data and the water samples that you collect over the summer? Glad you asked! The Secchi readings that you give us measure water clarity, which can indicate a rise in total phosphorus and algae. We sample every other week for coliforms and E coli bacteria, which tells us if human or animal waste has made its way into the water that we swim in and fish out of. High readings could indicate that fertilizer has reached the water; this could lead directly to exponential growth of microscopic plants. We monitor this closely to ensure that a healthy number of species exist. Chlorophyll-a analysis also helps us to monitor plant numbers in the water. Too much plant growth can reduce the dissolved oxygen in water, which may cause fish to suffocate. With your help, we are able to safely monitor the lake to ensure that it is a safe and healthy place not only for the people enjoying the water, but the species that live in the lake as well.

### Inside this issue:

Faculty & Staff Intro- 5

The Water Quality Crew 5

Schedule and Contacts 5



## Faculty & Staff Introductions



**Dr. Bob Pohlad and Dr. Carolyn Thomas**

### Dr. Bob R. Pohlad

This is an unusual year for the lake project. Dr. Carolyn Thomas, project co-founder and my soulmate will not be with us as she passed away on January 14th, 2020. She will be there, however, in sightings of her spirit bird, the Great Blue Heron, as we travel around the lake. We have had a very warm winter and recently extremely high water. It will be interesting to see how this impacts this year's observations. As has been the case in the past, my work on the project is to work with the student technicians on the identification and analysis of the algae populations throughout the lake, specifically to determine levels of Blue-Green Algae (Cyanobacteria) often called HABs (Harmful Algal Blooms). Where necessary we will do microcystin toxin assays where blue green algae seem to be high. Our profile probe allows us to assess the blue green algae and will be used again this year. We hope this provides some additional useful information about algae in the lake. I again would like to encourage you to take pictures of your sampling so we can post them, if you are willing, to our Facebook page for and to use them in our presentations at meetings. I would love any images of Great Blue Herons you happen to spot as they remind me of Carolyn's presence in one of her favorite places, Smith Mountain Lake. As always, I welcome any questions and encourage you to get in touch with me. My email is [bpohlad@ferrum.edu](mailto:bpohlad@ferrum.edu) or you can call and leave a message at the lab. I am enjoying being retired from teaching and thanks to the Ferrum College Board of Trustees am now professor emeritus. This was also granted to Carolyn. I plan to continue my research on algae with the water quality project, to keep the College's Boston Whaler, purchased in 1979, in good running condition for another year, and to honor the memory of Carolyn during this 34th year of the program.

See you on the lake!

### Dr. Delia Heck

I had hoped that it would be quite a while before I transitioned from Co-Director to Director of the Water Quality Monitoring Program, but that was not to be. It is not an easy thing to fill the shoes of a legend within the Citizen Scientist water quality monitoring sphere such as Dr. Carolyn Thomas. So I won't even try. Instead we all will endeavor to honor her legacy by continuing the very best aspects of this program and finding new ways to improve and expand the usefulness and efficiency of it. Certainly the conditions we find ourselves in today force us to rethink all of our processes and the manner in which we interact with you and with each other. To that end, we are focused on health and safety first and foremost. This period has given us the opportunity to ask questions about how and why we do things throughout the program. Such analyses are always helpful, yet we remain heartbroken as to the cause of this particular transition and review.

My roles at Ferrum College currently include Professor of Environmental Science, the Natural Science Division Chair, Program Coordinator for Environmental Science and Environmental Studies, and the Assessment Coordinator. Please don't hesitate to contact me if you have any questions or concerns. We are grateful for your involvement once again as we move into this new era. Together we will continue to have a significant impact on the lake and in this community.

### Carol Love

Hello everyone, and welcome to another sampling season on Smith Mountain Lake. We are very thankful that every monitor has decided to continue with the program – we cannot do what we do without your help. We missed seeing everyone at our usual May kick-off event (no shortcake!) but look forward to interacting with you as we are able in this most unusual year. As you know, I am the lab and field coordinator for the project in the summers and the laboratory supervisor at Ferrum College during the school year. Please be sure to stay safe on the water and don't hesitate to call or email with any questions or concerns.

## Faculty & Staff Introductions Continued...



**TP laboratory and monitoring station and Lachat**  
 (Pictured left to right: Jacob Blaukovitch, Chelsea Zizzi, and Dr. Dave Johnson)

### Dr. Clay Britton

Hello! My name is Dr. Clay Britton. I joined Ferrum in August as an Assistant Professor of Biology and Agricultural Science with emphasis in Horticulture. This will be my first summer associated with this project, and I am excited to join the SML Water Quality Team! Although this is my first year with the project, I have spent nearly a decade working on water quality projects as an undergraduate student at Elon University, NC and as a doctoral student at Purdue University, IN. I am excited to get back to my roots! If you ever have any questions about algae or plants (aquatic and terrestrial) that you see in or around the lake please feel free to send me an email message (cbritton@ferrum.edu) and I will get back to you. I am looking forward to getting to learn more about your beloved lake and getting to know more about the SML community. Stay safe and enjoy that lake life!



### Dr. Dave Johnson

Hello Friends,

I know many of you, but will briefly introduce myself to those of you I haven't had the pleasure of meeting. I'm an environmental chemist and taught at Ferrum College for 36 years before retiring in 2015. I grew up near Traverse City, Michigan and love being in, on and around lakes. During the spring of my senior year at University of Michigan, I worked on the first Earth Day celebration and then stayed on to earn my doctorate in environmental chemistry. Aquatic ecosystems are endlessly fascinating and great fun to explore, so during retirement I have stayed active with our lake monitoring program and continue working with colleagues at China Three Gorges University. Season 34 of our collaboration has begun with some unusual challenges, to say the least. Planning during the pandemic chaos has schooled us on flexibility and contingency planning. This is also the first summer without my dear friend and colleague, Carolyn. That has been difficult, but I'm comforted by memories of working with her on the lake for 33 years. It is certainly appropriate that we dedicate this year to Carolyn. Her *joie de vivre* was incredibly contagious, so I'll honor her by enjoying my work this summer more intentionally... and I'll think of her whenever I see a great blue heron. Salute, here's to another summer of smooth sailing, cool drinks and friends.



## The Water Quality Crew Introductions

Hello, my name is Jacob Blaukovitch. I am a senior at Ferrum College majoring in chemistry, biology, and pre-professional health science: pre-med with a one health minor and I am from Roanoke Va. I am working on TP (total phosphorus) and bacterial analysis for the water quality project. I am also the captain of the men's swim team at Ferrum. I plan to attend either chiropractic school or med school (for a DO degree) after graduating next spring. (Top Left Image)

Hi! My name is Lexi Davidson and I'm a senior at Ferrum College. I'm majoring in environmental science and I'm minoring in biology. I'm going to be one of the primaries on the algae analysis and the chlorophyll- $\alpha$  analysis. I'm from Henry County, so not too far from SML! I worked at Fairy Stone State Park for the last four years (hoping to finish my fifth one this fall!) When I'm not working, I like to read or go kayaking and hiking with friends. My goal for the summer is to become well rounded in water quality monitoring as I am hoping to further my career in that direction while also earning my Masters. (Bottom Left Image)

Hello everyone! My name is Michelle Musick and I am from Franklin County. I will be a senior at Ferrum College next semester majoring in Environmental Science. In my free time I enjoy fishing, hiking, and most recently bird watching. This summer, I am going to be one of the primaries on the algae analysis and chlorophyll- $\alpha$  analysis. I am very excited to be a part of the Water Quality Project. I hope to take this opportunity understand more about water quality and consider this field a possible career choice. (Middle Image)

Hello, my name is Samuel Chappell, and I am an Environmental Science major at Ferrum College. This summer I will be working with the Water Quality Monitoring Program doing mainly depth profiles and bacteria sampling. I grew up on Smith Mountain Lake, so I look forward to spending the summer on the lake and helping out the community. I am planning to graduate this December and want to work around the lake working with fisheries and wildlife. I think we will make the best of this summer and hopefully by the end of our program everything will be back to normal. I will see you all out on the lake! (Bottom Right Image)

Hello! My name is Chelsea Zizzi and I am a junior at Ferrum College. I am a Chemistry Major and an English Minor. I will be working on the total phosphorus (TP) and the bacterial analysis for the SMLWQP this summer. I am from Yorktown, Va and have not had the opportunity to grow up and be around such a beautiful lake, so please be on the look out for me bobbing in the water because I have yet to grow my 'lake legs'! I still have a couple of years left at Ferrum, but after I graduate I would like to go to graduate school to further my chemistry career and take another step forward in the direction of becoming a pharmaceutical researcher. I will see you on (hopefully not in) the lake! (Top Right Image)



# June 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
5/31	6/1	6/2 1st Bacteria Sample	6/3	6/4	6/5	6/6
6/7	6/8	6/9 1st Depth Profile & Sample Pickup	6/10	6/11	6/12	6/13
6/14 	6/15	6/16 2nd Bacteria Sample	6/17	6/18	6/19	6/20  It's SUMMER!
6/21  Happy Fathers Day	6/22	6/23 2nd Depth Profile & Sample Pickup	6/24	6/25	6/26	6/27
6/28	6/29	6/30 3rd Bacteria Sample	7/1	7/2	7/3	7/4  Happy July 4th

## \*Secchi Reminder\*

Make sure to record your readings to the nearest 0.25 meter because it helps compensate for the stretching of the secchi line when wet.

## \* Photo Opportunity \*

Please, please, please....take photos of you sampling and of your sampling sites!

## \* Photo from SML H<sub>2</sub>O \*



## Schedule of Events

- 5/31-6/6- 1st SML Water Sampling Week (Blue)
- 6/9 - 1st SML Water Sample Pickup by Ferrum
- 6/14-6/20- 2nd SML Water Sampling Week (Yellow)
- 6/23 - 2nd SML Water Sample Pickup by Ferrum
- 6/28-7/4 - 3rd SML Water Sampling Week (Red)
- 7/7 - 3rd SML Sample Pick-up by Ferrum

## Check This Out!

Community Collaborative Rain, Hail, and Snow Network Volunteer opportunity.

<http://www.cocorahs.org/>

Remember that samples can be left at the Smith Mountain Lake Office. The Office is located beside Dairy Queen on Route 834 Scruggs Road. The entrance is in the back of the building. Be sure to call the Smith Mountain Lake Office before dropping off samples as well as notify our lab by the contact information below. We leave the building by 7:00 am on sampling days, so if you can call prior to pick up date, that would ensure that we pick up your samples at the correct location.

### Contact Information:

Ferrum College Water Quality Lab

80 Wiley Drive

Ferrum Va. 24088

Phone: 540-365-4349

Email: [wqp@ferrum.edu](mailto:wqp@ferrum.edu)

[SML Water Quality Webpage](#)