the Shellcracker

FLORIDA CHAPTER OF THE AMERICAN FISHERIES SOCIETY

http://www.sdafs.org/flafs

July 2019

President's Message:

Lessons From a Fish: The Big Catch Can Get Away

A friend brought a big, ugly koi to my koi store that didn't fit well in her pond full of expensive and beautiful award-winning, champion koi. This koi was mottled black and brown and not something I could give away, let alone sell at a koi store. It was going to eat me out of house and home, outcompete other fish for food, produce lots of waste ammonia, and take up limited oxygen. There was no winning in this I complained to my fishing buddy. He said to not do anything drastic and we could readdress the situation in a month.

So, for a month, every time we took a break from rebuilding an old boat he would spend time with that ugly fish. Every time a customer took time away from our boat project he would spend time with that fish by holding high protein fish pellets in the water ignoring all other koi until this big one came to nibble.

A month later that koi became the star of Bonsai Koi Ponds. People would come and put money in the koi food vending machine just to hand feed that fish. It went beyond just hand feeding though. This koi became so trusting and tame that it would swim up into your outstretched arms to be lifted out of the water like a puppy dog. What a hit!

Lesson 1: Beauty's only skin deep. You can make a great friend/pet by looking deeper than the surface. Coincidentally, this lesson also applied to this same fishing buddy whom I had written off as a long-haired hippie for many years before I finally got to know him and found a great friend.

Eventually a customer offered big money for this "worthless koi" err great pet, and me being in the business and this being a store, I sold it. Well, then came the let down to customers when I told them the news. I would overhear them say (to whomever they brought to see this amazing fish) "Come on, let's get out of here, this guy sold his best friend."

Lesson 2: When you do find the truth (trusting love), hang on tight and cherish the memories.

Dedicated to Monique, loving wife of 30 years, who contacted FLAFS and found my home at FWC. Moniques' beautiful memorial butterfly garden at the shop was built with an outpouring of love from family and friends, both FWC and FLAFS. As tough as it has been, your love and support has and will sustain me.

Tight lines all,
Bob Heagey

Getting in Touch

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Upcoming Events

Sept 27: Abstract submission deadline: Southern Division AFS-Catfish 2020: The Third International Symposium. (see page 6).

Sept 29-Oct 3, 2019: 149th Annual Meeting of the American Fisheries Society – Joint meeting with The Wildlife Society. Reno, Nevada.

Check out our Parent Society's calendar at http://www.fisheries.org/Calendar.shtml for other events not listed here!

Interested in contributing something to the Shellcracker? Email: Scott Bisping at *Scott.Bisping@myfwc.com* with any articles or information that you would like to be included in the next issue. The deadline for the next issue is September 1st, 2019, so start fishing...

Feature Article

The Effects of Nutrient Reduction on the Water Quality and Largemouth Bass *Micropterus salmoides* Population in Lake Alice, Gainesville, Florida

By: Marina Schwartz

Marina Schwartz earned her Master of Science degree at the University of Florida Fisheries and Aquatic Sciences program in Gainesville, Florida with Dr. Daniel E. Canfield Jr. as her advisor. She works with Florida LAKEWATCH and Fishing for Success.

Eutrophication is "the process by which a body of water becomes enriched in dissolved nutrients that stimulate the growth of aquatic life" *(Merriam-Webster's collegiate dictionary,* 2018) The addition of excess nutrients by human activity is known as cultural eutrophication. The effects of cultural eutrophication in a lake can be integrated and complex, often affecting water chemistry and fish populations (Schindler and Scheuerell 2002).

There is a well-established relationship between nutrient concentrations and biological productivity of lakes (Sakamoto 1966, Vollenweider 1968, Jones and Bachmann 1976), and phosphorus and nitrogen are widely considered the limiting nutrients in lake systems. Therefore, nutrient reduction is a widely used remediation tool for lake management once cultural eutrophication is identified as a problem.

Figure 1. Satellite view of Lake Alice (Gainesville, Florida) and its adjoining marsh in 2018. Image from Google Earth.

Prior to 1994, Lake Alice, Gainesville, Florida (Figure 1) received treated effluent from a wastewater treatment facility. In October 1994, a new wastewater reclamation plant was opened, and the treated effluent was rerouted, no longer contributing excess nutrients to the lake.

Lake Alice is home to an unfished population of Largemouth Bass *Micropterus salmoides.* My research examines how the water quality and the Largemouth Bass population has responded to the reduction in nutrients due to the removal of treated wastewater effluent. Water chemistry and Largemouth Bass data collected by UF's Introduction to Fisheries Science class (Figure 2) was analyzed for the years surrounding the removal of effluent and examined for relationships between effluent presence, absence, and bass population parameters. Additionally, the remainder of the Introduction to Fisheries science class data was analyzed to see if any trends or relationships held true over long term periods.

Figure 2. Students electrofishing during the Introduction to Fisheries Science class at Lake Alice, Gainesville, Florida. Image by Dr. Charles Cichra

While there were statistical differences between time periods, the nutrient concentrations both pre- and post-removal are indicative of a highly productive, eutrophic, system. This is because of the underlying geology of Lake Alice. Located in the Central Physiographic zone, and superficial to the Hawthorne formation - a phosphorus-rich geologic formation from the Miocene Epoch, the changes in nutrient concentrations that can be obtained by reduction of anthropogenic input are limited. These phosphorus-rich soils cause naturally high levels of TP in lakes. Thus, and specifically for Florida lakes, it is important to establish baseline conditions (long term monitoring) in order to accurately examine changes produced by management decisions.

What I found was that removal of point source pollution did significantly decrease the nutrient concentrations and productivity in Lake Alice as well as improve water clarity. These changes were acute and distinct and held throughout the remainder of years examined, with all water quality parameters never returning to their pre-effluent removal levels (Figure 3). There were also changes in Largemouth Bass population parameters such as abundance and size distribution, but these were found to be part of a long-term pattern and not a direct result of the effluent removal.

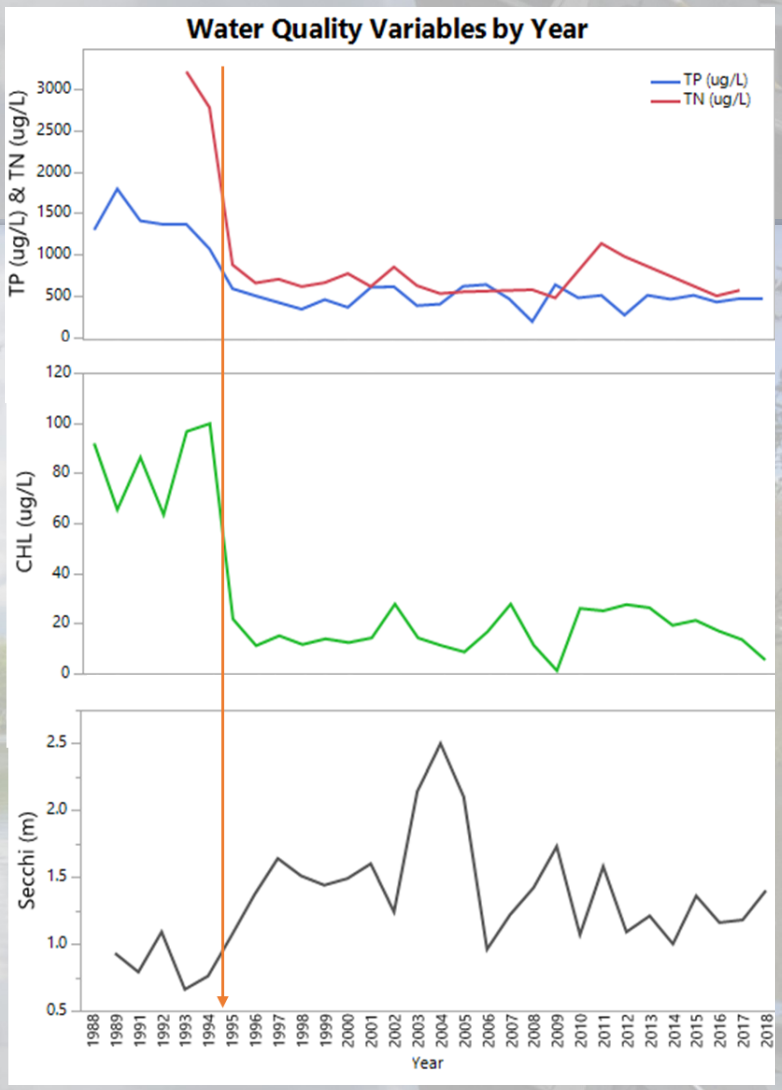

Figure 3. Total Phosphorus (TP), Total Nitrogen (TN) Chlorophyll (CHL), and Secchi depths for 1988-2018. TN for 1988-1992 and Secchi for 1988 omitted due to missing values. Water samples measured in January and February 1988 to 2018 by UF's Introduction to Fishery Science classes from Lake Alice. Effluent removal is denoted by the orange arrow

References

Eutrophication (n) In *Merriam-Webster's collegiate dictionary.* Retrieved from http://www.merriamwebster.com/dictionary/eutrophication

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Vollenweider, R. A. 1968. Scientific fundamentals of the eutrophication of lakes and flowing waters, with particular reference to phosphorus and nitrogen as factors in eutrophication. OECD Technical Report DAS/CSI/68.27. Revised 1971.

First Call for Papers and Posters

Catfish 2020: The Third

International Catfish Symposium

February 18–20, 2020, Little Rock, AR

You are invited to attend and participate in the 3rd International Catfish Symposium to be held February 18-20, 2020 in Little Rock, Arkansas, in conjunction with the AFS Southern Division Annual Meeting. This is our first call for oral platform and poster presentations at the symposium, including those to be considered for publication within the resulting peer-reviewed proceedings. This meeting will provide a forum for the exchange of information about the biology, ecology, management and conservation of worldwide populations of both game and nongame catfish species. Previous publications from the First and Second Symposia continue to sell and have been solid reference sources for managers and researchers alike.

The theme for the 3rd International Symposium is "Communicating Catfish Science" and will bring together the last decade's work on the conservation, ecology and management of worldwide catfish populations and their habitats. We encourage you to submit your research findings on any topic pertinent to management of catfishes, and are actively seeking presentations pertaining to conservation and management challenges. Individuals interested in developing topical review papers are encouraged to contact the Program Committee Co-Chairs to assist with topic coordination.

To submit a presentation and for the most up-to-date information on the symposium, please visit the web site at www.catfish2020.com. Bookmark it now and return often for updates! The presentation abstract submission deadline is September 27, 2019. Optional manuscripts will be due prior to the symposium. Don't miss being a part of this important gathering of scientists, educators, administrators, and managers interested in what the next decade will bring for catfish science.

Submitted manuscripts will be considered for publication in a special issue of North American Journal of Fisheries Management.

Visit www.catfish2020.com for updated information, guidelines for oral and poster presentations and symposium deadlines.