

2019 treatments for Hydrilla and Lyngbya are underway at Lake Gaston

Every year, the entire shoreline of Lake Gaston is surveyed for aquatic plants, both good and bad. This survey is a collaborative effort between volunteers with the Lake Gaston Association (LGA) and the Aquatic Plant Management Program at North Carolina State University (NC State).

Last year over 5,000 individual sites were sampled to help determine the location and abundance of aquatic plants throughout the lake. These results are combined with additional data collected by NC State and then reviewed by a technical guidance group, composed of members from state government, academia, and Lake Gaston stakeholders.

This group in turn helps develop the management plan for Lake Gaston's nuisance species, such as Hydrilla and Lyngbya, for the upcoming year. It's an important multi-step process that insures the Lake Gaston Weed Control Council is funding treatments based on relevant scientific data.

In 2018, the fall vegetation survey reported 386 acres Hydrilla throughout the lake. The Hydrilla management plan for Lake Gaston has reduced the total acreage from 1,541 reported in 2012 to a yearly estimate of less than 400 acres since 2014! The success of Hydrilla management within the lake is due to a two-part treatment plan consisting of biological control using Triploid Grass Carp stockings and chemical control using herbicide treatments.

In order to determine the number of Grass Carp that need to be stocked each year, a model factors in the current Hydrilla acreage of the lake and the estimated mortality of the Grass Carp previously stocked into the lake. In 2019, a total of 7,554 Triploid Grass Carp were stocked into Lake Gaston. Fish were stocked in two locations, Lizard Creek and Hawtree Creek, and just under 3,800 fish were released at each location.

In addition to Grass Carp, two sites, Lizard Creek and Upper Pea Hill Creek (north of Lake Gaston Road), were recommended for treatment with herbicides. Due to last year's extreme Hydrilla growth, Lizard Creek began receiving treatment of a slow-releasing herbicide named Sonar in late June and will receive two more treatments in late July and August.

In order to continue improving Hydrilla control efforts within Lake Gaston, the Upper Pea Hill area (north of Lake Gaston Drive) has been recommended to receive an experimental treatment of a product that has the potential to shorten contact time and reduce the number of treatments needed for effective control. This experimental treatment will occur sometime this summer.

Lyngbya was also found throughout Lake Gaston during the fall vegetation survey. Unlike Hydrilla, Lyngbya acreage is not calculated due to the physical nature of the submersed mats, but the presence of Lyngbya in the shoreline survey has steadily increased over the years.

This filamentous cyanobacteria produces thick, black surface mats along the shoreline during the warm summer months. These mats have negative impacts on recreational usage and overall aesthetics of the lake, as well as, the lake's ecosystem. AND, it literally stinks!

Unlike Hydrilla management where there are known protocols for effective control, Lyngbya management in large systems is still in the developmental stages. NC State University is currently working on developing a management protocol by performing experimental treatments for Lyngbya in Lake Gaston.

Products from multiple companies are being used in treatment areas throughout the lake to determine the best option for control. At this point in time, no significant results have indicated an effective control method. However, treatments in smaller systems indicate that control may be a multiyear process.

Therefore, NC State will continue to replicate these experiments using the same treatment areas and products in 2019 as in previous years. The first round of Lyngbya treatments for 2019 occurred during the first week of June and treatments will be repeated monthly through October.

NC State has several graduate students now focusing their research on Lyngbya and their findings will also help direct future management efforts. Therefore in 2019, NC State will be adding additional sampling parameters to address changes to Lyngbya on both a large and small scale, by exploring how treatments affect the mats as a whole, as well as, the basic cellular function.

If you have any questions regarding aquatic plant management at Lake Gaston or if you are interested in joining the volunteer efforts during the fall vegetation survey, please email aquaticplants@ncsu.edu.

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