

## **LYNGBYA AND THE LAKE GASTON WEED CONTROL COUNCIL**

### **WHY IS LYNGBYA PROBLEMATIC?**

Lyngbya is a filamentous cyanobacterium that has become increasingly problematic in southeastern waterways. This species can produce robust, mat-like formations that persist year-round along the bottom of a system, but as summer water temperatures rise, they begin to proliferate upwards through the entire water column. These unsightly and problematic mats can negatively impact aquatic ecosystems, impede recreational activities, and depreciate the aesthetic value of waterfront properties. Lyngbya may also produce organic compounds that create foul odors and negatively alter the taste of drinking water. In some cases, this species may produce cyanotoxins which most commonly result in skin rashes after contact. Chelated-copper based algaecides remain the preferred control option for lyngbya, however effective treatment protocols require four to six consecutive monthly algaecide treatments to occur over multiple years. The success of treatments is also directly correlated with lyngbya growth and colonization, therefore, the timeline for achieving control is increased with greater infestation levels. Lyngbya may spread by attaching to watercraft, animals, or through simple water movement via floating surface mats and can re-establish itself from a small amount of living material, further compounding management efforts.

### **HISTORY OF LYNGBYA IN LAKE GASTON**

Lyngbya was first identified in Lake Gaston in the mid 1990's but has increased within the reservoir over the past decade. In 2012, approximately 230 acres of lyngbya were reported in Lake Gaston with continued increase to 1,285 acres in 2022. In 2017, the Lake Gaston Weed Control Council (LGWCC) began funding research focused on developing an effective management protocol for lyngbya within Lake Gaston, as well as, to better understand factors that influence its distribution and growth. In 2021, a successful lyngbya treatment program was initiated on Lake Gaston and subsequently the LGWCC funded 300 acres of treatment in 2021 and 375 acres in both 2022 and 2023. However, treatment costs put a budgetary constraint on lyngbya acreage that the LGWCC can treat annually.

### **HISTORY OF LAKE GASTON WEED CONTROL COUNCIL**

The LGWCC is a non-profit corporation created in 1986 to promote research, control undesirable aquatic weeds, and improve water quality in Lake Gaston. Currently, the LGWCC is the only entity on the lake that can receive funds for public use. Main funding sources include the five surrounding counties, which historically each have contributed approximately \$116,000 per year (since 2006), and the City of Virginia Beach which contributes approximately \$340,000 per year as mitigation for use of Lake Gaston as a drinking water source. These funds have been used to support treatment programs targeting nuisance aquatic species within Lake Gaston, as well as promote establishment of beneficial, native aquatic species. In addition, the LGWCC supports research into the production of cyanotoxins and their potential impact to the environment and human health. The LGWCC also supports an extension position with North Carolina State University's Aquatic Plant Management Program, to educate the public on aquatic plant related issues and assist in the development of effective management plans for nuisance aquatic plant species within Lake Gaston.

### **BENEFITS OF LAKE GASTON WEED CONTROL COUNCIL**

By conducting this mission for nearly 40 years, the LGWCC has led the way in protecting and improving the aquatic environment and water quality of Lake Gaston to the general benefit of the five surrounding counties and the general public.

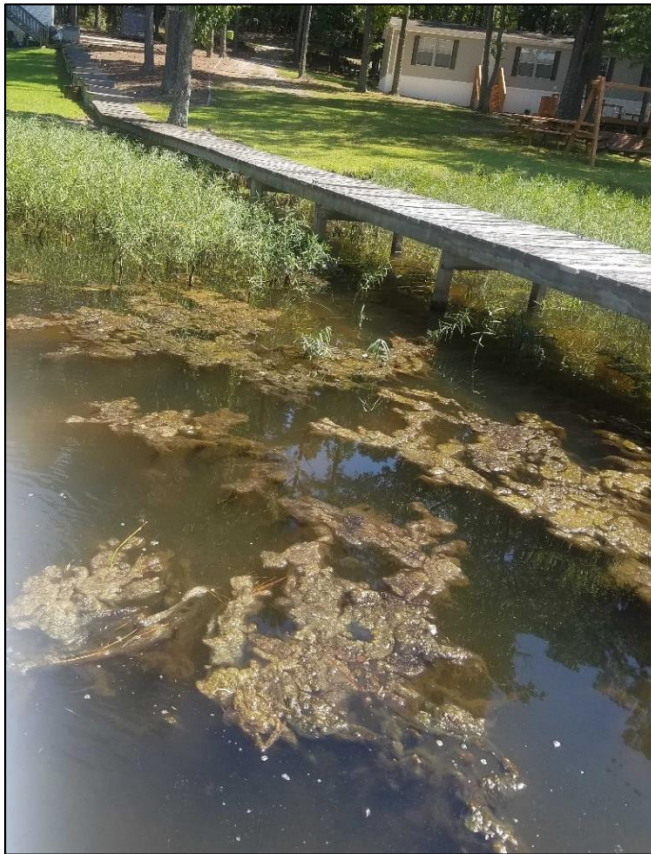
Direct benefits include:

- A supply source for potable water
- Water recreation for residents and visitors
- Fisheries and wildlife habitat
- Power generation

The indirect benefits to the communities and residents across the region are immeasurable. Water Quality is a requirement for the generation of millions of dollars annually from tax revenue and tourism monies that support the local and state economies.

### **WORKING TOGETHER**

With the foundational partnership of multiple stakeholders, including local jurisdictions, varied state agencies, academia, corporations, volunteer organizations, and members of the public working together, the LGWCC has been and will continue to be successful.



**Images showing lyngbya infestations occurring around lake front properties at Lake Gaston, NC/VA.**



Images showing examples of lyngbya mat formations. The first image is lyngbya that was collected from benthic (sediment) mats. The second and third images are examples of surface mat formations.