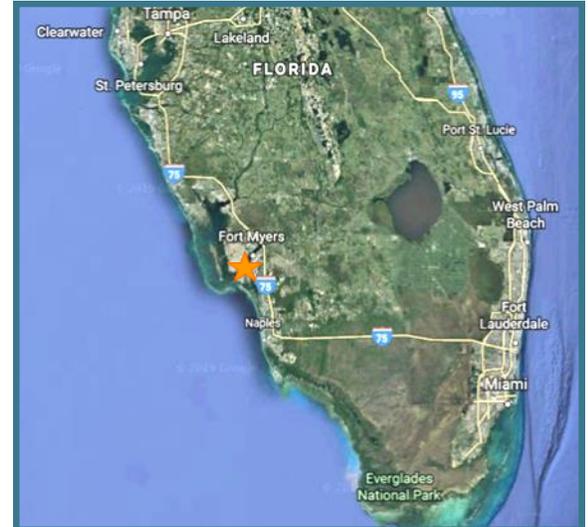


# Caloosahatchee Cyanobacteria Rapid Response Pilot Program

## WATER QUALITY IMPROVEMENT



### Summary

Florida has seen an increase in Harmful Algae Blooms (HABs) in recent years. In particular, toxic Cyanobacteria blooms (also known as blue-green algae) have plagued local freshwaters such as rivers, lakes, and ponds. HABs not only harm water quality, but some also release toxins that can negatively impact both aquatic life and human health. The warmer water of summer months combined with increased runoff from land containing high levels of nutrients provides ideal conditions for algae to thrive.

Agencies and local governments are working on solutions to reduce overall nutrient inputs into our waterways. In the meantime, immediate treatment of HAB affected waterways can help to curb affects when a bloom occurs. New technologies are being tested to help combat HABs. Once a successful method is established, a rapid-response system can be implemented to prevent future outbreaks from overtaking large areas of water.

CHNEP is funding a project to test the use of open-cell foam technology known as AquaFlex to absorb and remove excess nutrients from water along with Cyanobacteria and the toxin it produces (known as *Microcystis*). During the next bloom event, CHNEP will conduct a large-scale deployment of AquaFlex alongside an independent study to collect water and air quality samples. The data collection and analysis will be conducted by Florida Gulf Coast University (FGCU) scientists to test the effectiveness of the technology at improving water and air quality in the immediate vicinity of the treatment area. This work will take place in the Caloosahatchee River area.

**Location:** Lee County, FL

**Partners:** Florida Gulf Coast University, AquaFlex Holdings LLC

**Status:** Projected for 2022

**CHNEP Cost:** \$66,061

**Funding Source:** Environmental Protection Agency

**2019 CHNEP Plan Activity:**  Water Quality Improvement 5.1: Supports Harmful Algal Bloom (HAB) research and monitoring and measures to reduce their environmental, social, and economic impacts through the identification and reduction of anthropogenic influences.



## Anticipated Results and Benefits

### Improved Water Quality:

This project will include an independent study conducted by FGCU scientists to test the removal effectiveness of AquaFlex open-cell foam technology for nutrients, cyanobacteria, and its toxins. The study will also quantify improvements in water and air quality. This material could play a key role in rapid-response systems deployed by local governments and agencies once a bloom is detected and potentially prevent or slow the spread of cyanobacteria throughout large bodies of water.

### Recreational Benefits:

Lessening the harmful effects of algae blooms is crucial in a number of ways. Exposure to toxins in Cyanobacteria can cause harm to surrounding wildlife, but also to humans that may be drinking, breathing, or in physical contact with the water. For this reason, harmful algal blooms have a major effect on recreational activities in the area such as swimming, fishing, and boating. This also negatively impacts tourism and the local economy.

### Improved Aquatic Habitat:

Along with producing toxins, Cyanobacteria blocks the sunlight necessary for aquatic plants and animals to survive and depletes oxygen in the water column. Larger marine mammals can also ingest Cyanobacteria affected fish or plants and suffer from long-term health impacts or death. Lessening the spread or intensity of Cyanobacteria blooms will improve overall water quality, aquatic habitat, and fish and wildlife health.

## CONTACT INFORMATION

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