

CASE STUDY

PALM BEACH COUNTY, FLORIDA

Generating critical water quality information to keep beachgoers safe and promoting community-based solutions to the toxic algae crisis.



Florida is well-known for its year-round warm climate and beautiful, sandy beaches. While beach tourism drives the state's economy, people who visit and live in the Sunshine State are losing the long-standing recreational opportunities that they cherish. Ongoing water pollution and harmful algal blooms, including red tides and toxic blue-green algae, are putting public health at risk and causing massive die-offs of fish, marine life and sea turtles.

Red tides were [particularly devastating in 2017 and 2018](#), as coastal communities along the Gulf Coast of Florida suffered through an unusually persistent and toxic [red tide](#) that lasted for more than a year. Bloom conditions reached as far as the Atlantic Coast late last summer, which caused beach closures and fish mortalities. Public health was also affected as far as a mile inland through the release of airborne toxins from the blooms.

The problems associated with blue-green algae blooms, or [Cyanobacteria](#), received massive media attention during the summer of 2016. Florida's governor declared a [state of emergency](#) and beaches in several East Coast counties were closed over the July 4th holiday weekend. This earned

the affected stretch of coast the dubious nickname of 'Guacamole Coast.' While much of the state has experienced a temporary reprieve from the impacts of red tides and blue-green algae blooms this winter, both are likely to return as temperatures rise this spring.

While the causes of [Florida's algae woes](#) are complicated and long-standing, they are primarily attributed to mismanagement of the flow of freshwater from source to sea by the state and federal governments. For instance, cyanobacteria proliferate in the nutrient-rich fresh waters of Lake Okeechobee in Central Florida. When water levels rise during the rainy summer months, polluted water from the lake is intentionally discharged into the St. Lucie and Caloosahatchee rivers to relieve flooding pressures. Unfortunately, these releases also devastate the downstream river, estuary and coastal ecosystems by spreading toxic blue-green algae blooms.

In addition, there has been a failure to enact and enforce effective nutrient pollution controls in Florida. Policies need to be implemented that would limit the amount of phosphorus and nitrogen, which fuel harmful algal blooms,



Above: A kayaker paddles through water covered in algae.

in freshwater systems and at the coast. While big agriculture, developers and industry have been taking advantage of Florida's relaxed environmental regulations, the environment, public health and Florida's valuable tourism-based economy have been paying the cost.

Compounding these threats to public health, the state legislature also eliminated funding for the [Florida Healthy Beaches Program in 2011](#). Florida now relies solely on a federal BEACH Act grant to fund beach water quality monitoring and public notification programs. This has forced the Department of Health to reduce the number of beaches they test, sample less often and suspend all beach monitoring between November and March in the northern part of the state.

The resulting gaps in the state's program motivated [Surfrider's Palm Beach County Chapter](#) to launch their Blue Water Task Force (BWTF) water testing program in 2016 with generous lab space provided by the Loggerhead Marinelife Center. The chapter started by testing three popular recreational sites on a weekly basis to supplement the information that is provided by the state every two weeks. Their first monitoring locations included a boat launch site on the Loxahatchee River; a beach located within Jupiter Inlet at Dubois Park that is popular with families and snorkelers; and an Atlantic Ocean beach at the Juno Pier.

In 2017, the chapter moved their BWTF lab to [Jupiter High School](#). All water samples are now processed by students from the Green Schools Club. This new collaboration has not only served as a great solution for the chapter's need for lab space, but it has also been a positive way to involve students in local water quality issues and environmental science.



In 2018, the Palm Beach County Chapter started monitoring two new sites, including Ocean Reef Park on Singer Island, and Phil Foster Park, a beach on the intercoastal waterway that is heavily used by snorkelers and families with young children. The chapter also expanded their BWTF program by setting up a new lab at Forest Hill High School. Environmental Academy students at this school are now testing three new beaches in Central and Southern Palm Beach County.



Above: Native plants bring beauty and habitat value to the Ocean Friendly Garden installed at MacArthur State Park in Palm Beach County.

In addition to sharing their weekly water quality results with members, the Palm Beach County Chapter is helping to inform the local community whenever harmful algal bloom conditions affect safe aquatic recreation or beachgoing in their area. The chapter's efforts have inspired other chapters in Florida, including the Broward County and Miami chapters, to start water testing programs as well. The Palm Beach County Chapter's work has also led to a statewide campaign to [restore state funding for the Florida Healthy Beaches program](#) to improve public health protection at the beach. Visit the [BWTF website](#) to see where Surfrider is testing in Florida and visit the [Florida Healthy Beaches Program website](#) to view all state-generated water quality data and beach advisories.

The Palm Beach County Chapter's [Ocean Friendly Gardens](#) program also complements efforts made by Surfrider activists to advocate for federal, state and local solutions to harmful algal blooms in Florida. Ocean Friendly Gardens are maintained without the use of chemical fertilizers, which contribute to high nutrient conditions and cause algae to bloom in many waterways. Ocean Friendly Gardens instead rely on native plants and healthy soil that is built naturally with compost and mulch, to soak up rain and reduce polluted runoff. This past year, the chapter installed a native garden

that captures rain from the roof of the MacArthur State Park ranger station. This provides a great outreach tool for more than 60,000 people that visit the park each year.

Additionally, Surfrider activists across the state will be supporting state and local legislation this year to reduce the amount of fertilizers that pollute Florida's waterways. They will also be promoting [actions that anyone can take](#) to make their own yards more Ocean Friendly. If there is a silver lining to the devastation that toxic algae blooms have brought to Florida this past year, it may be that Floridians and those elected to public office are hopefully ready to make positive changes to protect clean water for this and future generations.

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