

# Citizen Science Salon

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## All Water Is Connected: Citizen Scientists Monitor Virginia Water Quality

By Julia Travers | September 20, 2018 9:36 am



Photo Source: Creative Commons, Nicolas Henderson on Twitter

**The Virginia Beach Blue Water Task Force works all twelve months of the year.**

When we visit the beach, water quality is the last thing most of us want to worry about. Virginia Beach receives more than 15 million tourists each year, and both the state Department of Health and a local branch of the Surfrider Foundation are checking water quality to make sure visiting beachgoers and locals alike are safe. Surfrider is a nonprofit that works to protect oceans and beaches, and its Blue Water Task Forces (BWTF) conduct local water testing to augment government data collection. Citizen scientists with BWTF groups also raise public awareness of pollution incidents and team up with local stakeholders to implement solutions. Hurricane season, when runoff levels are high, can make these volunteer, citizen science-driven community services all the more vital.

### What Does the VA Beach BWTF Do?

Surfrider BWTF branches like the one in VA Beach run basic water chemistry and test for bacteria called *Enterococcus*, which are always in the **ocean** water but can, in high levels, make people sick. According to Surfrider's Clean Water Coordinator Colleen Henn, this is particularly important in "highly trafficked areas where beach use is high," like VA Beach.. She also said that agency-run water testing programs have limited resources, making the BWTF's work an important source of additional information.

The [VA Beach BWTF](#) and other local branches play a crucial role in providing tests that augment those the government performs. For example, in VA Beach, agency tests occur during tourist season, from Memorial Day to Labor Day. However, because locals enjoy and use the beaches year-round, the BWTF informs them about [water quality](#) even in the months where the government doesn't test.

“We decided we wanted to monitor for the entire year, so we started testing every two weeks,” said Shannon Reinheimer, VA Beach BWTF program coordinator. She's also a marine biologist and environmental scientist, and she played a major role in reactivating the VA beach BWTF chapter between 2012 and 2014, which had fallen dormant.

“All water is connected, and water quality is vital to the health of its inhabitants. I enjoy educating people about the ocean environment and water quality concerns,” Reinheimer said.

The VA Beach BWTF currently measures bacteria levels at four beaches: Croatan, Sandbridge, 42nd Street, and 1st Street. It uses water quality standards set by the Environmental Protection Agency. Reinheimer says the levels can sometimes get high enough to warrant swim advisories and that beach shutdowns occur a few times a year. Unfortunately, storms can cause increased runoff into the [ocean](#), typically making hurricanes and other storms bad news for local [water quality](#). In fact, stormwater runoff is the top cause of beach closures and advisories in the U.S.

Reinheimer said that fertilizer and animal waste are common pollutants that people can try to control and cut back on to protect their local waters. Intentional gardening practices with native plant species can also help, and that's where Surfrider's Ocean Friendly Gardens, or OFG, program comes in – a bit more on that below.

The VA Beach BWTF posts water quality updates and warnings on their [Facebook page](#) and [website](#). In popular locations like this, Henn said it “is even more vital to get water quality information into the hands of ocean users and local decision-makers alike to know where pollution problems exist and to advocate for solutions.”

### **In Other Surfrider News...**

Those looking for a deeper dive into BWTF work can check out Surfrider's [2017 Clean Water Annual Report](#), released in the spring of 2018, which tracks the progress of BWTF and OFG programs during 2017. Through OFG, volunteers use gardening and landscaping practices with native plants to reduce pollution and runoff, as well as save water and wildlife habitat.

BWTF testing was up 18 percent in 2017, with 446 distinct sampling sites, and Surfrider has already brought five new labs onboard this year. Also in 2017, 23 Surfrider chapters ran OFG programs and installed 52 new ocean-friendly gardens.

“At a time when it can be difficult to depend on the federal agencies tasked with protecting our clean water and healthy coasts, it is encouraging to see how much a dedicated network of volunteers can accomplish in just one year!” Henn wrote in a related SciStarter [blog post](#) she co-authored with Surfrider Foundation's Water quality manager Mara Dias.

A bit further up the East Coast, Henn is also Surfrider's Eastern Long Island Chapter Coordinator. This chapter, along with the Concerned Citizens of Montauk and Peconic Baykeeper, released an annual water quality report [in 2018](#) as well. Again, periods after rain events, along with closed systems with minimal to no flushing, and summer periods with warmer water were identified as trends for increased bacteria.

“To someone who studies biology or is familiar with the effects of stormwater runoff, these results may not be surprising, as the trends found in Eastern Long Island can be relative to any local waterbody,”

Henn explains.

To learn more about Surfrider's work monitoring and enhancing local water quality or to explore how you can become one of their citizen-scientists on the beach, visit the [website](#) or [SciStarter page](#) for the VA Beach BWTF chapter or the Surfrider [Foundation page](#).

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