

2021

Clean Water Report

Photo: Morgan Maassen

Contents

03 Clean Water Initiative

07 Our Programs

08 Blue Water Task Force

09 Program Overview

11 Program Activity and Results

16 Ocean Friendly Gardens

17 Program Overview

18 Program Activity

20 Case Studies

21 Space Coast, Florida

24 Hawai'i

27 South Bay, Los Angeles, California



Clean Water Initiative

Americans love the beach. More than 100 million beachgoers flock to U.S. beaches every year to enjoy the sand, sunshine and water. With limited recreation options available during the COVID-19 pandemic, beach attendance during the last two years has risen by as much as 200 - 300% in some states. Not only do beaches provide recreation, leisure and social opportunities, but they are also the foundation of valuable coastal tourism and ocean recreation economies that provide 2.5 million jobs nationwide and contribute \$143 billion to the gross domestic product (oceanomics.org).

Since the Surfrider Foundation was founded in 1984, improving coastal water quality has been one of our top priorities. Through our [Clean Water Initiative](#), we strive to protect water quality and reduce pollution so it is safe to surf, swim and play in the ocean and in our coastal waterways. To meet this goal, Surfrider chapters and activists are building awareness of water pollution problems and advocating for solutions to protect public health and clean water.

Sewage spills and failing wastewater infrastructure threaten coastal water quality and public health.

10 trillion

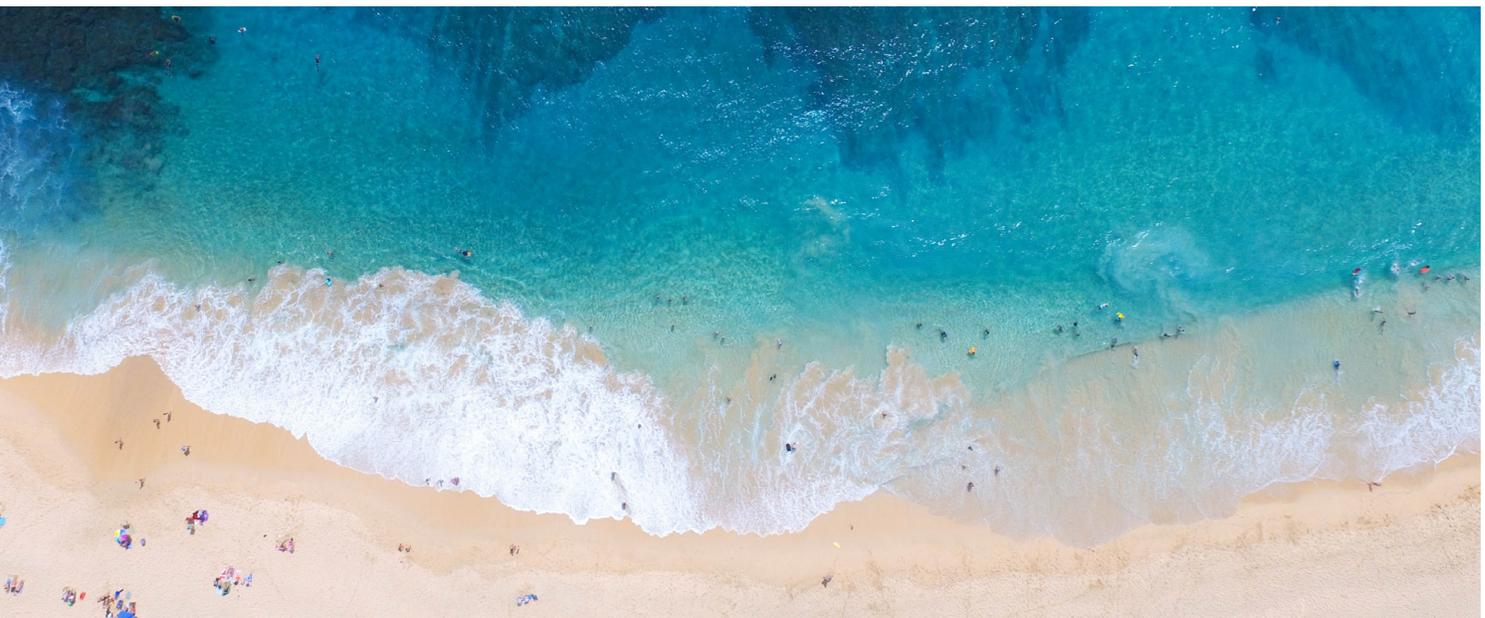
Gallons of untreated stormwater runoff flow into U.S. waterways every year.

We are testing the waters for bacteria and toxins, raising public awareness and finding real solutions to ocean pollution.

47 478 8,532

BWTF Labs Sampling Sites Samples Collected

Through our Clean Water Initiative, we strive to **protect water quality and reduce pollution** so it is safe to surf, swim and play in the ocean and in our coastal waterways.



THE THREATS

Despite the high value of clean beaches, coastal water quality is threatened by stormwater, urban and agricultural runoff, and sewage and industrial discharges. Nearly 10 trillion gallons of untreated stormwater runoff flow into U.S. waterways every year, carrying a cocktail of pollutants, including road dust, oil, animal waste, fertilizers and other chemicals. Years of neglect have also left America's wastewater infrastructure in disrepair, outdated and failing.

Sewage spills and failing wastewater infrastructure threaten coastal water quality by discharging raw and undertreated sewage into local waterways and the ocean. In fact, sewage spills and infrastructure failures release over 900 billion gallons of untreated sewage into surface waters every year!

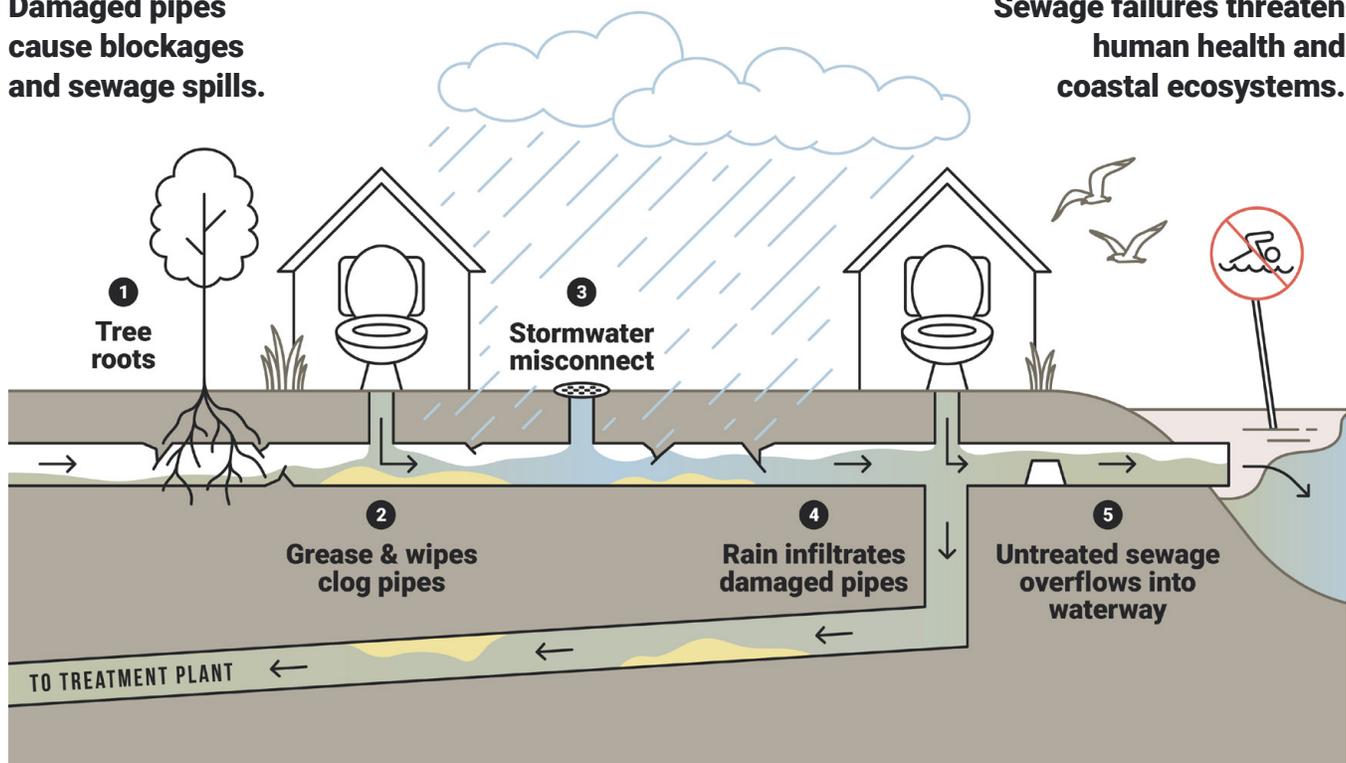
Sewage can contain bacteria, viruses and parasites that make people sick with gastrointestinal symptoms, rashes, skin and eye infections, flu-like symptoms, and worse. Sewage and stormwater runoff also pollute waterways with excess nutrients that wreak havoc on coastal ecosystems by fueling harmful algal blooms that put human health at risk and result in fish kills and coral reef die-offs.

The growing threats from climate change on our coasts, including sea level rise and more frequent extreme weather events that generate massive amounts of stormwater, will likely result in even more water infrastructure failures in the future. Significant investments need to be made now to prepare our coastal communities to become more resilient and to better manage their water resources.

POORLY MAINTAINED SEWERS DISCHARGE UNTREATED SEWAGE INTO LOCAL WATERWAYS

Damaged pipes cause blockages and sewage spills.

Sewage failures threaten human health and coastal ecosystems.



Sewage spills and infrastructure failures release over 900 billion gallons of untreated sewage into surface waters every year.

SURFRIDER'S APPROACH

Everyone deserves access to clean water to surf, swim and play in. The Surfrider Foundation is taking a multitiered approach to tackle ocean pollution problems. We advocate for strong laws and sufficient funding to monitor and protect water quality. We ensure that people have access to the information they need to protect themselves and the health of their families when recreating at the beach and in our coastal waterways. When we see information gaps in government testing programs that leave public health unprotected, we seek to meet those community needs with our Blue Water Task Force water quality monitoring program. Through a large network of volunteer-led chapters, we are building awareness of pollution problems and bringing together local stakeholders to protect clean water. Our Ocean Friendly Gardens program is educating communities and local officials on the actions that can be taken in our yards and public spaces to reduce the amount of polluted runoff that flows into local waterways and out to the beach. When more collaborative approaches fail, the Surfrider Foundation can also look toward the courts

to ensure proper enforcement of the Clean Water Act to protect clean water for all people.

In coastal states across the country, Surfrider advocates are building awareness of local water quality problems and bringing together diverse interests to find and fix the sources of pollution. For instance, in Florida, we are working to secure state funding for the Florida Healthy Beaches water quality testing program. We are also seeking to improve public notification practices used to inform beachgoers of elevated bacteria levels and sewage spills. In Hawai'i, our chapters are advocating for improvements to beach water quality monitoring and public notification programs to better protect safe coastal recreation. In addition, we are working with partners to pass state legislation to encourage and fund the replacement of polluting cesspools with more advanced wastewater treatment technologies. Watch the below film to see how Surfrider volunteers in Hawai'i, Florida and locations across the country are taking action to protect public health and coastal ecosystems from sewage pollution.



Surfrider is fighting to ensure that all sewage in the U.S. is adequately treated to protect clean water and public health at the beach. Watch this short film to learn how pollution is affecting coastal communities and water quality in Hawai'i, Florida, and locations across the country, and what solutions are needed.

FEDERAL NEEDS

Despite the dramatic threats that stormwater and sewage pollution place on public health and coastal communities, governments at all levels have not fully accepted the responsibility to properly maintain our wastewater infrastructure that lies mostly beneath the ground and out of sight. The failure to adequately maintain these systems has led to a backlog of roughly \$271 billion worth of necessary infrastructure upgrades. This estimate doesn't include the threats that coastal infrastructure faces from rising sea levels and exacerbated storm events associated with climate change.

As a result, Surfrider is calling on Congress to make significant investments to repair, upgrade and ensure climate resilience for America's failing water infrastructure. The bipartisan Infrastructure and Jobs Investment Act that was signed into law in 2021 was a positive start. This bill provides a total of \$27.35 billion to the Clean Water State Revolving Fund (CWSRF) over the next five years. The CWSRF is an Environmental Protection Agency (EPA) program that provides low-cost loans and grants to states for wastewater and stormwater treatment upgrades. While \$12.7 billion of this funding is already dedicated, one of Surfrider's goals for 2022 is to ensure that the remaining promised funding is actually appropriated. We are also advocating for both state and federal funding to implement solutions to stop the flow of stormwater and wastewater from Mexico, which carry raw sewage, chemicals and immense amounts of trash to beaches on both sides of the border and across south San Diego County. To learn more about the Clean Border Water Now campaign, visit the [San Diego County Chapter website](#).

Surfrider is calling on Congress to make significant investments to repair, upgrade and ensure climate resilience for America's failing water infrastructure.



Similarly, the water quality monitoring and public notification programs run by coastal states to protect public health at the beach are resource-restricted. Despite an authorized level of \$30 million to assist coastal states with beach programs through the EPA's BEACH Act Grants Program, which Surfrider helped to pass in 2000, funding has remained stagnant at close to \$10 million. While this level of support has kept the beach monitoring programs in approximately 35 coastal states and territories in operation, states are forced to prioritize which beaches to monitor. They also have to limit beach seasons and sampling frequency to stretch the federal grant dollars as far as possible. This year, Surfrider advocates across the country have asked their representatives in Congress to raise funding levels for this critical public health program so that states can run more equitable and protective beach programs.

Our communities deserves enjoyable and worry-free beach days. Every year, Surfrider's national network of staff and volunteers speaks to Congress about the importance of protecting clean water and healthy beaches. We want to ensure that our coastal waters are clean and safe for all people to enjoy for generations to come. Join us in our efforts and [take action to support EPA's clean water programs](#).

Our Programs

This 2021 Clean Water Report tracks the progress of the Surfrider Foundation's Blue Water Task Force and Ocean Friendly Gardens programs. It also shares case studies demonstrating how Surfrider chapters apply these programs to protect public health, identify water quality concerns and bring together local communities to implement lasting solutions.

The Surfrider Foundation is taking a **multitiered approach** to tackle ocean pollution problems.



The Blue Water Task Force is Surfrider's volunteer water quality monitoring program that provides critical information to protect public health at the beach. Surfrider chapters use this program to raise awareness of local pollution problems and bring together communities to implement solutions.

bwtf.surfrider.org



Photo: Rafael Bergstrom



Ocean Friendly Gardens is Surfrider's sustainable landscaping and education program that provides beautiful, inexpensive and natural solutions to water pollution caused by urban runoff. Chapters use this program to connect how we care for our yards and public spaces with the resulting health of our local waterways and beaches.

ofg.surfrider.org

Blue Water Task Force



Program Overview

Since the inception of the Blue Water Task Force (BWTF) program more than 25 years ago, Surfrider volunteers have been out in their communities testing water quality at the beach. Now, as a large national network with approximately 50 chapter-led labs, the BWTF is measuring bacteria levels at nearly 500 ocean, bay, estuary and freshwater sampling sites across the country. Most chapter water testing programs are designed to fill in the gaps and extend the coverage of state and local agency beach programs. Surfrider volunteers are not only testing beaches that are not covered by agencies, but they are also monitoring potential sources of pollution, such as stormwater outlets, rivers and creeks that discharge onto the beach. The BWTF is in operation all year round, providing public health protection through the off-season when lifeguards leave the beach and health officials stop collecting water samples. This approach to extend public health protection at the beach and in coastal waterways is described in the case studies featuring Surfrider's BWTF programs in Hawai'i and Florida at the end of this report.

In addition, the Blue Water Task Force is cultivating the next generation of coastal defenders. Students help to collect and process water samples for more than half of our BWTF programs nationwide and gain valuable field and laboratory experience along the way. Many former students go on to pursue careers in conservation and environmental science fields. The South Bay Chapter in Los Angeles, California, has done an exceptional job of incorporating students into their BWTF program. Each participating student develops an in-depth understanding of the water quality and pollution issues in their community. Students are also given the opportunity to discuss solutions with local officials and resource managers. Learn more about this successful program in the case study at the end of this report.

All BWTF test results are compared to state water quality standards set to protect public health in recreational waters and are posted on Surfrider's website. Chapters also share their water quality data through social media, email and community presentations to provide beachgoers with the information that they need to know where it's safe to surf, swim and play in the water.

With approximately 50 chapter-led labs, the BWTF is measuring bacteria levels at nearly 500 ocean, bay, estuary and freshwater sampling sites across the country.

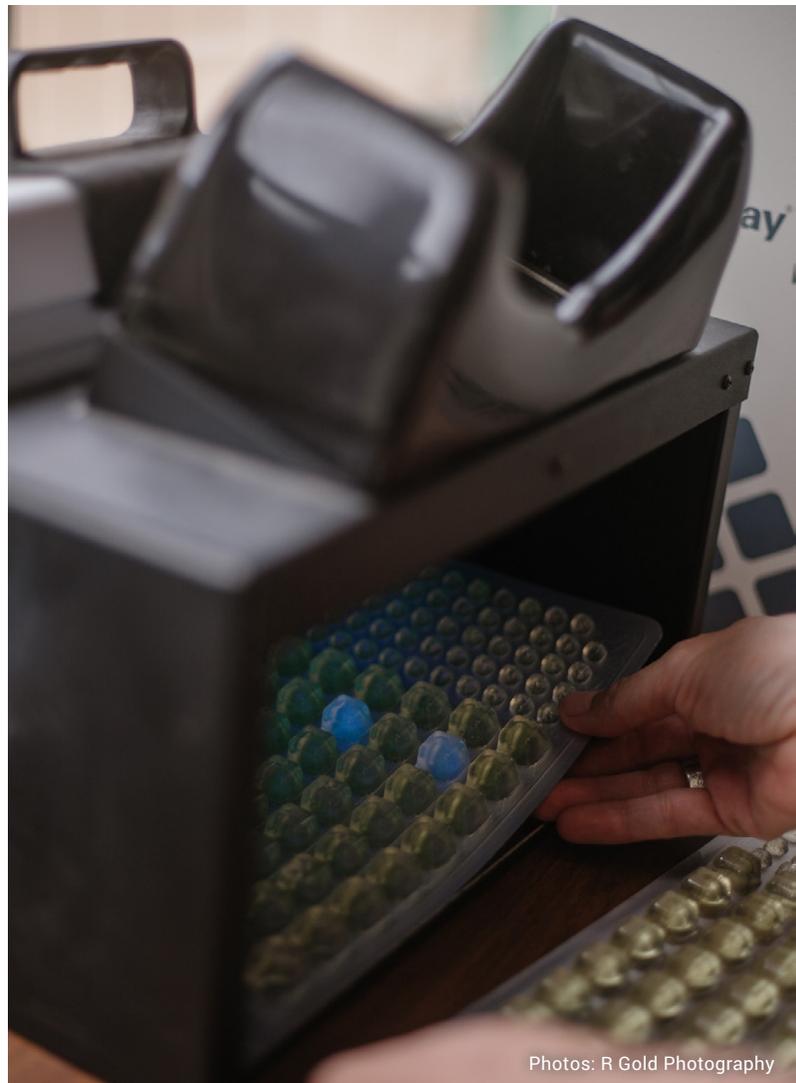


Photo: Erik Kabik

When our BWTF results demonstrate long-term or seasonal trends of elevated bacteria levels, our chapters apply their data to build community awareness and motivate local decision-makers to take action and fix the sources of pollution. For example, the BWTF program in Newport, Oregon has been successful in forming positive working relationships with other community groups and government agencies to raise awareness of local pollution problems. With persistence, Surfrider volunteers have successfully advocated for pollution source investigations, along with sewage and stormwater infrastructure improvement projects, that have resulted in improved water quality conditions at the beach. Learn more about how the Newport BWTF program is engaging community partners and inspiring local youth to care for our coasts in [this short film](#).

Many other chapters on both the East and West coasts have also applied their water quality data to inform pollution source tracking studies and prioritize the placement of solutions. While it can take many years from the first discovery of new pollution concerns until enough political will is generated to drive solutions, the Surfrider Foundation is in it for the long haul. Blue Water Task Force volunteers are committed to measuring water quality conditions at the beaches they love and rallying their communities around protecting clean water for future generations.

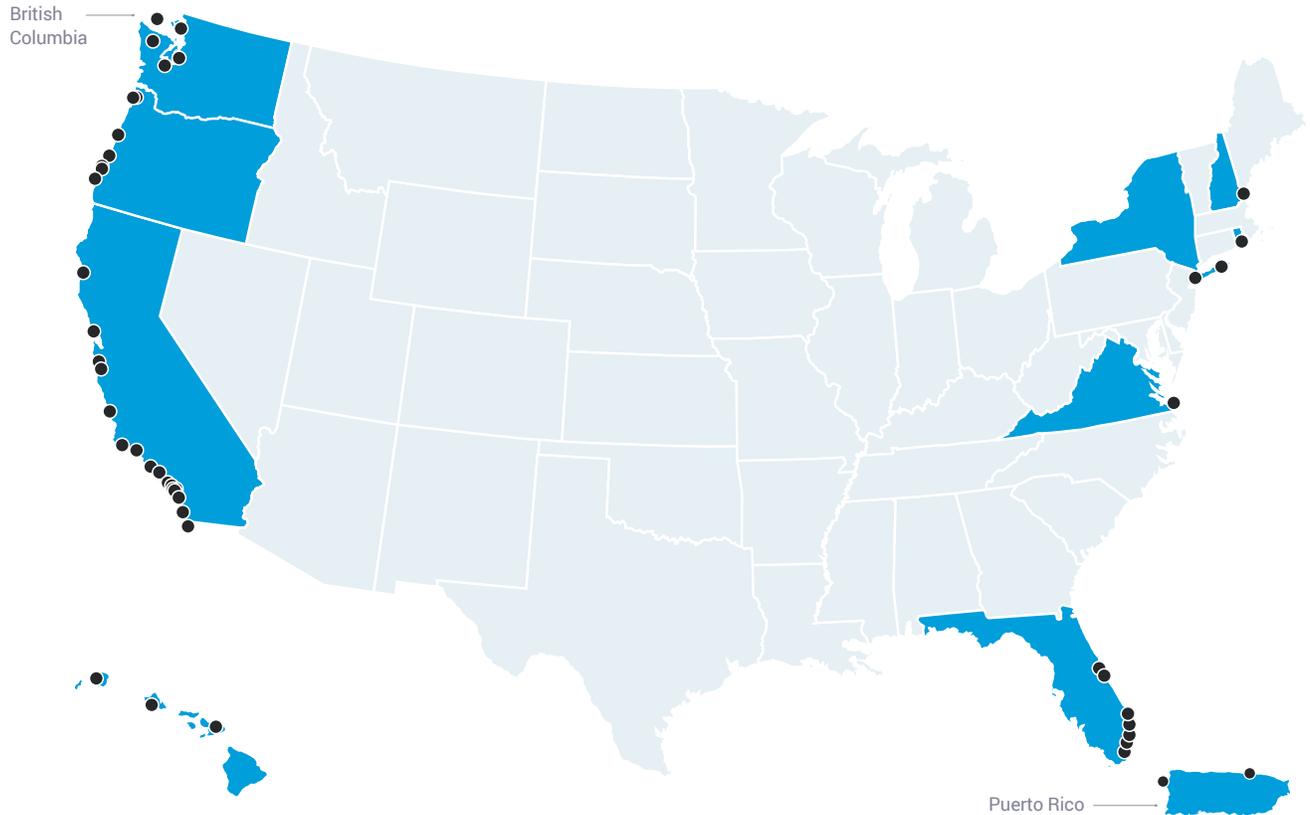
To best protect yourself and your family's health, always check local water quality conditions before you head to the beach. All of Surfrider's water test results are available on the [BWTF website](#) or you can access your local agency beach advisories at [Beachapedia.org](#).



Photos: R Gold Photography

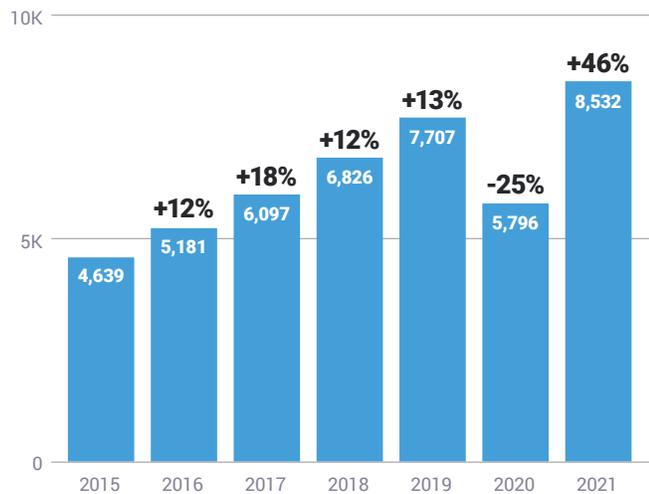
Program Activity and Results

WATER TESTING LAB LOCATIONS

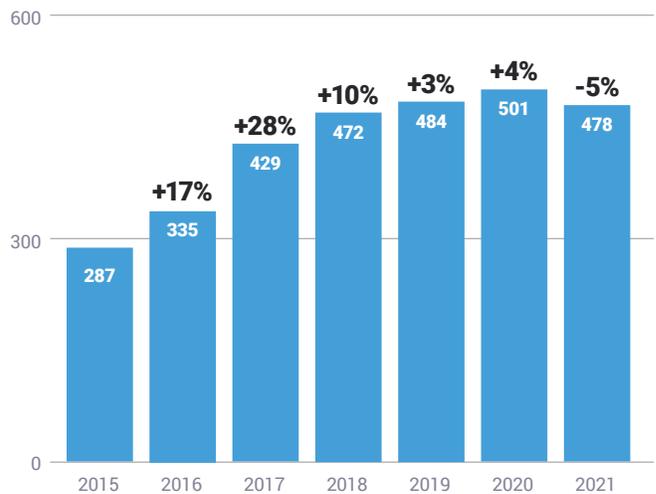


ANNUAL GROWTH IN WATER TESTING

Number of BWTF Tests Per Year



Number of BWTF Sites Per Year



WATER TESTS PERFORMED BY THE BLUE WATER TASK FORCE IN 2021*

8,532 Total

Northeast

New Hampshire 118
Rhode Island 142

Mid-Atlantic

E. Long Island: East Hampton 982
E. Long Island: Southampton 650
New York City 11
Virginia 184

Florida

Space Coast 194
Palm Beach County 315
Broward County 83
Miami 947

Puerto Rico

Rincón 769
Isla Verde 250

Hawai'i

Kaua'i 164
Maui 183
O'ahu 445

British Columbia

Vancouver Island 124

Washington

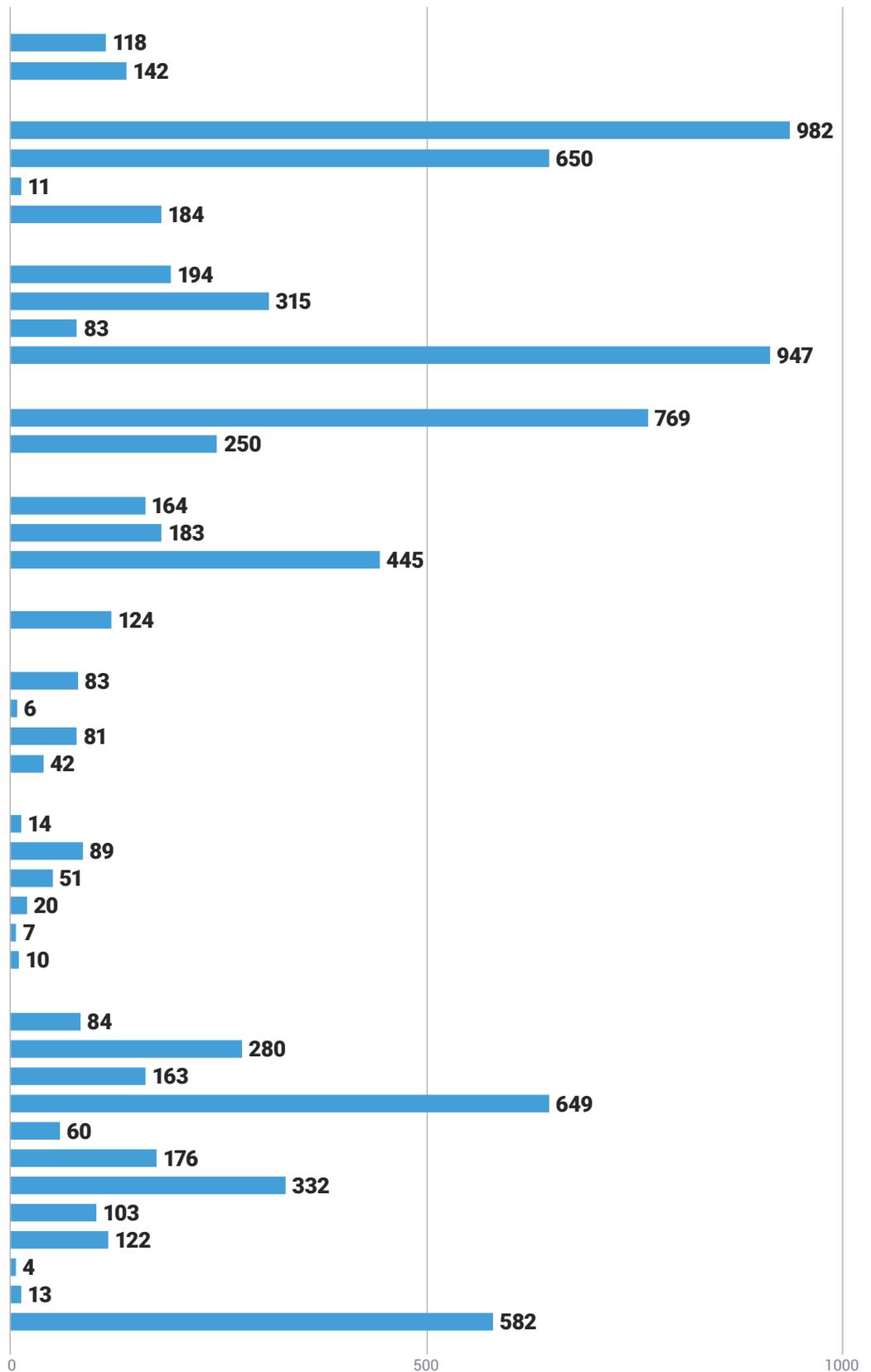
Northwest Straits 83
Olympic Peninsula 6
South Sound 81
Olympia 42

Oregon

North Coast 14
Newport 89
Florence 51
Charleston 20
Bandon 7
Port Orford 10

California

Marin County 84
San Mateo County 280
Santa Cruz 163
San Luis Obispo 649
Isla Vista 60
Ventura County 176
Los Angeles 332
South Bay 103
Huntington Beach 122
Newport Harbor HS 4
Corona Del Mar HS 13
San Diego 582



*The number of tests performed by some labs is lower than usual due to COVID-19 restrictions.

During 2021, 47 BWTF labs processed 8,532 water samples collected from 478 distinct sampling sites. As some labs remained closed throughout the year due to the COVID-19 pandemic, fewer beaches were tested in 2021 than the year prior. However, the chapters that were able to continue testing processed more water samples collectively in 2021 than ever before. The above figures show how many water tests were performed by each chapter, which vary depending on the number of beaches monitored and sampling frequency.

IMPACTS OF COVID-19

The Surfrider Foundation paused all in-person activities during the spring of 2020 to reduce the risks of community spread of COVID-19 and to meet CDC guidelines. At the time, there were 51 BWTF labs running water testing programs across the country. During this pause in programming, Surfrider's team of experts put together safety protocols to protect the health and safety of our volunteers and staff. Since beach use increased dramatically during the pandemic, many chapters were eager to continue providing water quality information to their communities. With strict physical distancing and safety protocols in place, the BWTF labs that were able to access their laboratory equipment began reopening slowly during the summer of 2020.

Since many chapters use lab space hosted by other organizations, such as public high school science classrooms, university research labs and public aquariums, many chapters lost access to their lab space during the pandemic. At the end of 2020, 34 labs were actively testing again. By April 2021, this number increased to 40 BWTF labs, with some chapters still waiting to regain access to their lab space in schools and other public institutions. Particularly affected were the California chapters with labs that were hosted in high schools as most schools in the state remained closed to in-person learning during the 2020 / 2021 school year. With reopenings in California during the fall of 2021, many teachers and students were excited to restart their water testing programs. By the end of 2021, Surfrider's national network was back up to 47 active BWTF labs. As of May 2022, there are once again 51 active BWTF labs as new chapter programs have launched this spring.



Photo: Erik Kabik

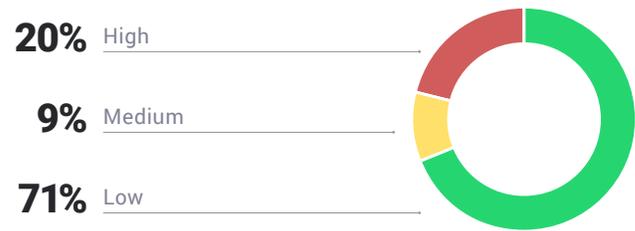


The collective results from all the participating BWTF labs have remained relatively constant since we began compiling data in 2011. Of the 8,532 water test results reported in 2021, 71% indicated low bacteria levels, 9% indicated medium bacteria levels, and 20% measured high bacteria levels that exceed water quality criteria, or Beach Action Values, set by each state to protect public health in recreational waters. To view each state's Beach Action Values, visit Surfrider's Beachpedia article, [Beach Water Quality Monitoring Programs in Coastal States](#).

The majority of the water samples that failed to meet health standards were collected from freshwater sources, such as rivers, creeks and marshes, which are influenced by stormwater runoff, or at beaches near these outlets. These results are consistent with national trends, which show that stormwater runoff is the number one cause of beach closures and swimming advisories in the U.S. Stormwater can wash chemicals and other pollutants from streets and lawns into local waterways and down to the beach. In addition, stormwater and flooding after rain events can cause wastewater infrastructure like cesspools, septic systems, and sewers to fail and release untreated sewage into waterways and the ocean. Across the country, Surfrider's Blue Water Task Force programs are measuring high bacteria levels at many beaches and recreational waterways where stormwater and failing sewage infrastructure are polluting the water. In many instances, no one else is monitoring these sites, or agency sampling seasons are restricted to only a few months during the summer. This underscores the importance of volunteer-generated information like Surfrider's BWTF data to help inform safe recreation and to restore clean water in coastal communities.

The table to the right highlights ten beaches from the East Coast, West Coast, Puerto Rico and Hawai'i where Surfrider Foundation chapters are consistently measuring high bacteria levels that exceed state health standards for recreational water. These priority beaches represent a variety of recreational waters and access points that are important to local communities, yet water quality conditions could be putting public health at risk.

BACTERIA LEVELS MEASURED BY THE BLUE WATER TASK FORCE IN 2021



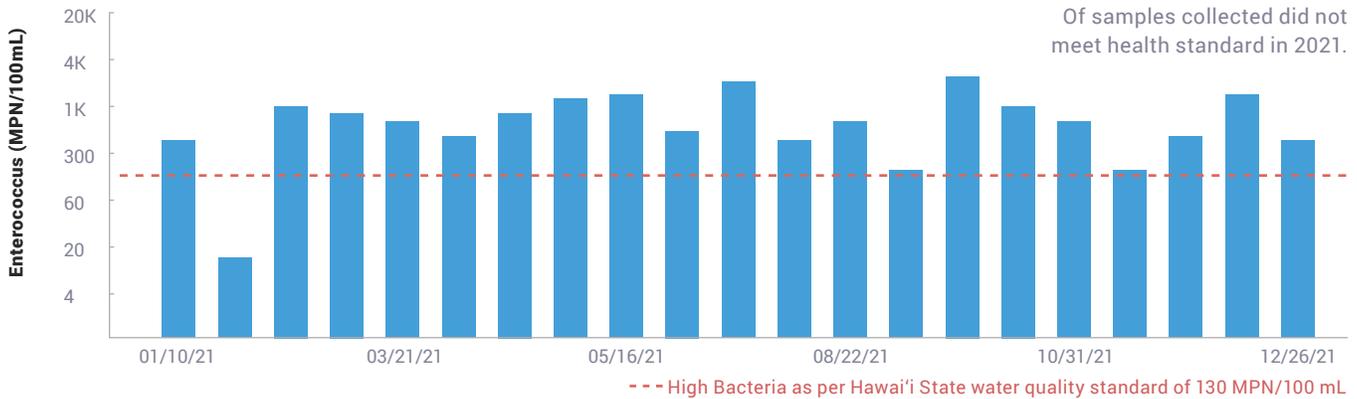
| Priority Blue Water Task Force Beaches | High Bacteria Rate 2021* |
|--|--------------------------|
| North Hampton State Beach North Hampton, NH View Details | 24% |
| Sagg Pond at Sagg Main Beach Sagaponack, NY View Details | 50% |
| Ballard Park Melbourne, FL View Details | 58% |
| Park View Kayak Launch Miami Beach, FL View Details | 83% |
| Playa Lala Rincón, PR View Details | 26% |
| Squaxin (Priest Point) Park Olympia, WA View Details | 21% |
| Linda Mar Beach Pacifica, CA View Details | 81% |
| Māliko Bay Ha'ikū- Pa'uwela, Maui, HI View Details | 36% |
| Chocolates Surfbreak Hale'iwa, O'ahu, HI View Details | 95% |
| Nāwiliwili Stream at Kalapakī Bay Līhu'e, Kaua'i, HI View Details | 100% |

*High Bacteria Rate = Percentage of samples collected that fail to meet the state health standard for recreational waters

A CLOSER LOOK: CHOCOLATES

95%

Of samples collected did not meet health standard in 2021.



From a state beach located by the Atlantic Ocean in New Hampshire to city beaches on the shores of the Puget Sound in Washington and the Indian River Lagoon in Florida, the BWTF is filling in gaps to provide critical health information to beachgoers and park users. For example, while the Park View kayak launch in Miami and Playa Lala in Rincón, Puerto Rico, are both popular sites for families to enjoy a fun day at the beach or in the water, they are affected by old, failing sewage lines and infrastructure. In addition Sagg Pond on Long Island, New York, and the Nāwiliwili Stream on Kaua'i, which are located right on the beach, are often favored by families with small children but are not tested by the local health departments as they are not considered official beaches. BWTF volunteers often see parents sending their children to play in these calm polluted waters as the gentler wave action appears to take priority over water pollution risks that families may be unaware of. Both Linda Mar in Pacifica, California, and Chocolates on

O'ahu are popular surf breaks that are located at the mouth of a stream or river that are influenced by stormwater. The watershed that feeds into Chocolates surf break also contains many cesspools. Finally, Māliko Bay, which often shows high bacteria levels, is a popular launch site on the north shore of Maui for both downwind paddlers and jet skis to take surfers out to the big waves at Pe'ahi, or Jaws, surf break.

At each of these beaches, the local chapters' Blue Water Task Force programs are working hard to build awareness of the pollution problems and to provide their communities with the information needed to know where it's safe to surf, swim and play in the water. The ultimate goal is to find and fix the sources of pollution and to restore clean water locally. This is what is driving Surfrider's efforts to protect water quality across the nation. We want to ensure that the beach and ocean are clean and safe for all people to enjoy for generations to come.



Families with small children play in the Nāwiliwili Stream on Kaua'i, where bacteria levels consistently exceed health standards.

Ocean Friendly Gardens



Program Overview

Surfrider's Ocean Friendly Gardens (OFG) program offers simple and beautiful solutions to the water quality problems created by stormwater and urban runoff. By using native plants, building healthy soils naturally, and carefully shaping landscapes to slow down and retain rainwater, OFGs transform landscapes and hardscapes to reduce urban runoff, filter out pollutants, conserve water and create wildlife habitats. In addition, Ocean Friendly Gardens absorb carbon from the air and store it in the soil, which can help to reduce the impacts of climate change. Learn more about the benefits of Ocean Friendly Gardens at [Surfrider.org](https://www.surfrider.org).

Your yard is a mini-watershed that can protect clean water through CPR.

The OFG program takes a watershed approach to protect local water supplies and prevent pollution from reaching the ocean. Whether you live inland or at the beach, your yard is a mini-watershed that can protect clean water through CPR (Conservation, Permeability and Retention). We all live upstream from the ocean!

CONSERVATION

Saving water and creating wildlife habitats with native and climate-appropriate plants.

PERMEABILITY

Building healthy, living soil with compost and mulch to sponge up water and filter out pollutants.

RETENTION

Storing rainwater in the landscape to rehydrate watersheds and reduce local flooding concerns.



2021 Program Activity

Each chapter designs and implements their OFG program to meet local needs and leverage available resources.

Surfrider chapters are educating people about water quality problems created by urban runoff and conventional landscaping practices. They are also promoting more sustainable gardening and lawn care practices in their communities. Each chapter designs and implements its OFG program to meet local needs and leverage available resources. As many chapters remained constrained by COVID-19 restrictions and safety considerations during most of 2021, some were limited to conducting virtual Ocean Friendly Gardens trainings or advocating for OFG policies to be adopted locally. Depending on local health and safety recommendations, some chapters were able to hold in-person events where they shared information and promoted sustainable landscaping practices in their communities. Chapters were also able to take advantage of safe, outdoor, small-group settings to engage volunteers in installing and maintaining gardens and providing in-person advice to homeowners and other community members.

In East Hampton, New York, the Eastern Long Island Chapter has transformed over one half acre of a village green into an oasis of native plants. The newly-installed Ocean Friendly Garden includes a low-lying swale with wetland plants that absorb and filter the heavy flows of stormwater and road runoff that this parcel receives. The project also includes a pollinator garden along the roadside and a large native meadow. Together, over 15,000 native plants and trees were placed in this garden!



Photo: Bobby Alan

Chapters were able to take advantage of safe, outdoor, small-group settings to engage volunteers in installing and maintaining gardens.

In Long Beach, New York, the Central Long Island Chapter worked with community volunteers and local businesses to transform a dry dirt patch near a beach access point into a community garden. Free from chemical fertilizers and pesticides, this Ocean Friendly Garden includes native sea grasses, marigolds as natural pest deterrents, and vegetable plants. Mulch and pavers were added for permeability to soak up and prevent runoff. A rain barrel retains water and is the main source of irrigation for the garden. Compost tubes full of red wiggler worms are installed directly into the garden beds to turn food scraps into soil nutrients. This system helps to keep hundreds of pounds of food waste out of the landfills and even has climate change benefits. The chapter is looking forward to increasing its harvest during the 2022 growing season so there will be more organic, fresh herbs and vegetables to share with the community. Learn more about these OFG projects on Long Island on Surfrider's [Coastal Blog](#).

In Hawai'i, the O'ahu Chapter and its partners at Permablitz Hawai'i have been building, growing and tending a large community garden for several years. What was once a 33,000 square foot abandoned lot in a commercial district in Honolulu is now a thriving Ocean Friendly Garden that serves as a living laboratory to build awareness of native Hawaiian plants and traditional cultural practices. With many plants that bear fruits and vegetables, the [Kaka'ako Ocean Friendly Garden](#) also helps to support local food security. Throughout 2021, Surfrider volunteers met weekly to weed and tend this garden. The chapter also hosted community work days every month to provide

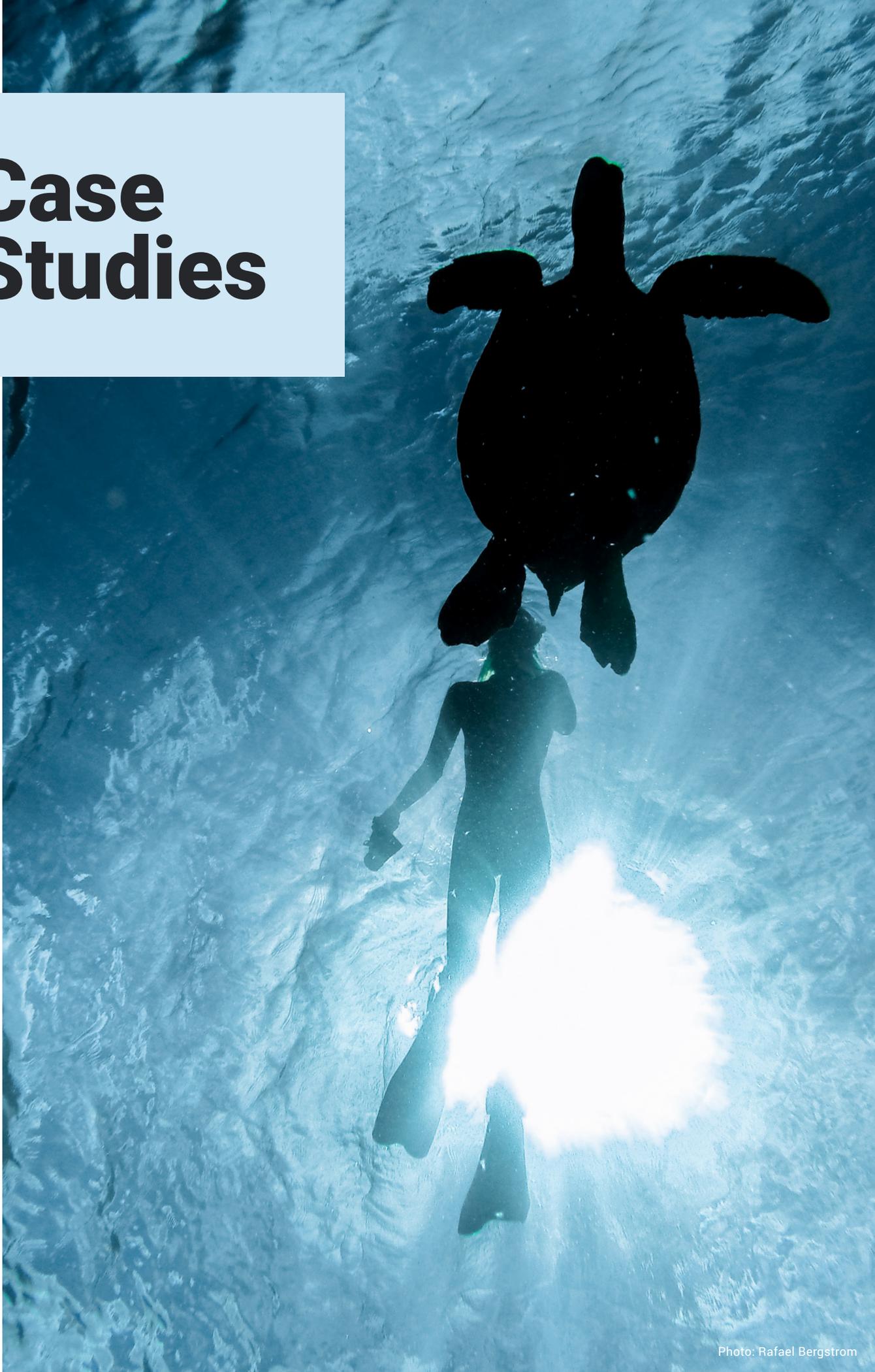
opportunities for families and community members in this densely developed urban area to connect with the 'āina or land.

On the policy side, Surfrider has successfully advocated for four local [fertilizer ordinances](#) over the last year. These regulations restrict applications of chemical fertilizers that contribute to severe water quality issues, including harmful algal blooms and fish kills. The following case study highlights how the Space Coast Chapter in Florida is using its Ocean Friendly Gardens program to reduce pollution and restore habitat in the sensitive Indian River Lagoon watershed.



The O'ahu Chapter and its partners at Permablitz Hawai'i have been building, growing and tending a large community garden for several years, which has since transformed into a thriving Ocean Friendly Garden that serves as a living laboratory to build awareness of native Hawaiian plants and traditional cultural practices.

Case Studies



SPACE COAST

Florida

Volunteers dive into clean water programs to protect public health and restore coastal ecosystems.

Florida is famous for its warm weather, sandy beaches and an abundance of recreational water opportunities. Beachgoing and other coastal pursuits drive a tourism economy in Florida that is worth more than **\$50 billion** every year. Unfortunately, Florida is also becoming infamous for poor water quality conditions that are creating an environmental and public health crisis. **Sewage spills and failing wastewater infrastructure**, mismanagement of freshwater resources, and stormwater and agricultural runoff are all contributing to these water quality issues. These pollution sources have left a legacy of high levels of nitrogen in Florida's rivers, estuaries and bays that fuel harmful algae blooms. When these algae blooms are toxic, they can cause health symptoms in humans and die-offs of

fish, birds, turtles and marine mammals. Even when the algae is not toxic, the blooms smother coral reefs and kill seagrass meadows by blocking out the sunlight these aquatic plants need to grow and thrive. The impact of Florida's declining seagrass meadows in the Indian River Lagoon and other warm-water estuaries where manatees spend their winters has been particularly heart-breaking. Without the seagrass to eat, these beautiful creatures are literally starving and we've seen massive declines in their population in recent years. In 2021, **1,101 manatees died**, largely due to starvation. With only approximately 7,000 - 8,000 manatees left in Florida, that means that more than 10% of the population was lost last year alone. Sadly, over **400 additional manatees** have died thus far in 2022.

At the same time, the **Florida Healthy Beaches Program** does not have the resources or staffing it needs to monitor water quality and provide adequate public health coverage at all beaches throughout the year. In fact, all beach testing stops in the northern half of the state from October or November through the beginning of March. Even during the sampling season, testing only occurs once every two weeks with the exception of the five most southern counties where beaches are sampled weekly. This clearly leaves public health unprotected at the beach in many instances.



TESTING THE WATER

Due to the growing concerns with water quality, several Surfrider Foundation chapters have started Blue Water Task Force (BWTF) water testing programs in Florida in recent years. In 2019, the [Space Coast Chapter](#), previously known as the Sebastian Inlet Chapter, launched their water testing program. With support from a local business, the Blue View Inn, to help purchase their lab equipment, the chapter started small by monitoring on a biweekly basis four sites that were not being tested by the state. This included recreational areas in and adjacent to the Indian River Lagoon. After each sampling event, the chapter communicated their test results to their community in a water quality report shared through email and social media.

Since then, the chapter has done a great job of building awareness of local water quality issues and has attracted more volunteers and a new partner to the program. With a second lab housed at the [Marine Resources Council](#), a local NGO with the mission of protecting and restoring the Indian River Lagoon, the Space Coast BWTF now covers 15 testing sites along the Indian River Lagoon from Wabasso Island in the south to the Cocoa Beach Pier in the north. View all of the chapter's sampling sites and their test results on the [BWTF website](#).



With a second lab housed at the Marine Resources Council, the Space Coast BWTF now covers 15 testing sites.

The chapter and the Marine Resources Council are finding that many of their creek sampling sites are measuring high bacteria levels that consistently exceed state water quality standards set to protect public health in recreational waters.

The chapter and the Marine Resources Council are finding that many of their creek sampling sites are measuring high bacteria levels that consistently exceed state water quality standards set to protect public health in recreational waters. This is especially alarming as humans and manatees both heavily use these recreational waterways. For instance, 80% of the test results from Turkey Creek at [Ais Trails Park](#) failed to meet state health standards in 2021. Another popular recreational spot for families with young children at [Ballard Park](#) showed high bacteria levels 58% of the time it was tested in 2021. Concerned with the potential impacts on public health, the chapter shared their results with the [Florida Department of Environmental Protection](#) (DEP). In response, the DEP is performing additional analyses on samples collected by both partners at four target sites, including Cocoa Beach Pier, Turkey Creek, Goat Creek, and Ballard Park, to measure several markers of human and animal sources of fecal pollution. This information is critical to identifying sources of pollution and developing solutions that will restore clean water in these waterways.

Together, the Space Coast Chapter and the Marine Resources Council are looking forward to completing their source tracking project and continuing to expand their BWTF sampling to include more sites, particularly near boat launches and piers. The Marine Resources Council is also interested in testing for additional parameters that might shed more light on the environmental conditions that have led to the loss of seagrass in the Indian River Lagoon. If you are in the area, keep up with local events on the chapter's [Facebook](#) and [Instagram](#) pages, and check out their annual fundraiser the Ocean Reef Beach Festival, which features educational activities, food and music.

REDUCING POLLUTION AND RESTORING NATIVE HABITATS WITH OCEAN FRIENDLY GARDENS

At the coast, sewage failures and stormwater laden with lawn fertilizers are two of the biggest sources of nitrogen, which is fueling the destructive, harmful algae blooms. Surfrider has successfully advocated for several **local ordinances** to reduce the amount of lawn chemicals that end up in surface waterways. The Space Coast Chapter has also diligently been teaching their community how to care for their yards sustainably through their Ocean Friendly Gardens (OFG) program. The chapter has installed and is maintaining several Ocean Friendly Gardens at local schools and public parks. Their OFG coordinator, **Bill Deluccia**, is also a native plant specialist and has been providing advice to the chapter and local residents on how to incorporate more native plants into their landscape and how to maintain yards without the use of harmful lawn chemicals. Bill operates under a philosophy that the best way we can start solving many of the environmental problems that our communities face is to restore the natural ecosystems and habitats that existed before our landscapes were altered by human development. Ocean Friendly Gardens offer the perfect vehicle to help make this positive change.

Bill is currently leading one of the chapter's most ambitious OFG projects yet. Together with the City of Melbourne, the chapter has started a five-year project on a municipal golf course located on one of the tributaries of the Indian River Lagoon. When completed, the Crane Creek Preserve Golf Course will be transformed into a native landscape that will help to protect water quality and restore habitats in this fragile coastal ecosystem. Another organization, **Novo Nordisk**, is also pitching in and sending volunteers to help with the transformation. Novo Nordisk has an ambitious goal of net zero emissions worldwide and is already carbon negative in the U.S. through the use of clean, sustainable energy sources at their facilities. The Crane Creek Preserve Golf Course will be an impressive example for golf courses throughout Florida and beyond.



Bill Deluccia, along with the City of Melbourne and Space Coast chapter, has started a five-year project to transform the Crane Creek Preserve Golf Course into a native landscape that will help to protect water quality and restore fragile habitats.

In addition to the Space Coast Chapter's program work, Surfrider Foundation regional staff have been advocating for the state to adopt stronger stormwater regulations and to allocate significantly more funding for the Florida Healthy Beaches program. This would help to increase water quality testing coverage and improve public notification of polluted conditions in recreational waters. Surfrider also successfully fended off a bad **state bill** this year that would have allowed more seagrass beds to be destroyed during new coastal development projects. At the **federal level**, Surfrider's advocacy to increase funding levels for the BEACH Act and wastewater infrastructure improvement projects will help to address the water quality issues that Florida is experiencing. At local, state, and national levels, the Surfrider Foundation is working hard to restore clean water and healthy beaches along Florida's coast.

Hawai'i

Generating water quality data to protect public health and clean water for all people.

In Hawai'i, life revolves around the water. As the Hawaiian proverb says, 'Ola i ka wai,' or 'Water is life.' People living in Hawai'i depend upon the ocean for recreation, celebrations, sustenance and cultural gatherings and practices. Additionally, more than 10 million tourists visit every year to enjoy the warm tropical waters and beaches of the Hawaiian Islands. Tourism makes up nearly **25% of the state's economy**, with visitor spending at nearly \$18 billion every year. Clean ocean water is therefore important culturally, recreationally and economically.

Unfortunately, increasing development pressures over the last 150 years have resulted in declining water quality across the state. Stormwater, agricultural

runoff and sewage failures are all major contributors to water pollution. In fact, over 53 million gallons of partially treated sewage leaches out of Hawai'i's approximately 88,000 cesspools every day. These outdated and inadequate wastewater systems send nutrients, bacteria and other pathogens into groundwater and surface waterways, putting public health at risk and damaging coastal reef ecosystems. Cesspools and failing sewage infrastructure are particularly problematic during rain and flooding events. The Hawai'i Department of Health (HDOH) issues **Brown Water Advisories** online to warn the public of potential dangers.

The HDOH also runs a water quality monitoring program, funded in part by their federal BEACH Act grant, to protect public health at the beach. However, with more than 400 public beaches, 300 miles of coastline and a year-round testing season, it is a challenge to adequately cover every beach throughout the islands. Because of this, the state focuses its monitoring efforts at popular tourist beaches, leaving water quality conditions unknown and public health unprotected at many beaches used by local communities.



TESTING THE WATER

To provide more information to protect public health and safe ocean recreation, the Surfrider chapters on Kaua'i, O'ahu, and Maui are running Blue Water Task Force (BWTF) water quality monitoring programs. The chapter programs help to fill in the gaps and extend the coverage of the state's program by testing a diversity of sites popular with recreational users, including surf breaks, local bathing beaches, stream outlets and canoe and stand-up paddleboard launch sites. Collectively, the BWTF samples more than 60 sites across the three islands during both dry and wet weather. All test results are posted on the BWTF website and shared through email and social media. Local media outlets often cover these water quality reports, especially when results indicate poor water quality conditions. On Kaua'i, [The Garden Island](#) publication runs the chapter's results every time they test.

By communicating results widely, the chapters are not only working to inform safe beachgoing and ocean recreation, but they are also helping to identify chronically polluted

sites that should be targeted for remediation and pollution solutions. To do this more effectively, the BWTF programs in Hawai'i synthesize their water quality results in annual reports to describe trends that identify areas of chronic pollution.

In 2021, for example, the O'ahu BWTF collected nearly 500 water quality samples from 23 beaches. Results indicated chronic pollution in Kāne'ōhe Bay, the largest sheltered body of water in the main Hawaiian Islands and an area that is significant for its cultural, recreational and scenic values. While the state is not testing this area regularly, the three BWTF sites in Kāne'ōhe Bay had at least 77% of their samples exceed state health standards. Areas of Kāne'ōhe Bay are also considered 'Priority 1' cesspool areas with known wastewater contamination. When the O'ahu Chapter released its [BWTF annual report](#) earlier this year, these data trends received significant media pickup, including three interviews of volunteers that were broadcast on the [local cable news](#) program.



Photos: Erik Kabik



To provide more information to protect public health and safe ocean recreation, the Surfrider chapters on Kaua'i, O'ahu, and Maui are running Blue Water Task Force (BWTF) water quality monitoring programs.

ADVOCATING FOR SOLUTIONS

With a state mandate to upgrade all of the remaining cesspools in Hawai'i by 2050, BWTF data is building community awareness of the impacts of these substandard systems and is helping to define priority areas for cesspool conversions. Surfrider activists have also successfully advocated for state legislation that would incentivize and help mitigate the cost of upgrades. Additionally, Surfrider has been working hard to build support in the legislature for a new state bill that would make needed improvements to the state's beach program. The bill requires the HDOH to sample during both wet and dry weather and to post signs at the beach warning the public of potential health hazards when Brown Water Advisories are issued. The legislation would also require the Hawai'i Department of Health to establish a more equitable beach sampling plan by incorporating environmental justice concerns into its monitoring program. On the island of Maui, for example, tourist beaches in Kā'anapali and Kīhei are prioritized for routine monitoring over community beaches, such as Waiehu,

This trend of elevating popular tourist beaches over sites favored by local communities, even when pollution concerns exist, is seen on every island.

Pāpalaua ("Grandma's") and Paukūkalo ("Big Lefts") surf breaks. This trend of elevating popular tourist beaches over sites favored by local communities, even when pollution concerns exist, is seen on every island.

Through our clean water programs and state advocacy, Surfrider is leading a diverse network of families, canoe clubs, surfers, divers and local communities across Hawai'i in support of a more equitable and representative state-run water quality monitoring program and clean water for all people. 'A'ohe hana nui ke alu 'ia,' or 'No task is too big when done together by all.'



Outrigger canoes practice on the Ala Wai Canal in Waikīkī which also often fails to meet health standards. Through our clean water programs and state advocacy, Surfrider is leading a diverse network of families, canoe clubs, surfers, divers and local communities in support of a more equitable and representative state-run water quality monitoring program.

SOUTH BAY, LOS ANGELES

California

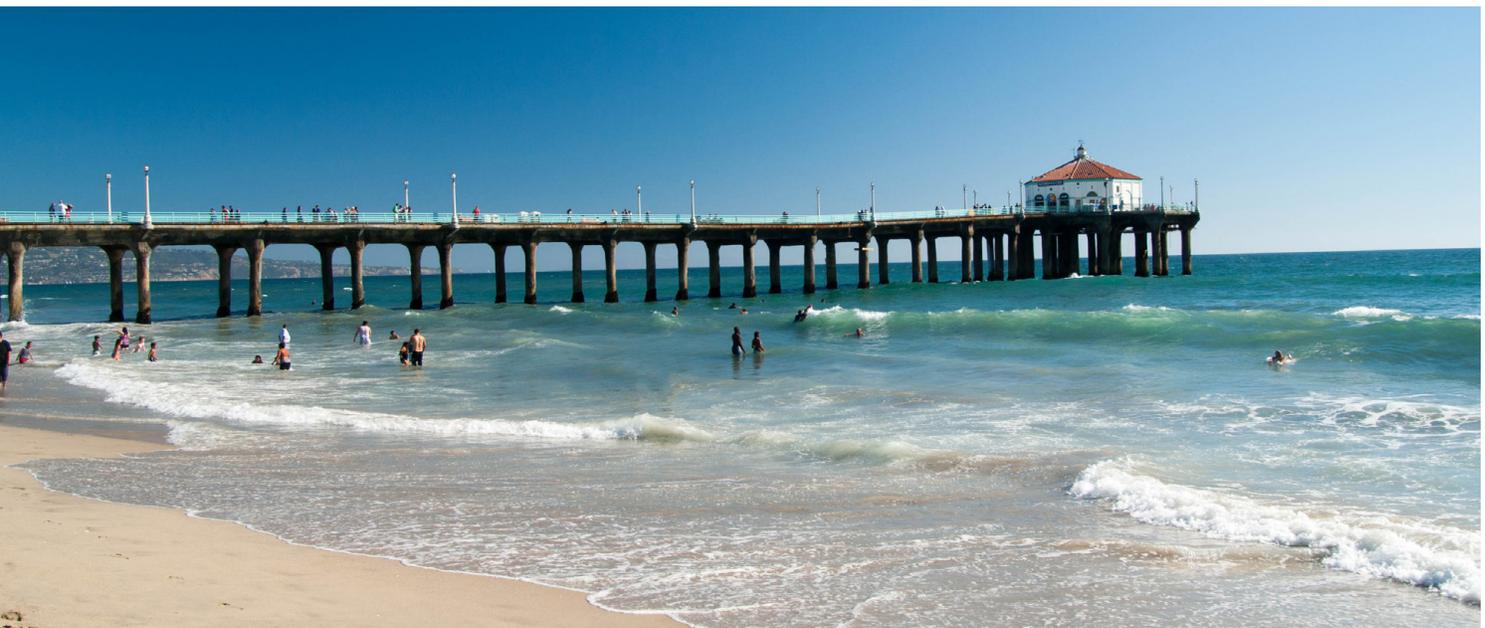
Educating students and empowering the community with the Blue Water Task Force.

As the COVID-19 pandemic and the suspension of in-person learning opportunities put a damper on all school-based Blue Water Task Force (BWTF) programs, Surfrider's South Bay Chapter in Los Angeles, California, was thrilled to welcome students back to the Teach & Test water quality program during the fall semester of 2021.

The South Bay Blue Water Task Force (BWTF) is one of the longest-running water testing programs in the Surfrider Foundation's national chapter network. Dubbed 'Teach & Test' locally, this chapter program has been measuring bacteria levels at South Bay beaches with the help of hundreds of local school teachers and students since its inception in 2004. The goal of the program is to educate students and

raise community awareness of the water quality issues and environmental challenges facing the South Bay community. By doing so, the chapter is striving to reduce environmental impacts and improve conditions at the beach for all members of their community and for local wildlife.

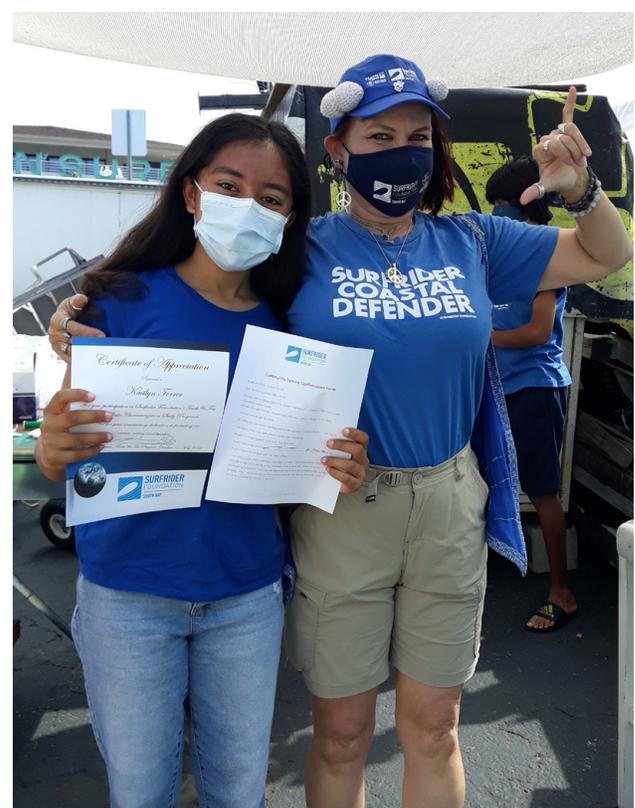
The chapter currently monitors 23 beach and wetland sampling sites, ranging from the Malaga Creek Outlet in the Palos Verdes Estates in the south to the Ballona Creek Wetland that intersects Playa del Rey Beach and Venice Beach to the north. Monitoring this many sites is only possible with the help of local students and all of the participating schools, which currently includes six public high schools, one middle school and Santa Monica Community College. Every other Sunday throughout the school year, teams of students and teachers, along with community volunteers, collect water samples from designated sampling sites and bring them to the fresh-air water testing lab hosted at Dive N' Surf in Redondo Beach. All samples are processed by students under the supervision of the chapter's Teach & Test volunteer coordinator, who is a biologist and retired educator. After each sampling event, all water quality data is entered into the BWTF website and a report is emailed to all the participants so they have immediate feedback on what their findings were that week.



While water samples are collected, students also pick up trash at the beach, along the street nearby, in front of storm drain outlets and in the Redondo Beach Harbor and Marina. The collected trash is brought back to Dive N' Surf where it is then sorted, counted and weighed for the chapter's Waste Characterization Study. The resulting data is entered into the Surfrider Foundation's **Beach Cleanup Database** and the chapter uses this data to support advocacy efforts to reduce plastic pollution in the community.

Over the years, the chapter has put a lot of work into developing a program that not only generates important data, but also provides an excellent opportunity for local students to participate in a scientific study with real-world applications. This approach gives students insight into career paths in the environmental and water quality sector. Before the COVID-19 pandemic began, one of the South Bay BWTF's biggest supporters, the **West Basin Municipal Water District**, hosted an annual field trip at one of its water treatment and recycling facilities. On these excursions, the students learned how freshwater management and wastewater treatment affects water quality at the beach. This year, West Basin has invited the students and their teachers to a Water Industry Careers guest panel and the South Bay Teach & Test Coordinator is guiding the students as they put together their own water career action plan throughout the spring semester. At the beginning of May, all of the participating students joined together for a year-end celebration to present their water quality and plastic pollution data to their teachers, chapter members and local water and environmental professionals. Each student finished the school year with a certificate of completion, new friends and a much greater understanding of the different water quality and environmental challenges that face the communities in South Bay. In some cases, the students have even been inspired to follow educational paths that lead to careers in coastal conservation or science.

The chapter is thankful for their program sponsors, the West Basin Municipal Water District and Dive N' Surf, as well as the dedicated volunteers of the South Bay Chapter and the teachers and students of participating schools who remain enthusiastic and committed to this valuable community program.



The South Bay Teach & Test Coordinator guides students as they master new laboratory skills and learn about local pollution programs and water career opportunities.



Photo: Sarah Swan

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