



BLUE WATER TASK FORCE

MAUI WATER QUALITY REPORT

2023



SURFRIDER
FOUNDATION.

MAUI



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INTRODUCTION

The Blue Water Task Force (BWTF) is the Surfrider Foundation's volunteer water quality monitoring program that provides critical information to protect public health at our beaches.

In 2023, the BWTF programs collected 869 water samples at 65 sites throughout the islands of Kaua'i (18), Maui (23), and O'ahu (24). Our BWTF Teams are composed of trained volunteers who sample biweekly on O'ahu and once a month on Kaua'i and Maui.

Water quality samples are tested for the presence of enterococcus, a fecal bacteria that indicates the presence of human or animal waste in the water. Elevated levels of enterococcus increase the likelihood that other pathogens that can make people sick may be present.

The goal of BWTF is to fill in monitoring gaps and quickly communicate with the public where it is safe to swim and where bacteria levels are elevated. Water quality results are compared to the standards used by the Hawai'i Department of Health.

(HDOH) to make beach closure decisions. Known as the Beach Action Value (BAV), this threshold is set at 130 colony forming units of *Enterococcus* per 100mL sample (130 CFU/100mL).

The water quality information generated by the BWTF augments the data that the HDOH provides through its beach water quality monitoring program. HDOH services test only a specific number of beaches on each island, primarily those with lifeguards and in popular tourist areas, while the BWTF covers a variety of areas popular with local families and recreational users including surf spots and local swimming beaches.

Beachgoers should take precautions swimming, surfing, or recreating after heavy rain events for 24-48 hours. Do not enter brown water areas or where there is a warning sign for high bacteria levels.

Community members are encouraged to check water quality results posted online before they head to the beach at bwtf.surfrider.org. Current and historic data are available.



ACCESSING DATA

The goal of Blue Water Task Force (BWTF) is to provide year-round water quality information to the public in order to supplement monitoring performed by the Hawai'i Department of Health. This data is used to inform safe beachgoing and aquatic recreation on O'ahu, Maui, and Kaua'i.

BWTF data is posted online 24-hours after it is collected (see websites below). If you have questions about a specific island's data, please reach out to the below coordinators. You can also direct questions to Lauren Blickley (LBlickley@surfrider.org), Surfrider Foundation's Hawai'i Regional Manager.

The BWTF would not be possible without the dedication of our many volunteers and program coordinators (who are also volunteers!) on each island. We appreciate our volunteers tremendously.

KAUA'I

Program Coordinator:

- Rob Brower (rob@browerhomes.com)

View Data: <https://bwtf.surfrider.org/explore/23>

O'AHU

Program Co-Coordination:

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View Data: <https://bwtf.surfrider.org/explore/44>

MAUI

Program Co-Coordination:

- Greg Masessa (bwtf@maui.surfrider.org)
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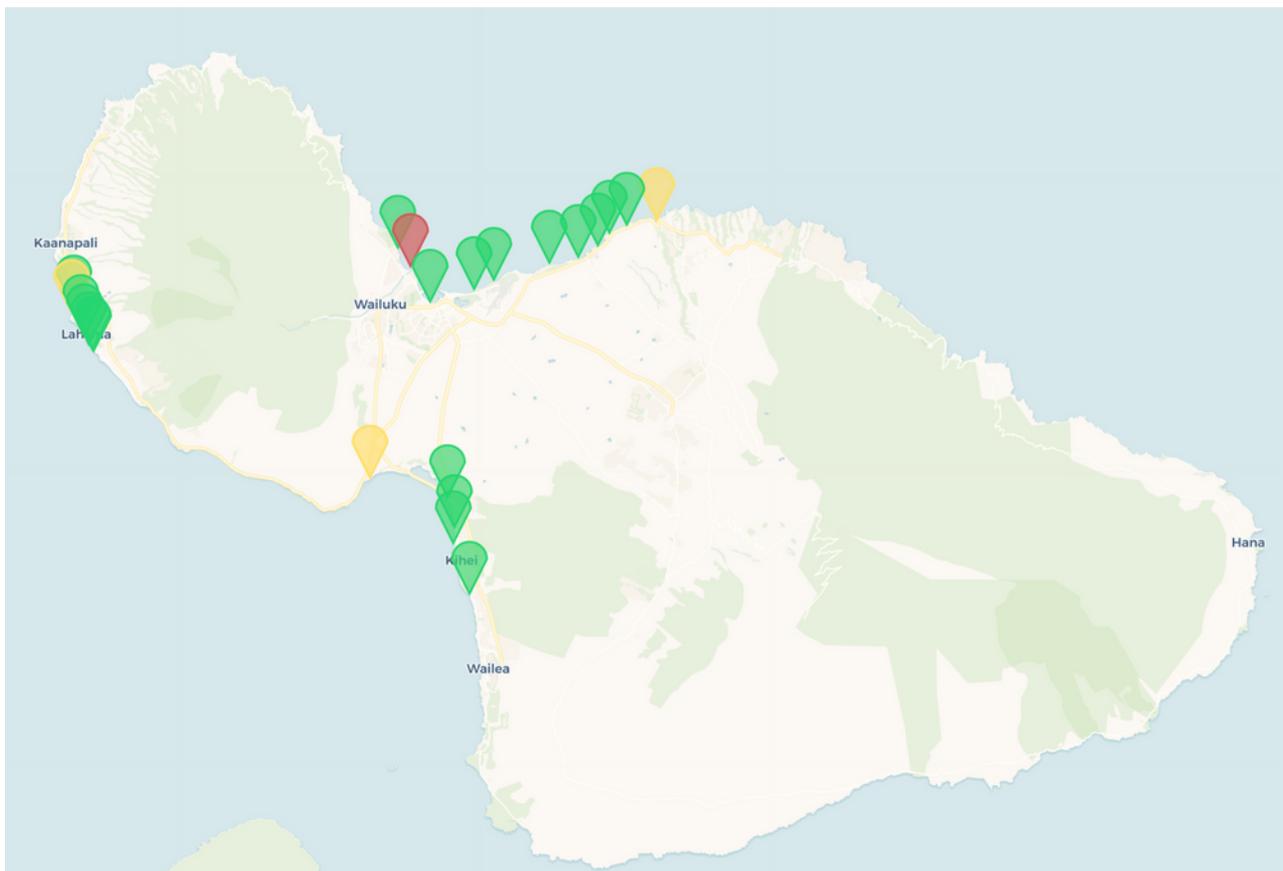
View Data: <https://bwtf.surfrider.org/explore/51>

MAUI DATA SUMMARY

This report provides an analysis of water test results for 16 North & South Maui sites (**Map 1**) that were monitored in 2023. Overall, coastal water quality in the areas tested by the Maui BWTF meet state health standards more often than on Kaua'i and O'ahu (**Table 1**). Note that BWTF results are recorded as Most Probable Number (MPN/100 mL), due to our testing methods.

Seven Lāhainā sites were sampled a maximum of 4 times in 2023 (**Map 1**). None of the Lāhainā samples exceeded state health standards for *enterococcus*. Hāna sites were not tested on a consistent basis in 2023. In 2024, the Maui Chapter intends to resume regular water quality monitoring in Hāna, in partnership with Hāna High School.

High bacterial counts indicate the presence of human or animal waste in these waters, which may threaten public and ecosystem health. The data is also important in identifying chronically polluted sites that should continue to be prioritized for ongoing monitoring, as well as potential investigation into the sources of the pollution.



Map 1. Blue Water Task Force sites on Maui that are sampled once per month. This map was taken from the Maui BWTF December 2023 results. Red = sites with high bacteria (>130); Yellow = sites with medium bacteria (36-130); Green = sites with low bacteria (0-35).

MAUI DATA SUMMARY

TABLE 1: PERCENT OF NORTH MAUI SAMPLES EXCEEDING HEALTH STANDARDS (> 130 MPN/100ML)

SITE NAME	TOTAL SAMPLES	% HIGH BACTERIA (>130 MPN/100ML)
Baby Beach (North Shore)	7	0%
Ho'okipa Beach Park E	8	0%
Kū'au Bay/Tavares Bay	8	0%
Kahului Harbor	8	0%
Kanahā/Kalialinui Stream	7	0%
Kanahā Beach	8	0%
Kū'au Cove/Mama's Beach	7	0%
Pā'ia Bay	8	0%
The Cove	9	0%
Waipuilani	4	0%
Ma'alaea Bay	8	13%
Waiehu Stream	8	13%
Kīhei Canoe Club	8	13%
Kalepolepo Beach Park	9	22%
Wailuku Stream	8	25%
Māliko Bay	7	29%

Table 1. Indicates the percentage of total samples taken at respective sites that exceeded HDOH health standards for *Enterococcus* bacteria (>130 mpn/100mL).

KEY OUTCOMES

2023 BWTF results are consistent with water quality trends from previous years. As in previous years, samples from Wailuku Stream and Māliko Bay have exceeded the state health standard more frequently than the other sites tested. Both of these sites are located at the mouth of streams or rivers. Water quality conditions at these sites can likely be attributed to land-based runoff from upland areas that is carried by freshwater streams to the ocean. This is similar to BWTF from across Hawai'i where sites located at stream mouths, beaches with freshwater outlets, or in bays without much circulation are typically characterized by higher bacteria levels than at ocean sites with higher circulation

Compared to O'ahu and Kaua'i BWTF results, Maui has more sites that meet state health standards. In 2023, however, Maui sampling was limited to the North and South shores. Additional expansion to West and East Maui sites in 2024 may reveal additional insight into water quality trends across the island.



BWTF data from sampling sites in Hawai'i also indicate that locations have elevated levels of fecal indicator bacteria after rain events and during brown water events. Beginning in November, the rainy season is characterized by large storm events with heavy rainfall. Particularly in the early part of the season, these storms serve to "flush" the islands and can result in large amounts of water, sediments, wastewater, and pollutants flowing downhill into the ocean.

Families, ocean users, and the public should be aware of the poor water quality conditions in these freshwater flows and avoid any contact with these freshwater flows. The public should be particularly cautious after heavy rain events that lead to increased runoff and can prompt [Brown Water Advisories](#). Even if you do not see a public notice posted, avoid brown water until conditions clear.

More exposed beaches and those that do not have direct freshwater inputs from streams or rivers generally test clean. These sites seldom show high bacteria levels because of the high volumes of water exchange and mixing that occurs at these sites. Bacteria at these sites, however, can be elevated after rainfall or other heavy storm events.

Note that not all high bacteria spikes were detected during brown water (for example, spikes on O'ahu and Kaua'i in the summer). This demonstrates the importance of regular water quality monitoring programs.

Before going to the beach, check current water quality conditions at bwtf.surfrider.org or the state [Water Quality Advisories](#).

MAUI FIRE RESPONSE

The August 8 Maui fires proved a significant turning point for the Maui Chapter. The collective grief and trauma to the community remains palpable, even months later. This unprecedented tragedy and environmental disaster has raised ongoing concerns about coastal water quality along West Maui.

IS THE OCEAN SAFE ON WEST MAUI?

Since August 8, the Maui Chapter has constantly fielded questions from the community about if, and where, it is safe to get in the ocean along West Maui.

The Lāhainā fire, however, was unique given its proximity to the ocean, the age of the buildings that burned, and the large number of structures that were destroyed. Due to these factors, many unknowns remain with regards to both environmental and human health impacts.

What we do know is that a large number of dangerous toxins were released during the fire. In addition to the toxins and pollutants that immediately leaked from the sunken boats, the ash that continues to cover the burnt area of Lāhainā Town is contaminated with heavy metals and other toxins that are dangerous for humans to breathe or be exposed to.

This toxic ash still has the potential to become airborne with the winds and is a threat for inhalation. The ash can also pollute the water when it is deposited into streams and the ocean - either through the air or with stormwater when it rains. The EPA did apply a sticky substance called Soiltac to the ash in an effort to reduce the amount of ash that becomes airborne.

Toxins of particular concern include lead, asbestos, and arsenic, along with a host of other heavy metals, PAH's (carcinogens formed from the burning of materials at high heat), and nutrients like nitrogen and phosphorus that can harm coastal systems.

EXPANDED WATER QUALITY MONITORING

The Maui Chapter has been particularly focused on understanding how these post-fire toxins may impact ocean goers. This has been especially challenging given issues around access to the burned areas and a general lack of understanding of how these toxins react or change in the ocean environment. Another issue is the lack of human health and safety standards for these toxins in ocean water.

Despite these challenges, the Chapter was able to collect water quality samples along the Lāhainā coastline in early December 2023 and January 2024. These samples are currently being analyzed for the presence of heavy metals. Since September 2023, the Chapter has also partnered with the Hui O Ka Wai Ola to collect *enterococcus* samples from the Lāhainā area.

In November 2023, the Maui Chapter was awarded a \$48,000 grant from Hawai'i Community Foundation to support expanded water quality monitoring along West Maui and the hiring of a Maui Fire Response Coordinator.

In 2024, the Maui Chapter seeks to utilize ongoing water quality monitoring in the Lāhainā area to better understand the levels of harmful toxins in the nearshore coastal waters, with a specific focus on their potential impact to ocean goers.



PC: MAUREEN BROCK

LEGISLATIVE ACTIONS

In addition to filling in the state level water quality gaps and informing beach goers about the safety of coastal waters, the Hawai'i Blue Water Task Force programs and their data also help drive important policy changes.

In recent years, advocacy has focused on improving the state's water quality monitoring program and increasing signage at beach parks. These efforts are to protect public health and the community's right to know if coastal waters are clean and safe.

FEDERAL LEVEL ADVOCACY

In March, nine Surfrider Hawai'i volunteers traveled to Washington, D.C. to discuss, among other topics, coastal water quality with federal representatives. Each chapter shared its annual water quality report, highlighting chronic pollution areas along their respective coastlines. These reports became important when discussing Surfrider's requests to increase federal appropriations for the BEACH Act that provides funding for state coastal water quality monitoring. We also shared the immediate need for cesspool upgrades to meet wastewater infrastructure challenges.



IMPROVING STATE WATER QUALITY MONITORING PROGRAM

For the last four years, Surfrider Foundation has advocated for legislation that would require the HDOH to continue their regular scheduled testing during Brown Water Advisories (BWAs) and rain events. For over a decade, the HDOH has refused to sample beaches when the water is brown or during an active BWA. This practice not only biases the state's data to dry conditions, but can also suspend testing for weeks at a time while BWA's are active. The overall result is that there is very little information available from the state that describes water quality conditions at Hawai'i beaches during wet weather. Wet weather is also when *enterococcus* levels are most likely to be elevated.

POSTING 'BROWN WATER ADVISORY' SIGNAGE

The HDOH issues preemptive BWA warnings to the public to avoid coastal waters that are brown or have runoff due to potential health risks. BWAs, however, are only posted online and via local news outlets. The lack of signs posted at beaches leaves many beachgoers unaware of the potential threat of pollution, especially visitors. In 2024, the Maui Chapter is piloting a program to provide BWA signs to lifeguarded beaches across the island.

POSTING SIGNS AT CHRONICALLY POLLUTED BEACHES

There is also a lack of public notification and awareness of health risks at chronically polluted beaches - particularly on Kaua'i. Despite years of data confirming ongoing pollution at sites like Nāwiliwili stream mouth, the state and County of Kaua'i refuse to place permanent signage warning the public about health risks. The Kaua'i Chapter continues to push for signage at this and other key beaches to inform safe beach going.

CLEAN WATER SOLUTIONS

In 2021, Surfrider Foundation launched its [STOP Sewage Pollution program](#) to raise awareness about the impact of sewage spills and failing wastewater infrastructure on coastal water quality.

Sewage can contain bacteria, viruses & parasites that make people sick with gastro-intestinal symptoms, rashes, flu-like symptoms, skin and eye infections and worse! Sewage discharges also pollute waterways with excess nutrients that wreak havoc on coastal ecosystems by fueling harmful algal blooms that put human health at risk, cause fish kills and smother coral reefs.

CESSPOOLS IN HAWAII

Cesspools are essentially pits or holes in the ground that receive wastewater, including untreated human waste, from homes or businesses. Cesspools do not provide any wastewater treatment but instead, temporarily hold onto household effluent and let it seep into the surrounding ground water.

With an estimated 88,000 cesspools, Hawai'i has one of the highest cesspools per capita the United States. O'ahu has 11,300 cesspools that discharge 7.5 million gallons of untreated sewage each day. This untreated sewage contributes to high nitrogen levels in ground and surface waters, and can contain pathogens that can make people sick.

Local flooding conditions caused by rising sea levels and extreme weather events makes this situation even worse. Connections to sewers and other advanced wastewater treatment systems are needed in order to stop the flow of pathogens and nutrient pollution into local waterways and to reverse the human health and ecosystem damage caused by these systems in many communities.

CONVERT YOUR CESSPOOL

If you're a homeowner with a cesspool, the most important way you can help STOP Sewage Pollution is by converting your cesspool. Visit the [Potty Portal](#) (developed by partner organization [WAI](#)) for numerous cesspool conversion resources. New and cheaper technologies for toilets and human waste management are also quickly improving. Take WAI's [Cesspool Homeowner's Quiz](#) to see which option maybe best for you.

HOW YOU CAN HELP

1. Convert your cesspool
2. Share your knowledge about the impacts of cesspools on water quality
3. Inspect and pump your septic tanks and cesspools regularly.
4. Don't use septic additives.
5. Only flush the three P's (pee, poop and toilet paper)
6. Don't pour cooking grease or oils down the drain.
7. Conserve water inside your home.
8. Soak up the rain and reduce runoff by directing roof downspouts into a rain barrel or vegetated area.





This report is brought to you by the
Surfrider Foundation Hawai'i Region.

hawaii.surfrider.org

Photo by Monica Andrea Photography