

Hawaii Beach Monitoring Program

State of Hawaii
Department of Health
Environmental Management Division
Clean Water Branch

Revision 2.0
September 30, 2024

TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
1. INTRODUCTION.....	3
2. OVERVIEW OF THE BEACH MONITORING PROGRAM IN HAWAII	5
3. GOAL OF THE BEACH MONITORING PROGRAM IN HAWAII.....	9
4. RISK-BASED BEACH EVALUATION AND CLASSIFICATION AND TIERED MONITORING PLAN.....	10
5. METHODS AND ASSESSMENT PROCEDURES	13
6. MONITORING REPORT SUBMISSIONS.....	13
7. PUBLIC NOTIFICATION, ADVISORY, AND RISK COMMUNICATION PLAN.....	14
8. NOTIFICATION REPORT SUBMISSION	20
9. PUBLIC EVALUATION OF THE BEACH PROGRAM.....	20
APPENDIX 1.....	21
APPENDIX 2.....	26
APPENDIX 3.....	29

1. INTRODUCTION

The Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), also known as the Clean Water Act (CWA), was amended by the Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH Act) to require: 1) states, territories, and tribes with coastal recreational waters to adopt new or revised water quality standards for pathogens and pathogen indicators for which the US Environmental Protection Agency (EPA) has published criteria under CWA section 304(a); 2) EPA to conduct studies associated with pathogens and pathogen indicators and publish new or revised criteria for pathogens and pathogen indicators; 3) states, territories, and tribes with coastal recreational waters to adopt new or revised water quality standards for all pathogens and pathogen indicators for which EPA published new or revised CWA section 304(a) criteria; and 4) authorizes EPA to award grants to states, territories, tribes or local governments to develop and implement beach monitoring and assessment programs.

In 2002 EPA published performance criteria for recipients of the BEACH Act grant which were revised in the *2014 National Beach Guidance and Required Performance Criteria for Grants*.¹ The Hawaii Department of Health (HDOH) Clean Water Branch (CWB) is a recipient of EPA BEACH Grants, and this document presents the procedures and practices used by the HDOH CWB to meet the EPA-specified performance criteria.

The foundations of Hawaii's Beach Program are based on the state's recreational water quality standards as specified in the Hawaii Administrative Rules, Title 11, Chapter 54, Water Quality Standards (HAR 11-54)² which was last amended in October 2021. HAR 11-54 was amended in November 2014 and approved by EPA on May 20, 2015, to adopt the 2012 EPA recommended Recreational Water Quality Criteria (RWQC) for bacterial indicators of fecal contamination. In its 2012 RWQC, the EPA recommended that state water quality standards specify the magnitude of the indicator density, expressed as a geometric mean and a statistical threshold value; the duration over which the magnitude is calculated; and the frequency of exceedances or the maximum number of times that the indicator may be present above the magnitude over the specified duration.

Hawaii's recreational water quality standards specify the use of enterococci as the fecal indicator bacteria (FIB, also identified by EPA as a fecal indicator or pathogen indicator). Enterococci, one of the FIBs recommended by EPA, is used to identify the possible presence of pathogenic microorganisms that may cause illness in users of recreational waters. Enterococci are not typically considered to be harmful to humans, but their presence in the environment may indicate that disease-causing microorganisms may also be present. The specific criteria for enterococci are expressed as colony forming units (CFU) or most probable number (MPN) per 100 milliliters (mL), depending on the analytical method used. Hawaii's water quality standards specify the geometric mean threshold value of enterococci concentrations in recreational waters to be 35

¹ [National Beach Guidance and Required Performance Criteria for Grants](#), 2014 Edition, EPA-823-B-14-001, July 31, 2014.

² http://health.hawaii.gov/cwb/files/2013/04/Clean_Water_Branch_HAR_11-54_20141115.pdf

CFU or MPN per 100 mL. To further clarify, the magnitude of enterococci content is calculated as a geometric mean over the duration of any 30-day interval, and it shall not exceed 35 CFU or MPN per 100 mL. Hawaii's water quality standards also specify the Statistical Threshold Value (STV) of enterococci concentrations in recreational waters as 130 CFU or MPN per 100 mL. The frequency of enterococci concentrations exceeding the STV shall not be more than ten percent of the samples taken within the same 30-day interval in which the geometric mean is calculated.

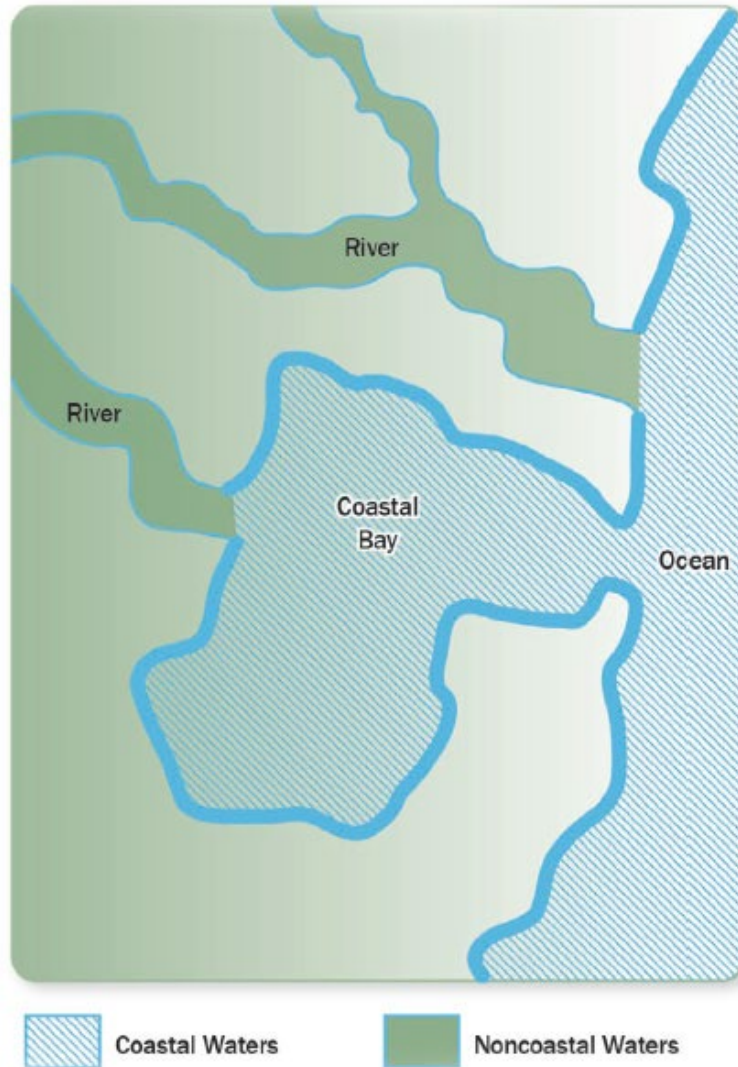
The CWB has developed a beach program decision rule, shown in [Section 2](#), to help guide actions necessary to appropriately advise the public when water quality monitoring results show that beach waters do not meet recreational water quality standards. The decision specifies a *Beach Action Value* (BAV), the FIB level at which the CWB will take appropriate beach management actions. The CWB uses FIB levels above 130 CFU or MPN/100 mL as the BAV.

The Hawaii Beach Monitoring Program is intended to provide risk communication to the public so that informed personal decisions may be made when entering coastal waters. Certain members of the public may be at greater risk of illness, including infants, the elderly, pregnant people, and people with underlying chronic health conditions, including those that are immunocompromised or are on immunosuppressive therapy. Those that are uncertain or have health concerns should consult their physician before engaging in coastal recreational activities involving direct contact with water, especially where water ingestion is likely. The CWB does not close beaches nor prohibit any type of use when the BAV is exceeded.

The Hawaii Beach Monitoring program specifically applies to coastal beaches and explicitly excludes inland waters upstream of the mouth of a river or stream, as specified in the 2014 National Beach Guidance, and shown on [Figure 1](#) below.

The HDOH advises against swimming or wading in, or drinking the water from, any freshwater stream or pond in Hawaii to prevent leptospirosis, a bacterial infection caused by the *Leptospira* bacteria.³

³ https://health.hawaii.gov/docd/disease_listing/leptospirosis/



Source: National Beach Guidance and Required Performance Criteria for Grants, 2014 edition

Figure 1. Coastal and Non-coastal waters

2. OVERVIEW OF THE BEACH MONITORING PROGRAM IN HAWAII

The State is required to identify measures to notify EPA and the public when a beach Advisory threshold (i.e., the BAV) is exceeded and to identify measures to inform the public of the potential risks associated with water contact activities in coastal recreational areas (beaches) when the BAV is exceeded. The State is also required to report to EPA, at least annually, on the occurrence, nature, location, pollutants involved, and the extent of any exceedances of the BAV.

The State must also identify any local governments to which they have delegated responsibility for implementing an advisory program and describe the process by which the delegation is made.

The Monitoring and Analysis Section of the CWB is responsible for the administration of Hawaii's BEACH Act monitoring program and all BEACH Act advisory requirements and does not delegate any of these responsibilities. Water quality samples are collected by CWB field staff and are analyzed for enterococci by laboratories that are situated on the islands of Oahu, Maui, Kauai, and Hawaii.

Consistent with the 2014 EPA guidance, the CWB must promptly issue a beach Advisory or resample a site if there is reason to doubt the accuracy, certainty, or representativeness of the first sample. If there is reason to doubt the results of the first sample, the CWB will collect confirmatory samples before issuing an Advisory. The following sections detail the justifications used to develop the current CWB procedures for this situation.

Several studies and scientific reports⁴ have concluded that enterococci, the FIB recommended by EPA, is not an ideal pathogen indicator in Hawaii and other tropical environments in that it does not necessarily indicate the presence of fecal pollution. The source of the enterococci cannot be determined by its detection using the test methods currently approved by EPA. Enterococci has been shown to multiply in soil and decaying vegetation in Hawaii and other tropical regions, especially along inland streams that are heavily canopied by vegetation. Studies have identified major sources and sinks of enterococci in the environment, which include soil, aquatic and terrestrial vegetation, beach sand and sediment, and feral animals. The 2014 EPA Guidance states that it is important to note that the recommended FIB is not exclusively of fecal origin and that they can be part of the natural microflora in the environment and that FIB from these non-fecal sources have not been demonstrated to be related to the potential for human illness. EPA further acknowledges that non-human fecal sources pose a lower human health risk relative to human fecal sources and has published technical guidance that states may use to develop alternative recreational criteria for waters contaminated by predominantly non-human fecal sources.⁵ The 2014 EPA Guidance recommends that beach managers understand the potential fecal sources in the watershed affecting their beaches to protect the health of beachgoers most effectively. One recommendation towards this goal made by EPA is the performance of a sanitary survey.

The CWB conducted a site-specific sanitary survey on the island of Kauai after receiving complaints that the BAV was consistently being exceeded in the area. The sanitary survey could not definitively identify a source of enterococci that would indicate risk to human health. The CWB then commissioned a study to identify the potential sources of the FIB in the area. The study concluded *high concentrations of FIB in both Waiopili Ditch and Waikomo Stream were*

⁴ <https://www.ncbi.nlm.nih.gov/pubmed/23204362>; <https://www.ncbi.nlm.nih.gov/pubmed/26184253>;
<https://www.ncbi.nlm.nih.gov/books/NBK190421/>

⁵ Office of Water EPA 822-R-24-003, April 2024.

*not caused by human or animal fecal contamination.*⁶ As a result of this, and of previous studies⁷, the CWB has determined that enterococci do not reliably indicate human health risk due to fecal pollution in Hawaii and confirmatory testing must be performed before beach advisories are issued.

A previous beach decision rule specified the issuance of an Advisory immediately after receiving laboratory results that showed a BAV exceedance. In response, signs were posted on the affected beach on the same day that follow-up samples were collected. From the inception of Hawaii's beach advisory program in October 2017 to December 2021, more than 15,300 samples were collected statewide, out of which, 156 Advisories were issued for 82 beaches. Of the 82 beaches at which Advisories were issued, 76 beaches did *not* exceed the state's monthly geometric mean standard of 35/100 mL, over the two-year period. And, of the 156 Advisories issued, 146 Advisories were canceled based on the laboratory results of the follow-up sample, which was usually shortly after the 24-hour analytical period. CWB follow-up sampling data showed that for these 146 Advisories, the FIB level was not exceeded on the day that the advisory signs were posted, indicating that there was no elevated risk of gastrointestinal illness throughout the period in which the advisory signs were posted. If there were public health risks because of fecal pollution due to sewage discharge, the BAV would have remained elevated for several consecutive days.⁸ Advisory posting of single-day BAV exceedances when the beach has historically met the acceptable beach threshold level and no known source of fecal contamination can be identified, causes unnecessary apprehension and inconvenience to the public. It should be noted that monitoring results reflect the water quality conditions present on the day before an Advisory is issued. This 24-hour delay is due to the time needed for the completion of laboratory analyses. The CWB has concluded that, in most cases, there is a valid reason to doubt the certainty and representativeness of the first sample, and confirmatory resampling of the area prior to issuing an Advisory is warranted.⁹ The beach monitoring and notification procedures have been updated to reflect this information.

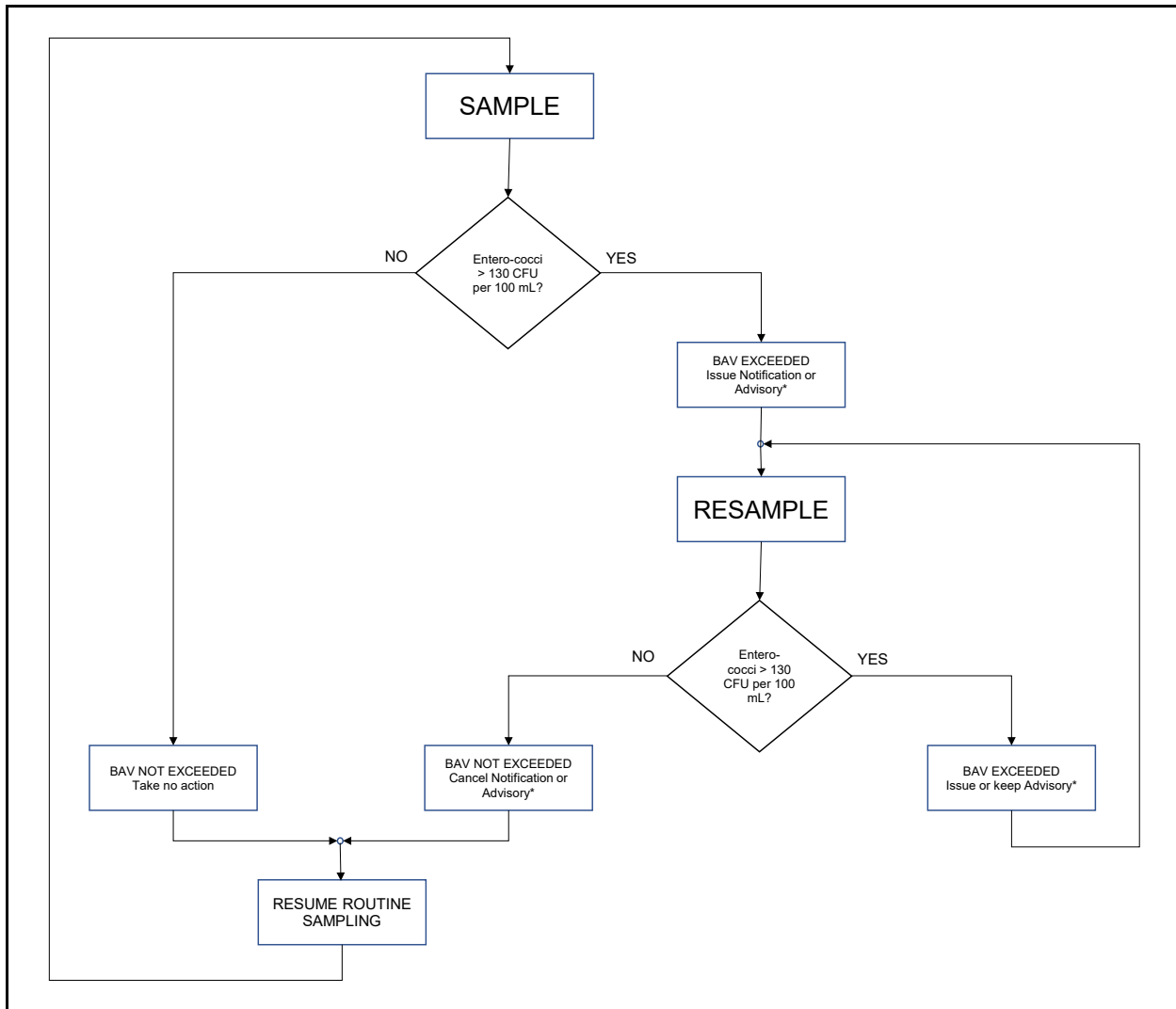
The CWB's beach program decision rule, shown in [Figure 2](#) below is used to help guide actions necessary to communicate to the public when there is a potential risk to beach users. The decision rule specifies a *Beach Action Value* (BAV), which is the FIB level at which the CWB will take appropriate beach management actions. The CWB selected enterococci levels above 130 CFU or MPN/100 mL as the BAV, which is equivalent to the EPA recommended statistical threshold value not to be exceeded 10% of the time.

⁶ Mahaulepu and Waikomo Watersheds PhyloChip Source Tracking Study, Hawaii, Final Report May 22, 2019

⁷ Viau, E.J.; Lee, D.; Boehm, A.B. Swimmer Risk of Gastrointestinal Illness from Exposure to Tropical Coastal Waters Impacted by Terrestrial Dry-Weather Runoff. *Environ. Sci. Technol.* 2011, 45 (17), 7158-7165.

⁸ Thoe, W., Gold, M., Griesbach, A., Grimmer, M., Taggart, M.L., Boehm, A.B., 2014. Predicting water quality at Santa Monica Beach: evaluation of five different models for public notification of unsafe swimming conditions. *Water Res.* 67,105e117.

⁹ Review and analysis of DOH data from October 2017 through December 2021.



*A Notification is issued if a follow-up sample can be collected by the next day. Signs are not posted in response to a Notification. An Advisory is issued if follow-up samples cannot be collected prior to a weekend or holiday.

Figure 2. Decision Rule

If the BAV is not exceeded, i.e., is less than or equal to 130 CFU or MPN enterococci/100 mL during routine monitoring, then no action is required and routine monitoring resumes.

If the BAV is exceeded, the CWB collects a confirmatory follow-up sample on the next workday and issues a Beach Notification (*Notification*) on the CWB Water Quality Notification and Advisories website. A Notification email is sent to all subscribers informing them of the exceedance and that confirmatory testing is being conducted. If a follow-up sample cannot be collected prior to a weekend or a holiday, a Beach Advisory (*Advisory*) rather than a Notification is issued.

If the confirmatory follow-up sample shows that the BAV was not exceeded, the CWB will cancel the Notification and inform the public that retesting has shown that the BAV is no longer exceeded.

If the confirmatory follow-up sample shows that the BAV has been exceeded, the CWB will issue an Advisory for the affected beach, which will remain in place until further follow-up sampling results indicate that the BAV is no longer exceeded.

When the BAV is no longer exceeded after an Advisory has been issued, a cancellation email is communicated to the public.

Public Notifications and Advisories are discussed in [Section 7](#).

Responses to wastewater or sewage spills, overflows, and discharges are carried out pursuant to HAR 11-62, Wastewater Systems, Appendix B¹⁰ and are discussed in [Section 7](#), Response to Sewage Spills.

3. GOAL OF THE BEACH MONITORING PROGRAM IN HAWAII

The goal of Hawaii's Beach Monitoring Program is to reduce the risk of gastrointestinal illness to users of Hawaii's beaches due to sewage pollution by issuing public advisories when warranted (i.e., when there is evidence of sewage leaks or spills) and in response to exceedances of the BAV when there is no reason to doubt the accuracy or representativeness of the monitoring results. To achieve this goal, the CWB takes prompt action in response to any exceedance of the BAV by collecting confirmatory follow-up samples and providing timely public risk communication to users of Hawaii's beaches. Risk communication is provided to the public so that informed personal decisions may be made based on individual risk tolerances. Certain members of the public may be at greater risk of gastrointestinal illness, including infants, the elderly, pregnant people, and people with underlying chronic health conditions, and those that are immunocompromised or are on immunosuppressive therapy. The CWB believes that routine monitoring and prompt, accurate advisories will satisfy the goal of reducing risk to beach users by keeping beach users informed.

In addition to informing the public, the CWB is also required to prepare quarterly reports to EPA to satisfy a grant requirement and annual reports to the EPA to satisfy a federal BEACH Act requirement. These reports compile monitoring results, Advisory and Notification efforts, and actions taken. Reporting activities are discussed in [Sections 6](#) and [8](#).

¹⁰ <https://health.hawaii.gov/opppd/files/2015/06/11-62-Wastewater-Systems.pdf>

4. RISK-BASED BEACH EVALUATION AND CLASSIFICATION AND TIERED MONITORING PLAN

Hawaii's beaches were evaluated and classified by the CWB when the BEACH Act was first enacted in 2000. In 2003, Hawaii submitted to the EPA an inventory of beaches that were subject to the provisions of the BEACH Act (i.e., BEACH Act beaches). There are six major islands with public access to beaches. The four largest islands of Kauai, Oahu, Maui, and Hawaii Island are staffed by CWB personnel. The beaches on the islands of Lanai and Molokai are included in the beach inventory but are currently not monitored due to the lack of on-island CWB personnel and the logistical challenges imposed by holding time restrictions for the samples. These islands are the least populated and industrialized of the major Hawaiian Islands and their beaches are least likely to be threatened by sewage pollution. With current resources, it is impossible and impractical for the CWB to monitor all beaches in the state; therefore, the CWB has ranked all beaches by priority levels or tiers.

Hawaii's BEACH Act inventory of beaches, submitted to the EPA in 2003, ranked the beaches according to the frequency at which they were monitored. During the evaluation process, CWB staff used a checklist to evaluate each beach using the factors listed below. The CWB also considered factors such as accessibility, available facilities such as showers and restrooms, local knowledge of the area, and consulted external sources such as lifeguards to determine daily beach user counts and reference books for current and historic information on usage. A major determining factor when considering beach usage is the presence of lifeguard stations on a beach.

Currently, there are approximately 407 BEACH Act beaches in the state; of which, approximately 167 were monitored in 2023. Some of the larger beaches have multiple monitoring stations/sampling sites, all of which may not be monitored at the same frequency. However, if a beach is designated a Tier 1 beach, then, at least, one of the monitoring stations situated on that beach is monitored at a Tier 1 frequency. The criteria for determining beach tier levels are shown on [Table 1](#). The number of Tier 1 and Tier 2 beaches in the state has been updated in September 2024 and is shown on [Table 2](#). A current list of Tier 1 and Tier 2 beaches is provided in [Appendix 1](#).

Table 1. Beach Tiering Criteria

Tier 1	Tier 1 beaches are considered core beaches and are ranked as such because of their economic and social importance to the state. Tier 1 beaches are heavily used, and most are stationed by lifeguards. Tier 1 beaches may be threatened by some type of pollution. These beaches are given the highest monitoring priority.
Tier 2	Tier 2 beaches also include beaches which may be economically or socially important to the state but are less heavily used than Tier 1 beaches. Tier 2 beaches are currently monitored on a less frequent basis compared to Tier 1s due to resource constraints; however, the frequency may be increased as resources become available.
Tier 3	Tier 3 beaches are even less heavily used, do not have a history of high FIB concentrations, are less threatened than Tier 1 or Tier 2 beaches, and currently receive no routine monitoring due to the lower threat and usage level. Tier 3 beaches also include those beaches with restricted or limited access and those that may pose a safety hazard to the sampler.
<p>The tier-based classification system for beaches is based on the following seven factors:</p> <ul style="list-style-type: none"> • Year-round primary contact recreation. • Presence of streams flowing through a residential, agricultural, urban, or industrial area and discharging nearby (urban nonpoint sources). • History of sewage spills in the area with accompanying monitoring data • Heavy beach usage. • Importance of the area to the local economy and use by the community. • Prior monitoring data showing elevated levels of FIB. • Ease of access to the beach, including whether access is restricted or must be gained through crossing private property. <p>If a beach possesses five or more factors out of the seven listed above, the beach is given a Tier 1 ranking. If it possesses less than five factors, the beach may be given a Tier 2 ranking. If the beach is determined not to be threatened using the above criteria, if prior monitoring history revealed no evidence of excessive levels of FIB, or if regular monitoring is deemed unnecessary, the beach is classified as a Tier 3 beach.</p> <p>The beach tier levels are evaluated annually by the CWB and are limited to the resource capacity on each island. The above classification criteria and, more importantly, the aggregated historical monitoring data are used to evaluate whether the tier level assigned to a beach should be changed. Heavily used beaches on each island are given priority consideration as there could be greater potential exposure when contamination levels are high. However, efforts are made to diversify the regularly monitored beaches, with the mentioned guidelines in mind as much as possible, as well as to monitor as many different regions of each island as resources allow.</p>	

Table 2: Number of Tier 1 and Tier 2 Beaches

Island	Tier 1 Beaches	Tier 2 Beaches
Hawaii	10	27
Hilo	5	9
Kona	5	18
Kauai	12	25
Maui	10	39
Oahu	25	25
TOTAL	57	116

Tier 1 beaches are given the highest priority in the Beach Monitoring program and are monitored weekly on all islands. Monitoring stations are divided into sampling runs that are grouped by geographic proximity to each other. Tier 2 beaches are routinely monitored at a lower priority and frequency dictated by the resources available on each island. Tier 3 beaches are not regularly monitored but may be included at the discretion of CWB after all Tier 2 beaches have been monitored.

Scheduled Tier 2 and Tier 3 beaches may be adjusted to accommodate activities such as follow-up sampling and sign posting on beaches where Advisories are warranted and to accommodate other duties of the field staff.

Specific sampling sites on each beach are chosen to be readily identifiable by the sampler and to be representative of how that beach is typically used. For example, most of the sampling sites target the approximate geographic center of the beach or near an easily recognizable landmark such as a lifeguard station, pavilion, or public restroom to help ensure that the sampling sites remain consistent. The CWB has established beach sampling sites near where people are most likely to enter the water and recreate. CWB is in the process of updating its Water Quality website which will include an inventory of beach monitoring sampling sites.

The CWB notifies the EPA and the public at least annually whenever there is a significant change to the list of beaches or beach rankings. As specified in the 2014 National Beach Guidance, a state or tribe must review its program and associated list of beaches annually to determine whether there are significant changes and, if so, must provide the public with an opportunity to review these significant program changes. All significant changes to the Hawaii Beach Monitoring Program, including changes to the criteria and beach classifications will be subject to public review.

5. METHODS AND ASSESSMENT PROCEDURES

Hawaii's beach monitoring program is based on the collection of discrete samples by CWB staff that are analyzed by microbiological laboratories on the islands of Kauai, Oahu, Maui, and Hawaii Island. Standardized sample collection methods are outlined in the Quality Assurance Project Plan for Beach Monitoring and in the Standard Operating Procedures for Beach Monitoring documents, both of which have been reviewed and approved by EPA.

Short-term increases in FIB levels are identified using EPA-approved laboratory methods for the detection and enumeration of enterococci, as specified in 40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act*.¹¹ Under the BEACH Act, states may utilize site-specific water quality assessment indicators and methods that are consistent with the 2012 EPA Recreational Water Quality Criteria in areas where the levels of enterococci cannot be accurately attributed to human or animal sources.

In addition to enterococci, the CWB has been analyzing all water quality samples for the presence of *Clostridium perfringens* for nearly 30 years to provide supplemental information and to collect data which may be used to demonstrate its feasibility for use as a potential future fecal indicator. Studies conducted at the University of Hawaii¹² and Washington State University¹³ suggest *C. perfringens* may be a more appropriate indicator of fecal contamination in Hawaii's coastal marine waters. The CWB is currently evaluating the feasibility of this fecal indicator. All changes to the EPA-recommended fecal indicator bacteria must be approved by the EPA. Currently, no beach advisory or notification action is taken using *C. perfringens* results.

6. MONITORING REPORT SUBMISSIONS

As part of the BEACH Act grant requirements, the CWB submits quarterly and annual reports that summarize Beach program activities. All Notifications and advisories including sewage spills, Brown Water Advisories (BWAs), BEACH program Advisories, and beach locational data are provided annually in the BEACH program Advisory and Notification submission to EPA. This information is available on EPA's Program tracking, beach Advisories, Water quality standards and Nutrients (PRAWN) database and is available to the public via EPA's Beach Advisory and Closing On-line Notification (BEACON) system. Monitoring data, including the number of samples collected, the number of beaches monitored under the BEACH program, and

¹¹ <https://www.gpo.gov/fdsys/pkg/FR-2012-05-18/pdf/2012-10210.pdf>

¹² Fujioka, R.S. (2001). Monitoring coastal marine waters for spore-forming bacteria of faecal and soil origin to determine point from non-point source pollution. *Water Science and Technology* 44, 181-188.

¹³ Miller-Pierce, M.R. (2019). *Clostridium perfringens* Testing Improves the Reliability of Detecting Non-point Source Sewage Contamination in Hawaiian Coastal Waters Compared to Using Enterococci alone. *Marine Pollution Bulletin* 114, 36-47.

all BEACH Act funding activities (purchases, payments, etc.) are reported quarterly to EPA. Advisory and Notification report submissions are discussed in [Section 8](#).

Monitoring data is uploaded monthly to the Water Quality Portal¹⁴ (WQP) through EPA's Water Quality Exchange (WQX). The public may also view all BEACH Act Advisories and Notifications issued by the CWB on the CWB Water Quality Notification and Advisories website.¹⁵

7. PUBLIC NOTIFICATION, ADVISORY, AND RISK COMMUNICATION PLAN

A central component of the current beach monitoring program is the decision rule, shown in [Figure 2](#), which the CWB uses to identify actions to be taken in response to exceedances of the BAV during its routine monitoring. Any exceedance of the BAV during routine monitoring of Hawaii's Beach Program beaches triggers confirmatory follow-up sampling, a *Notification* on the CWB Water Quality Notification and Advisories website, and a Notification email to all subscribers. The Notification serves to inform the public that the beach is being resampled due to the uncertainty about the representativeness of the sample after the beach has historically met the acceptable beach threshold. No Advisory signs are posted on the beach until confirmatory follow-up sampling test results indicate BAV exceedance. The Notification is canceled on the CWB Water Quality Notification and Advisories website if the follow-up resample results show that the BAV has not been exceeded and email Notifications are transmitted to all subscribers to inform them of the cancellation.

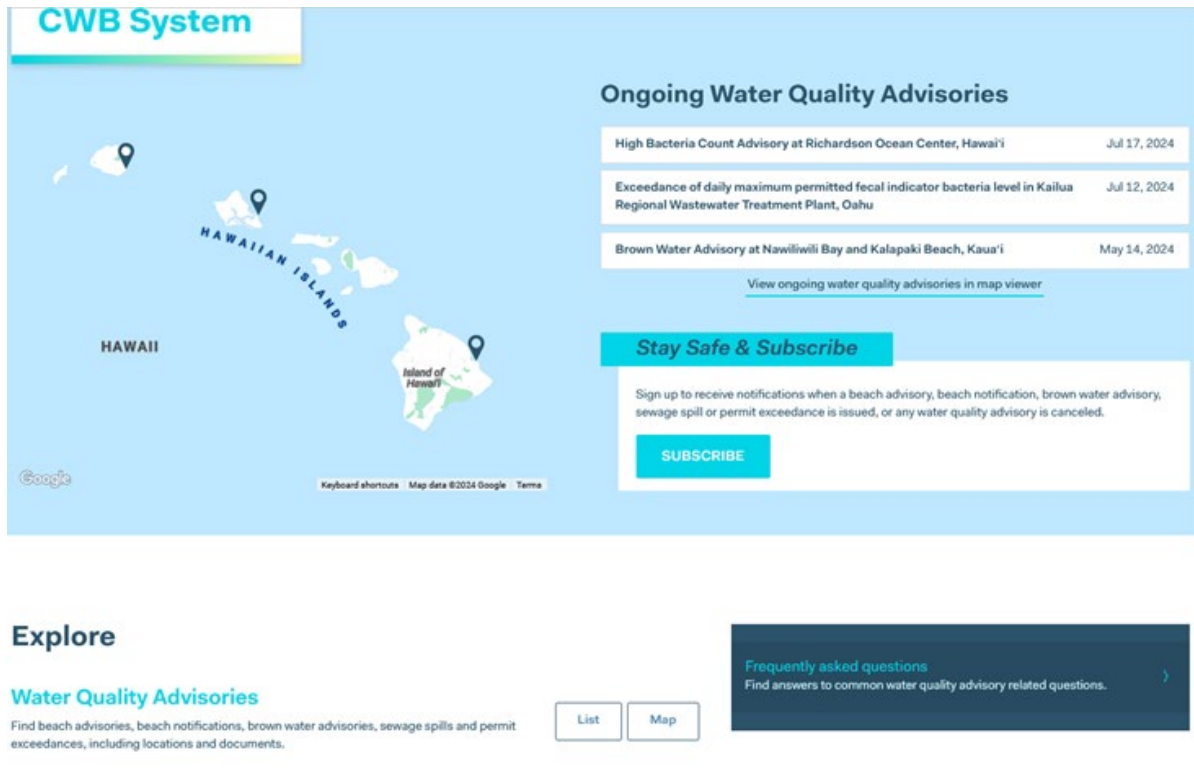
To avoid a prolonged Notification period, an Advisory, rather than a Notification, is issued if follow-up samples cannot be collected before a weekend or a holiday. Signs are also posted on the affected beach(es). Follow-up samples are collected on the next workday.

Exceedance of the BAV in a follow-up confirmatory sample immediately triggers a public *Advisory* and follow-up sampling. An Advisory consists of sign posting on the beach, Advisory posting on the CWB Water Quality Notification and Advisories website, and emails to all subscribers informing them of the Advisory. The CWB does not close beaches in response to any Advisory but does issue Advisories to inform the public about water quality conditions so that informed personal decisions may be made based on individual risk tolerances. Public awareness and enhancing the capacity for informed personal choice are important factors in ensuring public health protections are provided to recreational water users. Notifications differ from Advisories in that the intent of Notifications is to inform the public that the site exceeds the BAV and is being resampled. Signs are *not* posted on the beach in response to Notifications.

¹⁴ <https://www.waterqualitydata.us/>

¹⁵ <https://eha-cloud.doh.hawaii.gov/cwb/#!/landing>

Three distinct activities have been identified to inform the public of confirmed BAV exceedances: 1) posting of Advisory signs on the beach at locations where they would be most visible; 2) transmission of email Notifications/Advisories issued by the CWB to all subscribers, which include HDOH social media platforms, media outlets, other government agencies, non-governmental organizations, and private citizens; and 3) Advisory posting on the CWB Water Quality Notification and Advisories website: <https://eha-cloud.doh.hawaii.gov/cwb/#!/landing> (shown below):



The public is encouraged to subscribe to receive email Notifications and Advisories at the CWB Water Quality Notification and Advisories website. The CWB Water Quality Notification and Advisories website also provides a link to frequently asked questions relating to the beach monitoring program. More information on the CWB Beach Monitoring program may be found on the CWB website.¹⁶

The CWB has worked with its stakeholders, also referred to as community partners, to develop the messaging content for the beach advisory information that would best inform the beach users of the potential risks. Four types of messaging were identified to inform the public of potential elevated risk of illness from swimming or wading in coastal beaches due to sewage pollution. Messaging includes 1) posting information on the CWB Water Quality Advisories website; 2)

¹⁶ <https://health.hawaii.gov/cwb/beach-monitoring-program/>

transmitting email advisories and notification to email subscribers; 3) posting temporary advisory signs on the affected beach; and 4) a new initiative for posting permanent brown water signs at heavily used beaches. For this initiative, the CWB is working with the various agencies to post permanent brown water informational signs at all state and county beach parks. An example of the sign is shown in Appendix 2.

Response to BAV exceedances

The overall Advisory/Notification process for BAV exceedances is as follows (see also [Figure 2, Decision Rule](#)):

1. CWB receives an automated exceedance notification from the laboratory if a sampling result exceeds the BAV (i.e., >130 CFU or MPN enterococci/100 mL). Laboratory analysis takes 24 hours to complete.
2. The sampler collects follow-up confirmatory samples from the affected site usually on the next workday.
 - a. A *Beach Notification* is issued on the CWB Water Quality Notification and Advisories website and includes the affected area, sampling date, enterococci count, and advisement that the area is to be retested.
 - b. Email Notifications with the above information and a link to the website posting are transmitted to all email subscribers.
3. If laboratory results for the follow-up confirmatory sample show that the BAV is not exceeded:
 - a. The Notification on the Water Quality Notification and Advisories website is canceled, and the Notification is removed from the Ongoing Water Quality Advisories page.
 - b. Emails are transmitted informing subscribers that the Notification has been cancellation and that retesting results show that the enterococci level no longer exceed the BAV.
 - c. Routine sampling resumes.
4. If laboratory results for the follow-up confirmatory sample show that the BAV is exceeded OR if follow up samples cannot be collected prior to a weekend or holiday.¹⁷
 - a. A *Beach Advisory* is issued on the CWB Water Quality Notification and Advisories website and includes the affected area, sampling date, enterococci count, cause (if known), Advisory creation date, and an advisement informing the public of how they can reduce their risk of illness. Active Advisories are regularly verified and updated with the date of the most current information by CWB Monitoring staff.
 - b. Email Advisories with the above information and a link to the website posting are transmitted to all subscribers.

¹⁷ Follow-up samples cannot be collected on Fridays or on days preceding holidays because laboratory analyses take 24 hours to complete. On these days, an Advisory, instead of a Notification, is to be issued and follow-up samples are collected on the next workday.

- c. Temporary advisory signs are posted on the affected beach.
 - d. A follow-up sample is collected on the next workday.
5. When follow-up Advisory samples show that the BAV is no longer exceeded:
- a. The Advisory issued on the CWB Water Quality Notification and Advisories website is canceled and the Advisory is removed from the Ongoing Water Quality Advisories page.
 - b. Emails are transmitted informing subscribers that the Advisory has been canceled and that retesting results show that the enterococci level no longer exceeds the BAV.
 - c. Temporary advisory signs that were posted on the affected beach are removed.
 - d. Routine sampling resumes.

An example of a Beach Advisory sign is shown in Appendix 2. Examples of Beach Notifications and Beach Advisories are shown in Appendix 3.

Response to Sewage Spills

If the CWB receives a report of a confirmed sewage spill into State waters, a *Sewage Spill* advisory is issued. A confirmed sewage spill is defined as a spill reported by a permitted wastewater facility or a spill that has been verified by a CWB staff member. Cesspool and septic system overages and seepage events (non-chronic events) may be added to an advisory if they can be demonstrated to contribute to the spill event. The procedures specified in HAR 11-62, Wastewater Systems, Appendix B, Responses for Wastewater Spills, Overflows, and Discharges¹⁸ (*Spills*) will be followed. The owner/agent of the facility is responsible for posting temporary warning signs, performing water quality monitoring, and issuing press releases, if required. Temporary warning signs explicitly state that the water is contaminated by sewage and that people should keep out of the water. Warning signs are differentiated visually from routine monitoring exceedance signs to distinguish the level of potential risk.

A Sewage Spill advisory provides information (location, description, cause, etc.) and warns the public to stay out of the affected waters. The advisory is transmitted via email to all subscribers as described above. Sewage advisories affecting beaches remain active until water samples indicate that the enterococci BAV is no longer exceeded. When the advisory is no longer in effect, the temporary signs are removed, the advisory on the CWB Water Quality Notification and Advisories website is removed, and emails are transmitted to all subscribers informing them that the advisory is no longer in effect. An example of a Sewage Spill advisory message issued on the CWB Water Quality Notification and Advisories website is shown in [Appendix 3](#).

¹⁸ <https://health.hawaii.gov/opppd/files/2015/06/11-62-Wastewater-Systems.pdf>

Response to Brown Water Advisories

The 2014 EPA guidance allows states to have in place a preemptive advisory that automatically takes effect when conditions in the advisory, such as heavy rainfall, are met. Heavy rain or flash floods result in surface runoff into the ocean often leading to the discoloration of the coastal waters. Surface runoff is often accompanied by elevated fecal indicator bacteria in coastal beaches. In these instances, the CWB may issue a *Brown Water Advisory* (BWA). A BWA is not automatically issued but are issued when CWB field staff determines, via visual assessment, that there is a strong likelihood of land-based pollutants entering coastal beach waters thereby increasing the possibility of exceeding the BAV.

The CWB has more than 700 historical data points that show that after heavy rainfall, the BAV is nearly always exceeded. This data provided a rationale for implementing preemptive BWAs to notify the public of a potential risk of gastrointestinal illness associated with elevated fecal indicator bacteria levels without the need for testing, as allowed in the 2014 EPA guidance. In response to public interest, the CWB agreed to amend its procedures and collect samples during BWAs at regularly scheduled Tier 1 beaches to the extent that current resources permit.

If conditions warrant the issuance of a BWA at a regularly scheduled Tier 1 beach site, a sample will be collected as usual if the sampling site is accessible, unless conditions are deemed to be hazardous by the CWB field staff, or if there are resource restrictions. If conditions warrant the issuance of a BWA at a Tier 1 beach that is not scheduled to be sampled, no sample will be collected at that site until the next regularly scheduled sampling event, regardless of whether a BWA is in effect or not.

If the BAV is exceeded during BWA testing, a Beach Advisory will also be issued, and the Beach Advisory protocol will be followed. Follow-up sampling during BWAs will occur on each subsequent workday at Tier 1 beaches if resources permit. Resources will always be prioritized to collect samples at scheduled Tier 1 beaches over any BWA follow-up sampling with the aim of testing all Tier 1 beaches as required.

A BWA may be canceled when the water at the affected beach is no longer brown or turbid as determined by CWB field staff. In addition, a BWA at a Tier 1 beach may be canceled if water quality testing shows that the fecal indicator bacteria level no longer exceeds the BAV. If the BAV at a Tier 1 beach continues to be exceeded after the water is no longer brown, the BWA will be canceled; however, to be consistent with the Beach Advisory protocol, the Beach Advisory will remain issued until the BAV is no longer exceeded. If water quality testing during a BWA at a Tier 1 beach shows that the BAV is no longer exceeded, both the BWA and BAV will be canceled.

The public is informed of a BWA as described above; however, temporary signs are not posted on the beach. It is impractical to post temporary signs on, and collect samples from, all impacted beaches due to resource constraints. Currently, news organizations may include BWAs in their weather broadcasts when time permits. The HDOH Communications Office may issue a press

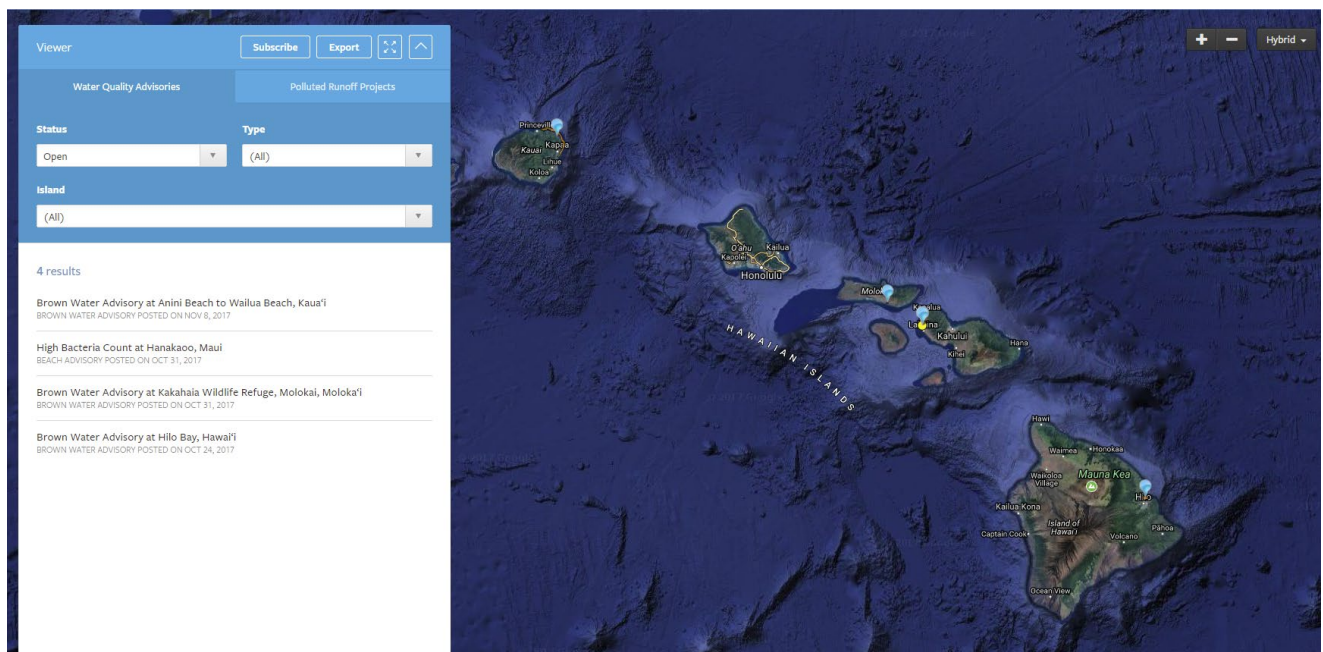
release or post the advisory on the HDOH social media platforms at their discretion. BWAs are generally canceled within 24-72 hours after the rain event has subsided and after the beach has been assessed by CWB field staff or will be canceled when water quality testing shows that the BAV is not being exceeded. In areas that are not tested during BWAs, CWB staff will assess whether a BWA should be extended or if an earlier cancellation is warranted.

An example of a Brown Water Advisory message issued on the CWB Water Quality Notification and Advisories website is shown in [Appendix 3](#).

Examples of the Advisory signs used for the Beach Monitoring program are shown in Appendix 2. The temporary beach and permanent Brown Water signs include a Quick Response (QR) code which may be scanned and read by most smart phones and provides a direct link to the CWB Water Quality notification and Advisories webpage.

Additional Information on the CWB Water Quality Notification and Advisories Website

In addition to the Notification and Advisory information stated above, the CWB Water Quality Notification and Advisories website contains a viewer which lists all ongoing (active) Notifications and Advisories statewide, as well as a map which identifies the locations of the active Notification and Advisories. The viewer is accessed through the link labeled *View ongoing water quality Notifications and Advisories in map viewer*. The viewer is shown below. Clicking on any of the text Advisories or a pin location on the map in the viewer takes the user to the specific Advisory information.



Visitors to the Viewer can sort the water quality Notifications and Advisories by status (Issued or Canceled); by type (Beach Advisory, Beach Notification, Brown Water Advisory, and Sewage Spill); and by island. Users may also export information on the Notifications and Advisories as comma-separated values or .csv files, which are viewable in Microsoft Excel.

8. NOTIFICATION REPORT SUBMISSION

As part of its BEACH grant conditions, the CWB reports its public Notification and Advisory activities electronically to the EPA through the PRAWN database on an annual basis. The data elements that are uploaded include beach monitoring Notifications, Advisories, and beach locational data. The CWB also provides the EPA with quarterly or annual written reports summarizing all BEACH Act program specific water quality data, including beach locational data, the number of samples taken, the number of stations monitored, and all Notifications and Advisories that were issued during that time span. The information in the PRAWN database is available to the public through the BEACON system at:

<https://watersgeo.epa.gov/beacon2/reports.html>.

9. PUBLIC EVALUATION OF THE BEACH PROGRAM

This document describes the Hawaii Beach Monitoring Program and is made publicly available on the CWB website. The public is provided an opportunity to evaluate and provide comment on all aspects of the Beach Monitoring Program when significant changes are made.

Points of Contact

All questions on the Beach Program may be directed to the CWB at:

Clean Water Branch
State of Hawaii Department of Health
2827 Waimano Home Rd. #225
Pearl City, HI 96782

Phone: (808) 586-4309

Email: cleanwaterbranch@doh.hawaii.gov

APPENDIX 1.

Tier 1 Beaches

ISLAND	BEACH ID	BEACH NAME
Hawaii (Hilo)	HI315019	Hilo Bayfront
Hawaii (Hilo)	HI857411	Honoli'i Beach Co. Park
Hawaii (Hilo)	HI540868	Leleiwi Beach Co. Pk.
Hawaii (Hilo)	HI670254	James Kealoha Park
Hawaii (Hilo)	HI862286	Onekahakaha Beach Co. Pk.
Hawaii (Kona)	HI326172	Anaeho'omalu Bay
Hawaii (Kona)	HI013290	Kahalu'u Beach Co. Pk.
Hawaii (Kona)	HI753566	Kailua Bay
Hawaii (Kona)	HI261474	Kamakaokahonu
Hawaii (Kona)	HI668132	Puako
Kauai	HI270737	Anahola Beach
Kauai	HI554189	Ha'ena Beach Co. Park
Kauai	HI385259	Hanalei Beach Co. Park (Hanalei Bay Pavilion)
Kauai	HI758685	Kalapaki Beach
Kauai	HI402035	Kealia
Kauai	HI124511	Ke'e Beach
Kauai	HI530569	Kekaha Beach Co. Pk.
Kauai	HI798758	Lydgate State Park
Kauai	HI396850	Po'ipu Beach Co. Park
Kauai	HI701008	Salt Pond Beach Co. Park
Kauai	HI392082	Wai'ohai Beach
Kauai	HI836118	Wai'oli Beach Park
Mauai	HI253548	Fleming Beach North
Mauai	HI846900	H.P. Baldwin Beach Co. Pk.
Mauai	HI797917	Hanaka'o'o Beach Co. Pk.
Mauai	HI985873	Ho'okipa Beach Co. Pk.
Mauai	HI705118	Kalama Beach (South)
Mauai	HI761092	Kama'ole Beach 1
Mauai	HI097179	Kama'ole Beach 2 (Ili'iliholo Beach)
Mauai	HI496115	Kama'ole Beach 3
Mauai	HI797225	Kanaha Beach (2)
Mauai	HI643627	North Ka'anapali Beach

Oahu	HI882094	Ala Moana Beach Co. Park, Center
Oahu	HI306071	Ala Moana Beach Co. Park, Diamond Head (DH)
Oahu	HI950962	Chun's Reef
Oahu	HI451176	Hale'iwa Ali'i Beach Co. Pk.
Oahu	HI451471	Hanauma Bay
Oahu	HI515191	Kohola Lagoon 1
Oahu	HI366432	Kahanamoku Beach
Oahu	HI548986	Kahe Pt. Beach Co. Pk.
Oahu	HI482719	Kailua Beach Co. Pk.
Oahu	HI681782	Kuhio Beach Park
Oahu	HI183312	Laniakea Beach
Oahu	HI596989	Lanikai
Oahu	HI529142	Magic Island Beach
Oahu	HI627464	Ma'ili Beach Co. Park
Oahu	HI632106	Makaha Beach Co. Park
Oahu	HI723399	Makapu'u Beach Co. Park
Oahu	HI467413	Nanakuli Beach Co. Pk.
Oahu	HI659533	Poka'i Bay Beach Co. Pk.
Oahu	HI193495	Pupukea Beach Co. Pk.
Oahu	HI898947	Royal-Moana Beach
Oahu	HI776760	Sandy Beach Co. Park
Oahu	HI617815	Sans Souci St. Rec. Area
Oahu	HI860544	Sunset Beach
Oahu	HI471097	Waimanalo Beach Co. Park
Oahu	HI696599	Waimea Bay Beach Co. Pk.

Tier 2 Beaches

ISLAND	BEACH ID	BEACH NAME
Hawaii (Hilo)	HI977673	Coconut Island Park
Hawaii (Hilo)	HI138086	Hakalau Co. Pk.
Hawaii (Hilo)	HI659453	Ice Pond (single point)
Hawaii (Hilo)	HI542822	Kalapana Beach
Hawaii (Hilo)	HI849313	Keaukaha Beach Park
Hawaii (Hilo)	HI459942	Kehena
Hawaii (Hilo)	HI693485	Kolekole Beach Co. Park
Hawaii (Hilo)	HI380623	Laupahoehoe Beach Co. Park
Hawaii (Hilo)	HI691720	Lehia Beach Co. Pk.

Hawaii (Kona)	HI616452	2nd Beach (Next to Mahaiula)
Hawaii (Kona)	HI713314	Banyan's Surfing Area
Hawaii (Kona)	HI621002	Hapuna Beach St. Rec. Area
Hawaii (Kona)	HI582331	Holoholokai Beach
Hawaii (Kona)	HI246645	Honaunau Bay
Hawaii (Kona)	HI152572	Ho'okena
Hawaii (Kona)	HI809832	Kealakekua Bay (Curio Stand)
Hawaii (Kona)	HI261869	Kauna'oa Beach
Hawaii (Kona)	HI978783	Kawaihae Harbor
Hawaii (Kona)	HI713293	Keauhou Bay (Kona)
Hawaii (Kona)	HI720408	Manini'owali
Hawaii (Kona)	HI890924	Mauna Lani (Kalahuihua'a)
Hawaii (Kona)	HI470112	Miloli'i Beach
Hawaii (Kona)	HI256093	Old Kona Airport St. Rec. Area
Hawaii (Kona)	HI320616	Pine Trees
Hawaii (Kona)	HI936372	Spencer Beach Co. Pk.
Hawaii (Kona)	HI643938	Wawaloli Beach
Hawaii (Kona)	HI436267	White Sands Beach Co. Pk. (Magic Sands)
Kauai	HI338804	Anini Beach
Kauai	HI418744	Anini Beach Park
Kauai	HI156238	Beach House Beach
Kauai	HI166521	Brennecke Beach
Kauai	HI976083	Gillin's Beach
Kauai	HI352580	Hanama'ulu Beach Co. Park
Kauai	HI264001	Kalihiwai Bay
Kauai	HI972832	Kapa'a Beach Co. Park
Kauai	HI698776	Kawailoa Beach
Kauai	HI955435	Koloa Landing
Kauai	HI619039	Kukui'ula Bay
Kauai	HI889639	Lumaha'i Beach
Kauai	HI547745	Moloa'a Bay
Kauai	HI953916	Niumalu Beach Park
Kauai	HI502794	Nukoli'i Beach Park
Kauai	HI468251	Pakala (Makaweli)
Kauai	HI247403	Polihale State Park
Kauai	HI742228	Prince Kuhio Park
Kauai	HI542569	Sheraton Beach
Kauai	HI358435	Shipwreck Beach

Kauai	HI936087	Tunnels Beach
Kauai	HI330114	Waikoko Bay
Kauai	HI606168	Wailua Beach
Kauai	HI245235	Waimea Rec. Pier St. Pk.
Kauai	HI682678	Waipouli
Maui	HI879646	Ahihi-kina'u Natural Area Reserve
Maui	HI996835	Hana Bay
Maui	HI412391	Honokowai Beach Co. Pk.
Maui	HI984456	Honomanu Bay
Maui	HI659319	Ka'anapali Beach (1)
Maui	HI932026	Ka'anapali Beach (2)
Maui	HI160433	Kahana
Maui	HI280920	Kahului Harbor
Maui	HI270439	Kalama Beach (North)
Maui	HI647373	Kalepolepo Beach
Maui	HI764372	Kanaha Beach (3) (Kite Beach)
Maui	HI391006	Kapalua (Fleming's) Beach
Maui	HI607763	Keawakapu Beach
Maui	HI276573	Ku'au Bay
Maui	HI407363	Lahaina Beach
Maui	HI558359	Launiupoko St. Wayside
Maui	HI864937	Lower Pa'ia
Maui	HI058731	Ma'alaea Beach
Maui	HI715975	Mai Poina 'Oe la'u Beach Co. Pk.
Maui	HI245556	Makena Landing Beach
Maui	HI847607	Malu'aka Beach
Maui	HI861961	Mokapu Beach Park
Maui	HI977299	Mokule'ia Beach
Maui	HI764060	Napili Bay
Maui	HI491359	Olowalu
Maui	HI740710	Oneloa Bay Beach
Maui	HI279887	Oneloa Beach (Big Beach)
Maui	HI462219	Papalaua
Maui	HI339656	Polo Beach Park
Maui	HI684864	Po'olenalena Beach
Maui	HI373055	Pu'unoa Beach
Maui	HI789952	Spreckelsville
Maui	HI814309	Ukumehame Beach Co. Pk.

Maui	HI588333	Ulua Beach Park
Maui	HI169380	Wahikuli State Wayside Park
Maui	HI118874	Wai'anapanapa State Park
Maui	HI916183	Waiehu Beach Co. Park
Maui	HI343702	Waihe'e Beach Co. Park
Maui	HI278988	Wailea Beach Park
Maui	HI284036	Waipuilani
Oahu	HI702973	Ala Moana Beach Co. Park, Ewa
Oahu	HI531535	Ehukai Beach Co. Pk.
Oahu	HI767464	Ewa Beach
Oahu	HI580360	Ka'a'awa Beach Park
Oahu	HI173325	Kahala Hilton Beach
Oahu	HI071892	Kalama Beach
Oahu	HI904851	Kapaeloa Beach
Oahu	HI733929	Kapi'olani Park
Oahu	HI304424	Kawaiku'i Beach Park
Oahu	HI767708	Kokololio Beach
Oahu	HI848207	Kualoa Co. Regional Park
Oahu	HI431723	Kuilei Cliffs
Oahu	HI412224	Kuilima Cove
Oahu	HI472847	La'ie Beach Co. Park
Oahu	HI915061	Makua Beach
Oahu	HI717740	Manner's Beach
Oahu	HI498593	Mokule'ia Beach West
Oahu	HI952205	Oneawa Beach
Oahu	HI825419	One'ula Beach Co. Park
Oahu	HI587568	Pounders Beach
Oahu	HI143029	Pua'ena Pt. Beach
Oahu	HI550240	Ulua Lagoon 4
Oahu	HI244505	Waikiki Beach Center
Oahu	HI279194	Waimanalo Bay St. Rec. Area
Oahu	HI267023	White Plains Beach

APPENDIX 2.

Advisory Signs

The Advisory signs used in the Beach Monitoring program are shown below.



Temporary sign: High Bacteria Levels



**The Hawaii Department of Health
advises beach users
to stay out of the water
and exposed beach sand
when the water is brown or murky,
especially following
storms or heavy rains.**

After storms or heavy rains, the water
and exposed beach sand may contain
higher than normal pollutant levels.

To view current advisories:



<https://eha-cloud.doh.hawaii.gov/cwb/#!/landing>

**Hawaii State Department of Health
(808) 586-4309**

Permanent sign: Brown Water Advisory



**KEEP OUT OF WATER
NO SWIMMING • NO FISHING**

Sewage contaminated water.

Exposure to water may cause illness.

Department of Health - Clean Water Branch (808) 586-4309

Temporary sign: Sewage Contamination

APPENDIX 3.

Examples of Notifications and Advisories on the CWB Water Quality Notification and Advisories Website

Note: *Issued* and *Canceled* refer to the status of the Notification or Advisory. *Issued* indicates that the Notification or Advisory is actively ongoing and *Canceled* indicates that the Notification or Advisory is no longer in effect.

Beach Notification

Beach Notifications are issued when enterococci levels exceed 130 MPN or CFU/100 mL during routine monitoring. Notifications serve to inform the public that the beach is being retested because the beach has historically met the acceptable beach threshold level and there is no known source of fecal contamination, and that the representativeness of the sample is questionable. See section 7, Public Notification, Advisory, and Risk Communication Plan.

Environmental Health
PORTAL

CWB • Clean Water Branch System

ADVISORIES

Beach Notification

ISSUED

Details

Locations 1

Beaches

Documents

Notes

Beach Notification

MONITORING STATION
Ala Moana Park, Center

ISLAND
O'ahu

COVERED BY BROWN WATER ADVISORY?
No

SAMPLE DATE
Oct 29, 2019

COUNT
160 per 100 mL

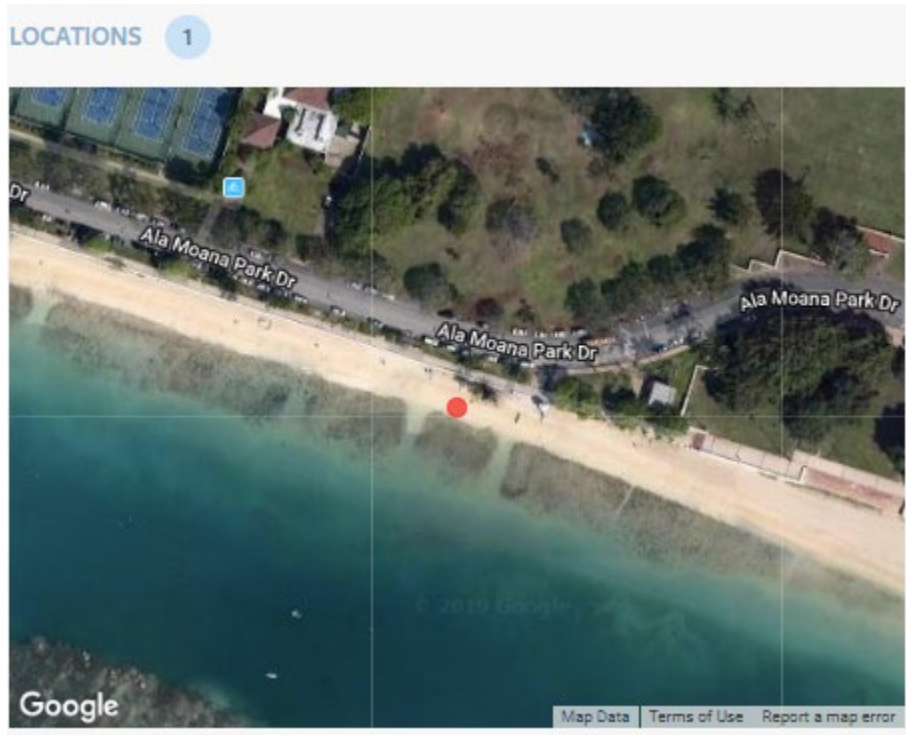
CAUSE
Undetermined

TITLE
High Bacteria Count Notification at Ala Moana Park, Center, O'ahu

ADVISEMENT
The Hawai'i State Department of Health (DOH) is retesting Ala Moana Park, Center, O'ahu. Levels of 160 per 100 mL were detected during routine beach monitoring. DOH is uncertain about the representativeness of the first sample. This beach has historically met the acceptable beach threshold level, and there is no known source of fecal contamination. Therefore, DOH has collected another sample and is retesting the site. DOH will update the notification based on the results of this retesting.

ISSUANCE DATE
Nov 6, 2019

CANCELLATION DATE
—



Beach Advisory

Beach Advisories are issued when enterococci levels exceed 130 MPN or CFU/100 mL in follow-up confirmatory sampling or if follow-up sampling cannot be immediately taken due to a holiday or weekend. See section 7, Public Notification, Advisory, and Risk Communication Plan.

ADVISORIES

Beach Advisory

CANCELED

Details

Locations 6 >

Beaches 0 >

Documents 0 >

Notes 1 >

Beach Advisory



MONITORING STATION

Hanalei Bay Landing

ISLAND

Kaua'i

COVERED BY BROWN WATER ADVISORY?

No

SAMPLE DATE

Oct 29, 2019

COUNT

207 per 100 mL

CAUSE

Stormwater runoff

TITLE

High Bacteria Count at Hanalei Bay Landing, Kaua'i

ADVISEMENT

The public is advised of a water quality exceedance of enterococci at Hanalei Bay Landing, Kaua'i. Levels of 207 per 100 mL have been detected during routine beach monitoring. The Department of Health Clean Water Branch provides beach monitoring and notification through its beach program. The advisory for this beach is posted because testing for enterococci indicate that potentially harmful microorganisms such as bacteria, viruses, protozoa, or parasites may be present in the water. Swimming at beaches with pollution in the water may make you ill.

Children, the elderly, and people with weakened immune systems are the most likely populations to develop illnesses or infections after coming into contact with polluted water, usually while swimming. Fortunately, while swimming-related illnesses can be unpleasant, they are usually not very serious - they require little or no treatment or get better quickly upon treatment, and they have no long-term health effects.

The most common illness associated with swimming in water polluted by fecal pathogens is gastroenteritis. It occurs in a variety of forms that can have one or more of the following symptoms: nausea, vomiting, stomachache, diarrhea, headache or fever. Other minor illnesses associated with swimming include ear, eye, nose and throat infections. In highly polluted water, swimmers may occasionally be exposed to more serious diseases.

Not all illnesses from a day at the beach are from swimming. Food poisoning from improperly refrigerated picnic lunches may also have some of the same symptoms as swimming-related illnesses, including stomachache, nausea, vomiting and diarrhea. At any given time and place, we are constantly exposed to a variety of microorganisms that have the potential of making us ill.

The beach has been posted and this advisory will remain in effect until water sample results no longer exceed the threshold level of 130 enterococci per 100 mL.

ISSUANCE DATE

Oct 30, 2019



Sewage Spill

Sewage Spill advisories are issued following confirmed sewage spills. See section 7, Public Notification, Advisory, and Risk Communication Plan.

< ADVISORIES

Sewage Spill

• CANCELED

Details

Locations 1 >

Beaches 0 >

Documents 0 >

Notes 0 >

Sewage Spill



ISLAND

O'ahu

COVERED BY BROWN WATER ADVISORY?

No

LOCATION NAME

1330 Liliha Street

CAUSE

Unconfirmed

TITLE

Wastewater Discharge at 1330 Liliha Street, O'ahu

ADVISEMENT

The public is advised to stay out of Nuuanu Stream below N. Kukui Street, and Honolulu harbor near the mouth of Nuuanu stream, due to a wastewater discharge. The public is advised to remain out of these waters until warning signs have been removed. Details are as follows.

Location of discharge: 1330 Liliha Street

Total volume: estimated 960 gallons

Volume into state waters: estimated 400 gallons

Entered state waters? Yes

Affected waters: Nuuanu stream, Honolulu harbor, near the mouth of Nuuanu stream

Warning signs: Will be posted on morning of 10/22/19

ISSUANCE DATE

Oct 21, 2019

CANCELLATION DATE

Oct 25, 2019

SIGN POSTED DATE

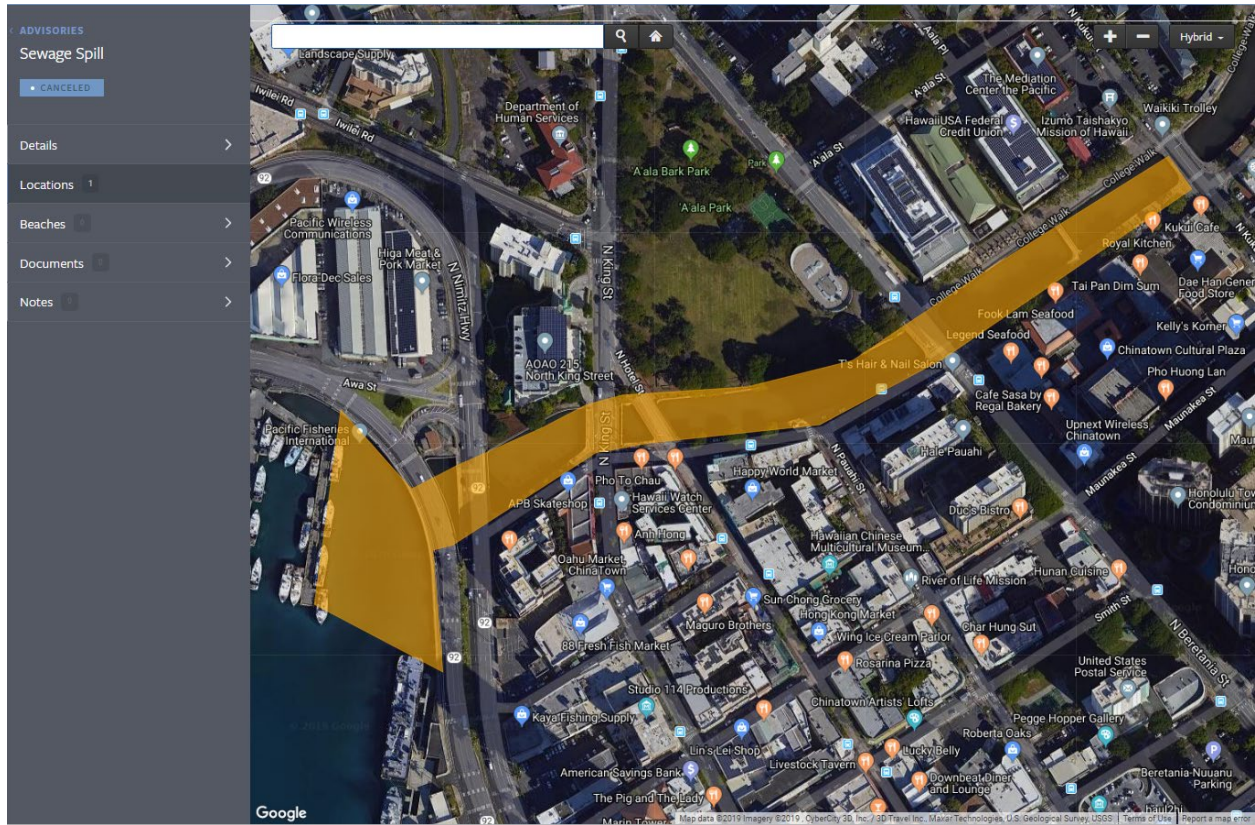
Oct 22, 2019

SIGN TYPE

Sewage

SIGN REMOVAL DATE

Oct 25, 2019



Brown Water Advisory

Brown Water Advisories are issued if stormwater or surface water runoff is entering the ocean. See section 7, Public Notification, Advisory, and Risk Communication Plan.

ADVISORIES
Brown Water Advisory
• CANCELED

Details

Locations 1 >

Beaches 1 >

Documents 0 >

Notes 0 >

Brown Water Advisory

ISLAND
O'ahu

ISLAND WIDE?
No

LOCATION NAME
Punalu'u Beach Park

CAUSE
Heavy Rain

TITLE
Brown Water Advisory at Punalu'u Beach Park, O'ahu

ADVISEMENT
Updated: 11/4/19.
A Brown Water Advisory has been issued at Punalu'u Beach Park on O'ahu.
Heavy rain has resulted in stormwater runoff entering into coastal waters. The public is advised to stay out of flood waters and storm water runoff due to possible overflowing cesspools, sewer, manholes, pesticides, animal fecal matter, dead animals, pathogens, chemicals, and associated flood debris. Not all coastal areas may be impacted by runoff, however, if the water is brown stay out. Continue to practice good personal hygiene and follow-up with your primary care physician if you have any health concerns.

ISSUANCE DATE
Oct 30, 2019

CANCELLATION DATE
Nov 14, 2019

