County of Maui
Department of Water Supply
2021 Drinking Water Quality Report

“Providing Clean Water Efficiently”
May 31, 2022

Dear Customer:

I proudly present to you the 24th Annual Water Quality Report for the Department of Water Supply (DWS). We strive to provide a critically necessary service to the people of Maui County with the reliable delivery of clean and safe drinking water, while also seeking to preserve this precious resource for future generations.

The Water Quality Report is a review of data that we have compiled in 2021 for more than 90 potential contaminants. Included in the report are details about your water source, what is in your water, how your water compares to EPA and Hawaii State Department of Health standards; as well as a list of resources and phone numbers where you can learn more about your water.

In 2021, the DWS completed over 23,000 chemical and bacteriological tests to ensure the safety and quality of your water. We want you to know that water supplied by the DWS is safe to drink and meets or exceeds all Federal and State standards.

The DWS’ mission is to “Provide Clean Water Efficiently.” This report reflects the enduring dedication of our 202 employees to fulfill our mission. Should you have any questions for our Water Quality Laboratory, please call (808) 270-7550. For all other inquiries, please call (808) 270-7816.

I trust you will find this report informative and thank you for taking the time to learn the facts about your water.

Sincerely,

HELENE KAU
Director

“By Water All Things Find Life”
What Is This Report About?

The Water Quality Report is sent to all customers every summer. The federal Safe Drinking Water Act (SDWA) requires that public water systems provide customers with a water quality report that summarizes water quality information for the previous calendar year. We are committed to providing our customers with this information because informed customers are our best allies.

Why are there contaminants in my drinking water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency’s Safe Drinking Water Hotline at 800-426-4791 or at www.epa.gov/safewater.

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs and wells. As water travels over the surface of the land or through the ground it dissolves naturally-occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in drinking water sources include:

**Microbial Contaminants** - such as virus, protozoa and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

**Inorganic Contaminants** - such as salts and metals, which may be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

**Pesticides and Herbicides** - may come from a variety of sources such as agriculture and residential uses.

**Organic Chemical Contaminants** - including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm-water runoff, and septic systems.

**Radioactive Contaminants** - are naturally occurring.

In order to ensure that tap water is safe to drink, the EPA has regulations that limit the amount of certain contaminants in water provided by public water systems and require monitoring for these contaminants. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must

How to Contact Us
Questions on water quality: Maui DWS Laboratory: 808-270-7550
Questions about: DWS Administration: 808-270-7816
All other DWS inquiries: 808-270-8046
Drinking water in Hawaii - DOH Safe Drinking Water Branch: 1-800-468-4644 ext. 6-4258
EPA Safe Drinking Water Hotline: 1-800-426-4791

Photo Credit: Rowena Kellough
**Lead and Copper in your drinking water. Are you at risk?**

Lead is not detectable in the Maui DWS systems. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Maui DWS is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. **When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking.**

If you are concerned that your home tap water may contain lead, contact the County of Maui Water Supply Lab [808-270-7550](tel:808-270-7550) for information about free lead-in-water testing. For further information on lead in drinking water, testing methods, and steps you can take to minimize exposure please call the Safe Drinking Water Hotline at [1-800-426-4791](tel:1-800-426-4791) or visit [http://www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

**Chloramines**

Water distributed in the Upper Kula system contains chloramines, a combination of chlorine and ammonia, as a drinking water disinfectant. Chloramines effectively kill bacteria and other microorganisms that may cause disease as well as produce fewer disinfection by-products such as trihalomethanes. Chloramines have no odor when used properly. **People who use kidney dialysis machines may want to take special precautions and consult their physician for the appropriate type of water treatment.**

Customers who maintain fish ponds, tanks, or aquariums should also make necessary adjustments in water quality treatment, as these disinfectants are toxic to fish. For further information or if you have any questions about chloramines call [808-270-7380](tel:808-270-7380).

**Sodium in drinking water**

There is no State or Federal maximum contaminant level for sodium. Although not required, monitoring for sodium is performed primarily to gather information for the consumers, the Safe Drinking Water Branch, and the Department of Water Supply. The EPA Drinking Water Advisory recommends that the sodium concentration in drinking water not exceed a range of 30 to 60 ppm because of the possible adverse effects on taste at higher concentrations. For persons on a sodium-restricted diet, sodium concentrations greater than 120 ppm could be problematic. If you are on a sodium-restricted diet, you should consult your physician about the level of sodium in the drinking water.
**How is water quality maintained in the distribution system?**

**Flushing Program In the Upcountry Area to Improve Water**
The Maui DWS is flushing waterlines in the Upcountry area to improve water quality in its dead-end distribution lines. The purpose of this program is to comply with the Lead and Copper rule of the federal Safe Drinking Water Act. Flushing a waterline involves turning on the water at a fire hydrant or standpipe at full force to rid the pipeline of any buildup in the pipe. This process can take up to 20 minutes at any one point. Staff also take residual chlorine samples of the water before and after the flushing to ensure that water delivered to consumers meets the requirements of the Safe Drinking Water Act.

Residents should not be out of water during flushing. However, some residents in the immediate vicinity of the work may experience a temporary discoloration of their water as well as a drop in pressure. This discoloration does not pose a health risk; however residents should check their water before washing any laundry. If a flushing crew is in your neighborhood, please do not run water in your home unless it’s necessary. If you experience some discoloration in your water turn on each cold water faucet in your home and allow it to run for several minutes or until the water is clear. If you experience any ongoing water quality problems please call the Field Operations Office at 808-270-7633.

**Automatic Flushing Devices**
Automatic flushing device (AFD) allow water to be flushed from a hydrant or stand pipe several times a day. This automatic flushing will help keep the water flowing through the pipes which will prevent water quality problems that can happen when the water does not move enough. You will be seeing these devices more frequently as the Water Department installs these devices in our various water systems. If you experience any ongoing water quality problems please call the Field Operations Office at 808-270-7633.

**How can consumers maintain water quality?**

**Backflow Protection**
A simple, but important component in plumbing that safeguards the drinking water supply. Higher water pressures elsewhere can cause a reversal in the normal flow of water. This may allow contaminated water to enter the water distribution system. Backflow prevention devices allow the water to flow in only one direction. The air gap between a faucet and water in the sink is the most common form of backflow prevention. Never leave a running hose in a bucket of water. The contents of the bucket could be “sucked back” into your home plumbing and potentially contaminate the water. Businesses in Maui County that are required to have backflow prevention devices should check them annually to ensure that they are working properly.

**Immuno-Compromised People**
Some people may be more vulnerable to drinking water contaminants than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Guidelines from the EPA and CDC on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.
**ABBREVIATIONS/EXPLANATION OF TERMS**

**AL – Action Level**
The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**CFU - Colony Forming Units**
A measurement used to count the number of bacteria colonies found in water.

**EPA - Environmental Protection Agency**

**LRAA - Locational Running Annual Average**
The average of 4 consecutive quarterly results at each monitored sample location. The LRAA should not exceed 80 ug/L for TTHM and 60 ug/L for HAA5

**MCL - Maximum Contaminant Level**
The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**MCLG – Maximum Contaminant Level Goal**
The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**N/A – Not applicable**

**N/D – Not detected**

**ppb - parts per billion or micrograms per liter (ug/L)**
One part per billion corresponds to approximately 1 second in 31.7 years.

**ppm - parts per million or milligrams per liter (mg/L)**
One part per million corresponds to 1 second in 11.5 years.

**ppt – parts per trillion or nanogram per liter (ng/L)**
One part per million corresponds to 1 second in 32,000 years.

**pCi/L – picocuries per liter**
A measurement of radioactivity

**SMCL-Secondary Maximum Contaminant Level**
Non-mandatory water quality standards for contaminants. EPA does not enforce these "secondary maximum contaminant levels" or "SMCLs." They are established only as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color and odor. These contaminants are not considered to present a risk to human health at the SMCL.

**< - less than**

**90th Percentile**
Represents the highest value found out of 90 percent of the samples taken in a representative group. If the 90th percentile is greater than the action level, it will trigger a treatment or other requirements that a water system must follow.
**Source Water Assessment**
A Source Water Assessment was completed in 2007 and updated in 2013 by the University of Hawaii Water Resources Research Center in conjunction with the Department of Health Safe Drinking Water Branch. The assessment provides technical assistance to public water systems to develop protection programs for drinking water sources. The assessment includes (1) delineation of the area around a drinking water source through which contaminants may travel to the drinking water supply, (2) inventory of activities that may lead to the release of contaminants within the delineated area, and (3) determination of the susceptibility of the water source experiencing a future contamination. You can find the delineated wellhead protection areas for the Department of Water Supply wells and information on how you can help protect your water source here: https://waterresources.mauicounty.gov/35/Source-Protection or by calling the Water Resources and Planning Division at 808-463-3110

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**Your Comments Are Welcome!**
We welcome your questions, concerns and observations. We also encourage our customers to attend and participate at our meetings regarding our water utility. The Board of Water Supply usually meets on the 3rd Thursday of the month at 1:30 pm. Please call 270-7304 for meeting locations or check out our web site for details.
This water has been tested and meets all Federal and State Standards. Testing was conducted and compiled in 2021 for reporting by July 2022. The following data is about your drinking water. Data listed are from the most recent testing and monitoring done in accordance with the regulations of the State of Hawaii Department of Health.

This water serves: Upper Kula, Waiakoa, Keokea, Ulupalakua, and Kanaio

### Source Name | Origin | Treatment
---|---|---
Haipua'ena Intake | Surface | Microfiltration/Chlorination

#### If a contaminant is NOT SHOWN, IT WAS NOT DETECTED

<table>
<thead>
<tr>
<th>Source Water Monitoring Regulated Contaminants</th>
<th>Unit of Measure</th>
<th>Highest Detected Level</th>
<th>Range</th>
<th>EPA’s Allowable Limits MCL</th>
<th>EPA’s Allowable Limits MCLG</th>
<th>Typical Source of Contamination</th>
<th>Is Your Water Safe? Compliance Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium</td>
<td>ppm</td>
<td>0.0023</td>
<td>0.0023</td>
<td>2</td>
<td>2</td>
<td>Erosion of natural deposits</td>
<td>✓ Yes</td>
</tr>
<tr>
<td>Distribution System Monitoring (Disinfection By-Products)</td>
<td>Unit of Measure</td>
<td>System Wide Highest LRAA</td>
<td>Range</td>
<td>EPA’s Allowable Limits MCL</td>
<td>EPA’s Allowable Limits MCLG</td>
<td>Typical Source of Contamination</td>
<td>Is Your Water Safe? Compliance Met?</td>
</tr>
<tr>
<td>TTHMs (Total Trihalomethanes)</td>
<td>ppm</td>
<td>37</td>
<td>1.9-37</td>
<td>80</td>
<td>N/A</td>
<td>Disinfection by-product</td>
<td>✓ Yes</td>
</tr>
<tr>
<td>HAAs (Haloacetic Acids)</td>
<td>ppm</td>
<td>48</td>
<td>9.4-48</td>
<td>60</td>
<td>N/A</td>
<td>Disinfection by-product</td>
<td>✓ Yes</td>
</tr>
</tbody>
</table>

1. Detected Contaminant
2. Highest detected level or highest average level found
3. Range of levels found
4. Highest Level allowed by EPA
5. EPA’s goal
6. Possible source of contamination
7. LRAA-Locational Running Annual Average

### Lead/Copper Rule Compliance Monitoring

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Sample Date</th>
<th>Unit of Measure</th>
<th>90th Percentile Reading</th>
<th>Action Level</th>
<th># of Samples Above Action Level</th>
<th>Is Your Water Safe? Compliance Met?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>2019</td>
<td>ppm</td>
<td>1.7</td>
<td>15</td>
<td>0</td>
<td>✓ Yes</td>
</tr>
<tr>
<td>Copper</td>
<td>2019</td>
<td>ppm</td>
<td>1.3</td>
<td>0</td>
<td>0</td>
<td>✓ Yes</td>
</tr>
</tbody>
</table>

The next round of testing for the Upper Kula System is 2022.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at homes in the community as a result of material used in your home’s plumbing. If you are concerned about elevated Lead levels in your home’s water, you may wish to have your water tested. As a general practice, you should flush your tap for 30 seconds to 2 minutes before using the tap water, if you have not used it for 4-6 hours. Additional information is available from the Safe Drinking water Hotline at 1-800-426-4791.

### Unregulated Contaminants

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Sample Date</th>
<th>Unit of Measure</th>
<th>Highest Detected Level</th>
<th>Range</th>
<th>Action Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium</td>
<td>2021</td>
<td>ppm</td>
<td>4.7</td>
<td>NA</td>
<td>*</td>
</tr>
<tr>
<td>Sulfate</td>
<td>2021</td>
<td>ppm</td>
<td>2.57</td>
<td>NA</td>
<td>250**</td>
</tr>
</tbody>
</table>

* No designated maximum limits but monitoring is required by Safe Drinking Water Branch
** Secondary Maximum Contaminant Level (SMCLs) Standards established as guidelines to assist public water systems in managing the aesthetic quality (taste, odor and color) of drinking water. EPA does not enforce SMCLs.
2021 WATER QUALITY MONITORING RESULTS FOR THE:  UPPER KULA SYSTEM

The Department of Health, Safe Drinking Water Branch Identified significant deficiencies in an August 30, 2021 report following a sanitary survey inspection of the Upper Kula water system. The Department of Water Supply is required to report to our customers that significant deficiencies that were not corrected before 12-31-2021 and the actions we have taken to resolve them.

1. Cross Connection Control Plan (CCCP): After looking at the submitted spreadsheet, about a third of the devices have not been tested since 2020. All devices must be tested on an annual basis per HAR Section 11-21-8(b) Backflow and Cross Connection Control or in accordance with a DOH-approved County program. A small handful have no “Last Test” dates, but look like they have been recently installed and are considered to be acceptable at this time.

Resolved 02-28-2022:
   a. Investigated and verified account holders contact information with water meter fiscal billing file; updated back-flow data base.
   b. Sent consumer testing requirement letters and allowed consumers 60 days to complete testing/repairs and submit completed testing results from certified approved tester.
   c. When consumers failed to comply, proceeded with certified letter warning consumers of suspension/termination of water service within 30 days for failure to comply.
   d. All back-flow device testing in PWS 215 is current and in compliance with corrective action plan.

In early December 2021, Maui County experienced a Kona Low storm. This storm impacted water lines in the Upper Kula system that caused breakage and contamination. Total coliforms and E coli were detected in parts of the Upper Kula water system.

What are total coliforms and E. coli bacteria?
Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed, and this was a warning of potential problems.

E coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.

What was done to fix the problem?
- Affected residents were advised to use bottled water or bring water for consumption to a boil and let it boil for a minute.
- The department also provided potable water tankers for affected residents.
- The department’s efforts to rid the Upper Kula system of E. coli were focused on flushing the system, cleaning lines and water sampling sites, clearing pressure-reducing valves and taking water samples for testing.
- The department also temporarily switched its water distribution disinfectant from chloramines to chlorine an attempt to clear away the E. coli from the Upper Kula water system.

When was the problem resolved?
The boil water notification was amended on 02-10-2022