

Sources of drinking water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, 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 source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Source Water Assessment Program

In 2004, the preliminary source water assessment report was released. The purpose of the source water assessment report is to enable the public and decision-makers to make well-founded decisions for the protection and preservation of our drinking water. The source water assessment report identifies the potential contaminating activities for each source of water.

In the report, Kukuiahaele Water System sources are potentially vulnerable to contaminants associated with the following activities: sugarcane, residential parcel, and roads. Atrazine has been detected in this system which is attributed to runoff from herbicide used on row crops. For more information, please contact Keith Okamoto, P.E., at 961-8670.

Is my water safe?

Yes it is. Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and State drinking water health standards. The Department of Water Supply vigilantly safeguards its water supplies and once again we are proud to report that your system has complied with all drinking water standards.

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 1-(800) 426-4791. If you have any questions regarding this Water Quality Report, please call Keith Okamoto, P.E., at 961-8670.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines 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 .

How can I get involved?

The Water Board meets the fourth Tuesday of every month. Call for the time and location of the meeting.

**You Can Contact Us
at the Following Numbers:**

| | |
|--|-----------------------|
| Administration/Finance/General..... | (808) 961-8050 |
| Billing/Customer Service..... | (808) 961-8060 |
| Engineering..... | (808) 961-8070 |
| Emergencies & Field Operations..... | (808) 961-8790 |
| Water Quality..... | (808) 961-8670 |

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County of Hawaii



Department of
Water Supply

Kukuihaele System Water Quality Data Tables

The table below lists the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

| Regulated Contaminants | | | | | | | |
|--|------------|------|--------------------------------|---------------------|-------------|-----------|---|
| | | | Waiulii Spring | | | | |
| Contaminants | MCL | MCLG | Level Found | Range of Detections | Sample Date | Violation | Typical Source of Contaminant |
| Microbiological Contaminants | | | | | | | |
| Turbidity (NTU) | TT = 5 NTU | n/a | Highest monthly average = 0.35 | | 2007 | No | Soil runoff. |
| Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. | | | | | | | |
| Organic Contaminants | | | | | | | |
| Atrazine (ppb) | 3 | 3 | 0.08 | n/a | 2007 | No | Runoff from herbicide used on row crops. |
| Disinfection By-Products | | | | | | | |
| Haloacetic acids (ppb) | 60 | n/a | 2.48 | 1.0 - 5.0 | 2007 | No | Byproduct of drinking water disinfection. |
| Total Trihalomethanes (TTHMs) (ppb) | 80 | n/a | 17.13 | 7.4 - 29.1 | 2007 | No | Byproduct of drinking water disinfection. |
| Haloacetic Acids or "HAA5" means the sum of the concentration of the haloacetic acids (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid). Total Trihalomethanes or "TTHM" means the sum of the concentration of the trihalomethane compounds (trichloromethane (chloroform), dibromochloromethane, bromodichloromethane, and tribromomethane (bromoform)). | | | | | | | |

| Sodium (Not Regulated by State or Federal Government) | | | | | | | |
|---|-----|------|----------------|---------------------|-------------|-----------|--|
| | | | Waiulii Spring | | | | |
| Contaminants (units) | MCL | MCLG | Level Found | Range of Detections | Sample Date | Violation | Typical Source of Contaminant |
| Inorganic Contaminants | | | | | | | |
| Sodium (ppm) | n/a | none | 13.0 | n/a | 2007 | No | Erosion of naturally occurring deposits. |

| Lead and Copper Rule Compliance | | | | | | | |
|---------------------------------|-----|------|-------------------------|-----------------|-------------|-----------|---|
| | | | Kukuihaele Water System | | | | |
| Contaminant | AL | MCLG | Level Found | # of Sites > AL | Sample Date | Violation | Typical Source of Contaminant |
| Copper (ppm) | 1.3 | 1.3 | 0.09 | 0/19 | 2007 | No | Corrosion of household plumbing systems; erosion of natural deposits. |
| Lead (ppb) | 15 | 0 | 5.2 | 1/19 | 2007 | No | Corrosion of household plumbing systems; erosion of natural deposits. |

Sodium in drinking water

There is no State or Federal maximum contaminant level for sodium. Although required, monitoring for sodium is performed primarily to gather information for the consumers, the Safe Drinking Water Branch (SDWB), and the Department of Water Supply (DWS). 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.

Lead and drinking water

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 and not usually from the source water. The Department of Water Supply is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. *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 other homes in the community as a result of the materials used in your home's plumbing. If you are concerned about elevated levels in your home's water, you may wish to have your water tested by contacting private laboratories that are certified by the State for doing drinking water analyses. 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.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Surface Water Treatment Rule Violation Ends

The Kukuihaele Water System was in violation of the Surface Water Treatment Rule (SWTR) since July of 2005 to July of 2007. The violation ended when the DWS ceased use of the Waiulili Spring source on July 20, 2007.

The DWS discontinued use of the spring source because the spring was producing approximately 6,000 gallons a day. At this low production rate, the spring became inefficient to operate and maintain. Prior to the October 2006 earthquake, the spring produced enough water to supply Kukuihaele Water System's average daily consumption of approximately 70,000 gallons a day. Since the use of the spring was halted, the DWS has been hauling treated groundwater from Haina Well to Kukuihaele Water System. The DWS has never used water from Kukuihaele Well in the Kukuihaele Water System.

The violation existed because of the lack of a filtration system to treat the Waiulili Spring source, which has been classified as groundwater under the influence of surface water. Under the SWTR, filtration is required.

Inadequately treated water may transmit disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea and headaches.

Filtration is the best method for removing these organisms at the Waiulili Spring source. When the Waiulili Spring source was in use, we monitored for turbidity (cloudiness), disinfection levels, and the presence of bacteria.

Interim standards of the SWTR were met by increasing the disinfection levels to inactivate *Giardia*. No *Giardia* has yet been found in the tests that were conducted.

Giardia

Giardia is a protozoan, or one-celled organism that causes intestinal problems in humans. This organism, which originates from animals, can be transmitted by drinking water. It produces a cyst, or dormant stage that is resistant to low levels of chlorine. For this reason, the Department monitored the chlorine levels at the Waiulili Spring source on a 24-hour basis to ensure that an adequate chlorine level was maintained.

Where does my water come from?

The normal source of water for the Kukuihaele Water System is Waiulili Spring which is a groundwater under the influence of surface water source.

Key definitions of terms used in this report

- MCLG** = Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk for health. MCLGs allow for a margin of safety.
- MCL** = Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology
- TT** = Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water
- NTU** = Nephelometric Turbidity Units: This is a measure of the suspended material in water
- AL** = Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- ppm** = Parts per million. One ppm corresponds to a single penny in \$10,000 or about one minute in two years.
- ppb** = Parts per billion. One ppb corresponds to a single penny in \$10,000,000 or about one minute in two thousand years.
- n/a** = not applicable

As of July 20, 2007, the use of Waiulili Spring was temporarily halted because the spring had very low production. Since July 20, 2007 to the present, the Department of Water Supply (DWS) has been hauling treated groundwater from Haina Water System to Kukuihaele Water System. This year because Haina Water System supplied water to the Kukuihaele Water System for almost half the year, we are sending Kukuihaele Water System residents a copy of the Haina water quality report as well as the Kukuihaele water quality report. In the future, it is conceivable that Waiulili Spring could be placed back into service if there is adequate and sustained spring production. However, to improve the sources of water in this area, the DWS is currently working to resolve the water quality issues with Kukuihaele Well and is currently in the land acquisition process for a new well in Kapulena.

The DWS also hauled treated groundwater to the Kukuihaele Water System from Paauilo Water System from April 22 to May 14, 2007 and Ookala Water System from April 23 to 24, 2007. If you wish to review the monitoring data for these water systems, please contact Keith Okamoto, P.E., at 961-8670. The information is also available on our website at www.hawaiiidws.org. In previous years we have included a map of the distribution system. However, because we are taking measures to safeguard your water supply, we are not including the map in this year's water quality report. Thank you for your understanding.