

# **Your Water, Conservation, & the Board of Water Supply**



**Board of Water Supply**



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# Introduction

The Board of Water Supply (BWS) put together this booklet with information to help answer commonly asked questions about your water supply, water conservation, and the BWS.

A list of helpful contacts is at the end of this booklet.

Most of the information contained is also available throughout our website at [www.boardofwatersupply.com](http://www.boardofwatersupply.com)



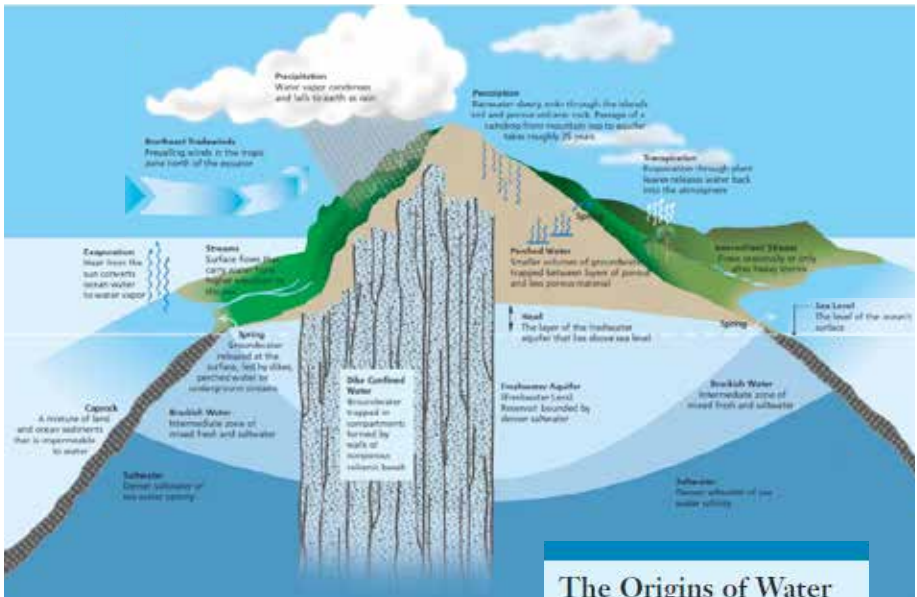
**Board of Water Supply**

# Oahu's Water Supply

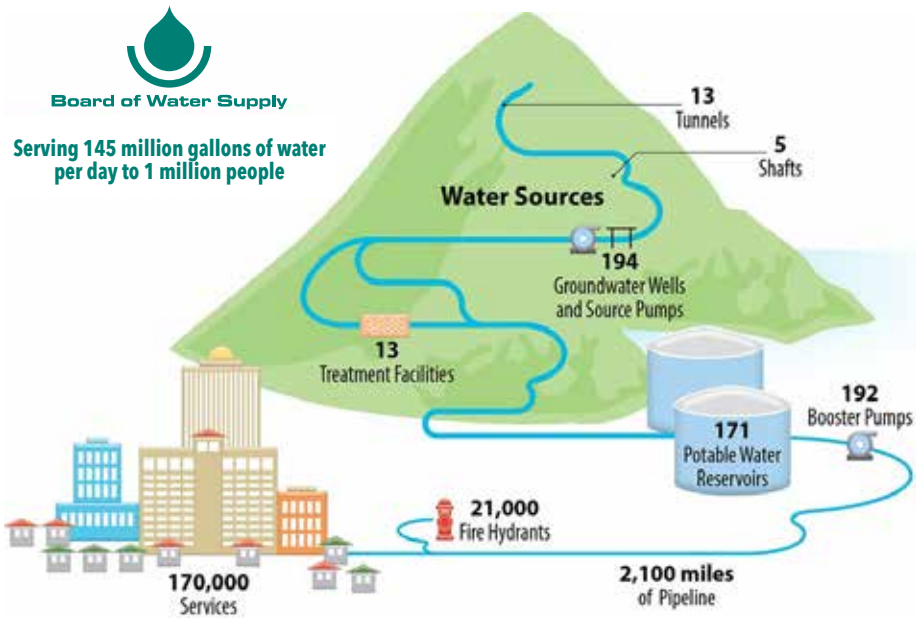
## Where The Water Comes From

Oahu sustains a population approaching one million people, with five times as many more visitors. Our only source of drinking water is groundwater: Hawaiian native forests have evolved over thousands of years to become the best quality watershed covers. Native vegetation in the forest fills every level. It soaks up rainfall like a giant sponge, allowing water to seep slowly underground where it is filtered and stored in the porous volcanic rock of the island.

Because of our large population, effective water management is a major element in planning for expanding water needs. Our water resources on Oahu are limited, so conservation is a key element in our long-term strategy to protect and enhance this precious resource. If we save enough water now, we'll have what we need for years to come.



# Oahu's Water Supply



## The BWS Complex Water System

1. The BWS pumps water from the aquifer via wells, shafts, and tunnels.
2. Water enters an island-wide distribution system.
3. We move water from pumping stations to mains and up to reservoirs for storage.
4. Water is fed back into mains for delivery to homes and businesses.

# Why Water Conservation Is Needed

The Board of Water Supply has always asked its customers to use water efficiently and to avoid wasting water when possible, as a best practice for managing Oahu's finite resource.

However, water conservation has now become a necessity due to the recent fuel contamination of the Navy water system that eventually led to the shutdown of three nearby BWS water sources (Halawa Shaft, Halawa Wells, and Aiea Wells) to prevent further spread of the fuel or contamination of nearby BWS supplies.

This has created serious consequences for the BWS water supply and distribution system, as Halawa Shaft is one of the largest BWS sources on Oahu and timing for reactivation of these sources remains indefinite.

The BWS is working to minimize any impacts to its ability to provide reliable water service and is making up 20% of Honolulu's water supplied by Halawa Shaft by utilizing other sources. However, these sources are starting to show signs of over-pumping and the BWS, as always, is asking water users to be as water efficient as possible.

The BWS has been monitoring water demand closely and needs to ask for the public's help to further conserve water by 10%. This is necessary to ensure that our sources remain healthy and sustainable over the long term.

The Board of Water Supply's conservation program touches on various ways in which individuals, families and organizations can do their part to help conserve and preserve Oahu's water supply.



# Ways To Help Conserve Water

## Recommended Voluntary Reductions

- Irrigation and lawn/landscape watering twice a week, before 9:00 a.m. or after 5:00 p.m.
- Postponing installation of new lawns (which require constant irrigation)
- Postponing car washes and refilling of swimming pools
- Take shorter showers
- Run full loads for clothes washers and dish washers
- Check for dripping faucets and running toilets
- Check for and repair property leaks

The BWS hopes that voluntary conservation results will help avoid mandatory measures.



## 7 Easy Ways To Save Water

Save water for a dry day. Experts estimate that about one-third of water from your tap goes down the drain through wasteful water use. You can reduce senseless water loss through our 7 Easy Ways to Save Water:

1. Water lawns just 2-3 times a week.
2. Don't water lawns between 9 a.m. and 5 p.m.
3. Check for leaks in plumbing and toilets.
4. Install water-efficient plumbing fixtures.
5. Take shorter showers.
6. Put a nozzle on your garden hose.
7. Don't let the faucet run and run.

Visit our website at [www.boardofwatersupply.com/conservation](http://www.boardofwatersupply.com/conservation) for more water-saving ideas.



# Top Water Waster – A Leaky Toilet

## One Of The Top Indoor Water Wasters Is A Leaky Toilet!

If your toilet “hums” at times, check for a leak. A toilet leak can add hundreds of dollars to your bill over time.

- Drop 1 toilet leak detection dye tablet into your toilet tank
  - Tablets are FREE at the BWS lobby
  - OR, you can squeeze 2-3 drops of food coloring into the tank
- Wait a few minutes
- If you see the color in your bowl, and you haven’t flushed the toilet, you’ve got a leak!
- Repair as soon as possible. Here’s a link to a helpful pdf file:  
[www.boardofwatersupply.com/bws/media/files/publications-how-to-install-or-replace-toilet-flapper-2019-01-10.pdf](http://www.boardofwatersupply.com/bws/media/files/publications-how-to-install-or-replace-toilet-flapper-2019-01-10.pdf)

View a video showing how to check for leaks in your home and repair a faulty flapper valve at [www.boardofwatersupply.com/conservation/leak-detection](http://www.boardofwatersupply.com/conservation/leak-detection)

### Replacing A Toilet Flapper Valve



1. Turn off water to the toilet. Close the shut-off valve located outside the toilet, below the toilet tank.
2. Remove the toilet tank lid.
3. Drain the toilet tank by flushing the toilet after the water is turned off. The toilet tank should now be empty.
4. Unhook the flapper chain attached to the top of the flapper from the flush handle arm connected to the flush handle.
5. Reach in and disconnect the side ears on the flapper from the pegs on the sides of the overflow tube.
6. Put the new flapper into place by hooking each ear of the flapper onto the pegs on the overflow tube.
7. Connect the flapper chain onto the flush handle arm connected to the flush handle.
8. Make any necessary adjustments to the chain on the flush handle arm in the non-flushed position. It needs to be long enough to allow the flapper to sit snugly in place with minimal slack, but not so long as the chain could float under the flapper as the water rushes out when flushed.
9. Turn the water back on and test by flushing several times.

Note: If the flapper has a water savings adjustment dial on the bottom of the flapper stopper. For more flow, hold the black knob and turn the clear plastic knob so that you can see through the half-moon-shaped hole.

For less flow, hold the black knob and turn the clear plastic knob so that you see only partially through the half-moon-shaped hole.

For a video on leak detection and how to install a toilet flapper, go to [www.boardofwatersupply.com/conservation/leak-detection](http://www.boardofwatersupply.com/conservation/leak-detection)



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### Detecting Leaks With Dye Tablets



Checking for and repairing leaks helps to reduce water waste. Conserving water could lower your water and sewer/water-bill, and prevents potential damage to your home.

Check your toilet for leaks with the leak detection tablets provided in this kit.

1. Remove toilet tank lid
2. Drop in 1 blue toilet tank leak detecting tablet
3. Wait 10 to 15 minutes
4. If the color appears in the bowl, you have a leak
5. A faulty flapper causes most toilet leaks. Remember to check & regularly and replace it when necessary

See other side for directions to install or change toilet flapper.

For more water conservation tips, visit [www.boardofwatersupply.com/conservation](http://www.boardofwatersupply.com/conservation).

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[www.boardofwatersupply.com](http://www.boardofwatersupply.com)



# Xeriscape & Rain Barrels

## Save Water Outdoors - Xeriscape And Use Rain Barrels

Xeriscaping is the environmental design of residential and park land using methods that minimize water use. Because an estimated 50% of water consumption in the average single-family home is used outdoors, xeriscaping offers an ideal way to minimize water waste while maintaining the beautiful landscapes of our island. For more information, including the 7 principles of xeriscape and traits of a less thirsty plant, [www.boardofwatersupply.com/conservation/xeriscape](http://www.boardofwatersupply.com/conservation/xeriscape)

Additionally, rain catchment systems (rain barrels) are easy and effective tools for conserving water outdoors. The captured non-potable rainwater can be used in various activities, including watering lawns and plants (excluding vegetable gardens), or for washing tools, and cars. If you plan on purchasing your 55-gallon rain barrel from a local retailer, you may qualify for a \$40 Water Sensible Rebate (see the Water Sensible Program section in this handbook). For more information about rain catchment, visit [www.boardofwatersupply.com/raincatchment](http://www.boardofwatersupply.com/raincatchment)



# Reporting Water Waste

## Reporting Water Waste Helps Us To Help Our Customers Conserve

Report water waste incidents to (808) 748-5041 or email [contactus@hbws.org](mailto:contactus@hbws.org). Help us follow up by providing as much detail as you can about the incident – precise location, nearby landmarks, and time of day.

# Waiwai Email Newsletter

## Timely Updates From The BWS

Our Waiwai Email Newsletter provides timely, valuable information via email on the Board of Water Supply's operational actions being taken in response to the Red Hill water contamination issue and other important information. To sign up, visit: [www.boardofwatersupply.com/protectoahuwater](http://www.boardofwatersupply.com/protectoahuwater)



The graphic is a rectangular sign with a light green top half and a light grey bottom half. At the top, it reads "THERE IS NO SUBSTITUTE FOR PURE WATER" in small, dark letters. Below this is the word "Waiwai" in large, bold, teal letters. Underneath "Waiwai" is the phrase "The Source for Water Updates" in a smaller, dark font. In the center, there is a teal water drop icon above the text "Board of Water Supply". To the right of the drop icon are three white wavy lines representing water. The bottom half of the sign features the text "Get the latest from the BWS!" in large, bold, black letters. Below this, it says "Get the latest updates on Red Hill and Board of Water Supply initiatives to protect Oahu watersheds via our new email newsletter." in a smaller, bold, black font. At the very bottom, it says "First issue at: [hbws.me/waiwai](http://hbws.me/waiwai)" in a bold, black font.



## **Helping You Understand Your Water Usage**

Get a better understanding of how your home uses water, how your usage compares with similar users in your community, and what your household can do to improve water efficiency when you subscribe to WaterSmart®.

WaterSmart® is an online program that is free for BWS customers. It provides access to detailed water use data to encourage them to take control of their water usage. It also offers recommendations, based on how each customer consumes water at their home, to make their usage more efficient.

Visit [www.honolulu.watersmart.com](http://www.honolulu.watersmart.com) to sign up. You can also opt to receive alerts for high water use, which could indicate a leak.

For more info, [www.boardofwatersupply.com/watersmart](http://www.boardofwatersupply.com/watersmart)



## **Programs To Help Our Customers Conserve**

Check out [www.boardofwatersupply.com/watersensible](http://www.boardofwatersupply.com/watersensible) for available programs to help BWS customers further their water conservation efforts:

### **Residential**

- Residential customer rebates for the purchase and installation of qualifying water-saving:
  - EnergyStar® clothes washer
  - Weather-based irrigation controller
  - Rain barrels to achieve even greater water savings in their homes.

Go to [www.boardofwatersupply.com/conservation/watersensible/rebates](http://www.boardofwatersupply.com/conservation/watersensible/rebates)

### **Commercial**

- Commercial customer rebates are available for the commercial sector for:
  - Landscaping
  - Plumbing
  - Commercial kitchens

Go to [www.boardofwatersupply.com/commercialrebates](http://www.boardofwatersupply.com/commercialrebates)

# WaterSensible

## Food Service Incentive Program

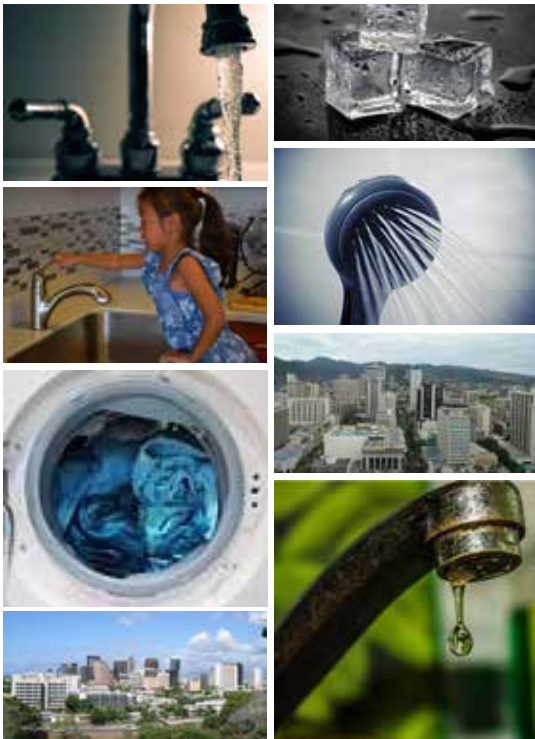
Participating food service operations will be given the opportunity to install high-efficiency aerators and/or high-efficiency pre-rinse spray nozzles as a means of conserving water and to help lower their water bill.

Go to [www.boardofwatersupply.com/conservation/watersensible/food-services](http://www.boardofwatersupply.com/conservation/watersensible/food-services)

# WaterWisdom

## Apartment & Condominium Incentive Programs

Property and resident managers, as well as residents living in apartments and condominiums, can participate in the Water Wisdom Program. The program offers resources and ideas to help multi-family residential buildings succeed in conserving water. Go to [www.boardofwatersupply.com/waterwisdom](http://www.boardofwatersupply.com/waterwisdom)



# Safe Drinking Water

## Your Water Is NOT Affected By The Navy's Red Hill Situation

The BWS is sure that the water it serves to its customers has NOT been contaminated and compromised by the Navy's Red Hill situation. Here is why:

- 1) The Navy drinking water system and the BWS drinking water system are isolated from each other.
- 2) All municipal drinking water sources are regularly tested according to EPA-mandated protocols and must meet or exceed all requirements for safe drinking water. All municipal drinking water sources are regularly tested according to EPA-mandated protocols and all meet or exceed all requirements for safe drinking water.
- 3) Since 2014, in addition to all the EPA-mandated drinking water testing, the BWS has performed extra testing at sources nearby the Red Hill fuel tanks. This extra testing is intended to detect any potential contamination before it impacts the municipal water supply. For the past eight years, the BWS has not detected any contamination from the Red Hill fuel tanks in any nearby municipal drinking water source.

So not only are the systems isolated from each other, but both regular EPA testing and extra BWS testing of the sources near Red Hill confirm that municipal drinking water around the island remains uncontaminated and safe to drink.

## Perspective

Water quality is measured in parts per million, billion, or trillion. Here are some comparisons:

- One part per million = 1 second out 11.5 days or 1 penny out of \$10,000
- One part per billion = 1 second out of 31.7 years or 1 penny out of \$10 million.
- One part per trillion = 1 second out of 320 centuries or 1 pinch of salt out of 10,000 tons of potato chips.

## Confidence In Water Quality

BWS has a three-facet approach to bring assurance, quality, and confidence in every glass of water you drink:

- BWS works with the United States EPA and the State of Hawaii Department of Health to run thousands of tests to ensure that water in the water system meets the highest of federal and state safe drinking water standards.

# Safe Drinking Water

- BWS stays on top of the latest trends, regulatory changes, and environmental issues related to drinking water.
- We educate our customers about their water quality. Each summer, the BWS mails an annual Water Quality Report, also known as the Consumer Confidence Report (CCR), to customers. To download the online report for your address, use the Water Quality Report link at [www.boardofwatersupply.com/water-quality](http://www.boardofwatersupply.com/water-quality).

## **Oahu's Groundwater: No Ka Oi**

Since approximately 1923, the BWS has been continually testing and adjusting the amount and frequency chlorine is added to the water to ensure our water system is properly treated and that it delivers safe drinking water. Almost all of the water pumped into the BWS water distribution system is chlorinated. Because the distribution system is interconnected, waters from chlorinated sources can mix with unchlorinated supplies. Small amounts of chlorine in the water may be found most everywhere on Oahu. Concentrations can range from 0.1 to 0.5 milligrams per liter (ppm) of chlorine throughout the water system.

Since excessive amounts of chlorine can affect the taste and odor of drinking water, the BWS adds only what is needed to keep disease-causing bacteria from contaminating our water supply. If you experience a strong chlorine smell or taste in your water, contact the BWS Microbiological Laboratory at 748-5850.

The BWS does not add fluoride to the municipal water supply. A small amount of naturally occurring fluoride is present in Oahu's drinking water supply. The amount ranges from 0.05–0.15 mg/L. Federal regulations require all military installations add both fluoride and chlorine to their water supplies regardless of water quality. BWS is concerned about the cost to fluoridate 100% of our water supply above naturally occurring levels when less than 5% of the water we use daily is actually consumed.

# Disaster Preparedness

## QUICK TIPS

### For Water Emergency Preparedness



#### Start Conserving

- Do NOT wash cars or water lawns.
- Postpone laundry unless absolutely necessary. If so, wash FULL loads only.



#### Fill Up Containers

- Use basins, sinks, and bathtubs for additional water storage for non-drinking purposes.



#### Turn Off Fixtures

- Turn off water-using fixtures such as automatic ice makers or irrigation systems.



#### Tune in to the News

- Stay tuned to news reports. BWS, through the City Department of Emergency Management, will issue informational bulletins and status reports.

source: [www.boardofwatersupply.com](http://www.boardofwatersupply.com)



# Disaster Preparedness

## Storing Drinking Water For Emergency Use

Your emergency preparedness kit should include:

- One gallon of water stored per person per day, for at least 14 days for drinking and sanitation purposes.
- Special needs persons may require more: nursing mothers, young children, and persons with medical issues.

The easiest and most efficient way to prepare emergency water supply is to take water from the tap.

- Use good, clean containers to store drinking water. Do not use containers which previously stored food with strong odors (mayonnaise, pickles, etc.).
- Wash containers thoroughly using soap and water.
- Sanitize containers by using one capful of unscented liquid bleach to one gallon of water; rinse thoroughly.
- Fill container to the top, keeping minimal air space between cap and water level.
- Add one drop of mild, unscented liquid bleach per gallon of water to ensure water is safe to drink.

Extended storage: If you plan to store water for four weeks or longer, add one-half cap of mild liquid bleach per gallon of water, cap, and store in a cool, dark place.

For more emergency preparedness tips, visit:

[www.boardofwatersupply.com/community/emergency-preparedness](http://www.boardofwatersupply.com/community/emergency-preparedness)

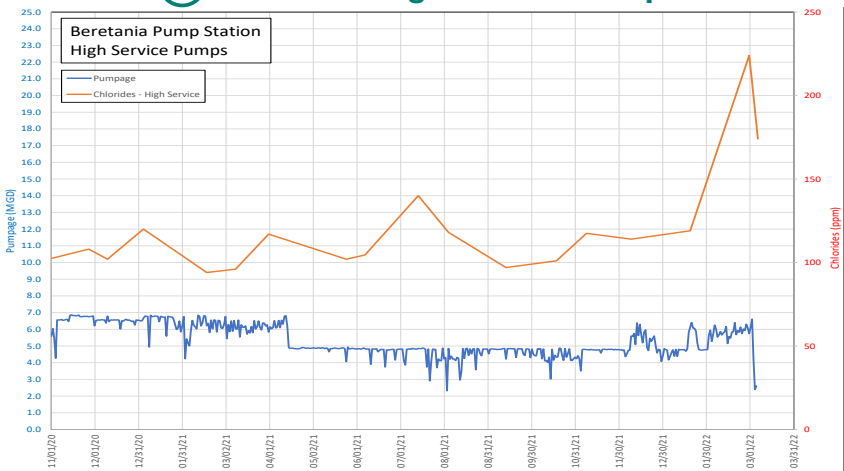


# Voluntary Conservation

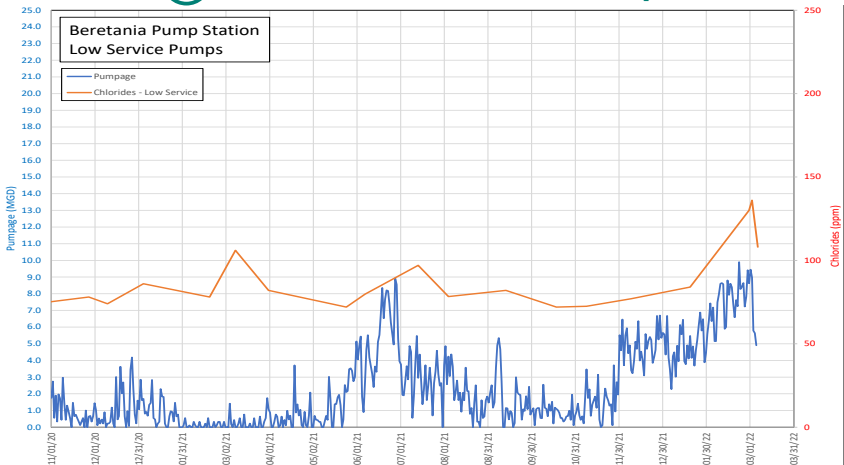
On March 10, 2022 rising levels of chloride in BWS Beretania Wells were detected. This was a result of additional pumping to help make up the loss of supply from Halawa Shaft, which was shut down last year in response to fuel contamination of the Navy's Red Hill source. The additional pumping, coupled with less than normal rainfall, led the BWS to ask island residents and businesses to voluntarily reduce their water use by 10% now to prepare for the summer season.

The graphs below show the spike in chloride levels in water from the Beretania Wells aquifer which led to our request for voluntary conservation.

## Beretania High Service Pumps



## Beretania Low Service Pumps



# About BWS

## Humble Beginnings

The Territorial Legislature created the BWS in 1929 to halt abuse of water and create a safe and perpetual drinking water supply. Now, more than 90 years later, the BWS is still serving as protector of the municipal resources.

## Semi-Autonomous City Agency

The BWS sustains itself financially with money you pay for water service. It is governed by a seven-member Board of Directors, which include:

- Five appointed by the Mayor and approved by the City Council
- The Director of the State Dept. of Transportation
- The Director of the City Dept. of Facility maintenance

Information about BWS Board members is at [www.boardofwatersupply.com/about-us/board-of-directors](http://www.boardofwatersupply.com/about-us/board-of-directors)

The BWS records its monthly Board of Directors meetings, which are scheduled for 2 p.m. on the fourth Monday of each month. View the agendas, read meeting minutes, or watch online at [www.boardofwatersupply.com/about-us/board-meetings](http://www.boardofwatersupply.com/about-us/board-meetings).

## What Does It Mean?

“Uwe ka lani, ola ka honua” is the Hawaiian proverb that appears behind the water fountain fronting the main BWS office building on Beretania Street. It translates to “When the heavens weep, the earth lives.”



# About BWS

## **Water Weight**

The volume of 1 cubic foot of water is 7.5 gallons that weighs about 62.5 lbs. A 55-gallon drum would weigh more than 450 lbs.

## **BWS Fleet**

The BWS has its own staff to maintain a fleet of more than 500 vehicles that are housed at its Beretania Street headquarters and its corporation yards in Kalihi, Heeia, Pearl City, Wahiawa and Waianae. This includes about 400 motor vehicles, most of which are identifiable by their distinctive “BWS green” color and license plate number, and more than 70 pieces of field construction equipment and 30 trailers.

## **Adequate Supply**

Reservoirs placed at strategic elevations and locations throughout the island store enough water, for the most part, to meet about 1-1/2 times the daily need for the communities that they serve. Pumps boost water up to reservoirs, where it remains until needed. From there, gravity carries water from the reservoir to your home.

## **Watersheds Are Important**

With a holistic approach to water management, the BWS is participating in watershed protection partnerships throughout the island. Watersheds catch rainwater that soaks into and replenishes our underground aquifers. Landowners share resources to preserve existing watershed lands, crucial to replenishing Oahu's underground supply, and educate the public to cultivate a personal sense of stewardship.

## **Using Water From A Fire Hydrant**

Legal use of water from a fire hydrant requires a temporary meter. The device measures the amount of water drawn from the hydrant so that the BWS can bill the user. As with any other BWS customer with a metered account, the user can draw water from this temporary water service point at any time. A temporary meter is sturdily crafted and carefully affixed and locked to the hydrant.

Should you see anyone taking water from a hydrant that does not have such a hookup, please call 911 to report it, as this is considered water theft. A police report is needed for the BWS to be able to follow up.

# Frequently Called BWS Water Service Numbers

**24/7 trouble line to report or get info on a main break or schedule water shut-off for repair:** (808) 748-5000, Option 1

**Bill payment:** (808) 748-5000, Option 2, or email [customerservice@hbws.org](mailto:customerservice@hbws.org)

**General customer account inquiries:** (808) 748-5000, Option 5, or email [customerservice@hbws.org](mailto:customerservice@hbws.org)

**Non-customer-related inquiries, water waste, or other water concerns:** (808) 748-5041, or email [contactus@hbws.org](mailto:contactus@hbws.org)



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