

2021 Drinking Water Quality Report



For the Calendar year 2021

We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the water quality and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect the Island's water resources. We are committed to ensuring the quality of your water.

Water System Information

Hat Island manages its own water system and is required to be licensed by the State of Washington. As such we are required to have a certified operator responsible for the daily operation of the system. Chris Inman runs and maintains the system on a full-time basis. Chris is the certified water operator.

Sources of Water

Our water source is 5 ground water wells and our Reverse Osmosis (RO) Plant. The product of these sources is stored in two concrete storage tanks located on the high points of the Island. Unless your home is in Divisions G or M, the water is then delivered to your homes via gravity feed distribution system. Homes near the base of storage tanks are served by a pressure boosting system. All wells are located in the sea level aquifer and are therefore susceptible to salt water intrusion. These wells are pumped and rested to limit saline intrusion and maintain reservoir levels at or below 250 mg/L of Chlorides (salt). Because of these rotating pump runs, our wells produce on average 10,000 gallons per day. The RO plant can produce 20,000 – 40,000 gallons per day. On a three-day holiday weekend, we can consume over 125,000 gallons of water. We do not have an unlimited water supply on the Island and you are asked to continue your conservation efforts.

We have a wellhead protection plan in place to help protect our water sources. This plan ensures that the Island owns and maintains a buffer of properties surrounding each of our 5 wells which allows us to ensure that we protect the infiltration zones surrounding each well head. Still Hat Island is a small landform and everything that you put on the ground eventually ends up in our aquifers. Also, the recharging of our aquifers depends in a very large part on rain water run off. Trees and other vegetation slow the movement of surface water to give it time to soak into the ground and eventually into the aquifers. When you strip your properties of trees and leave only grass you speed runoff and reduce absorption. Our long-term water health is in your hands.

We continue to work closely with Case RO to maintain and improve our RO plant. Our membranes were replaced in 2021 as the TDS numbers were increasing with the old membranes above our targeted amount of less than 400. Since the replacements we are now down under 100.

We did get 9 years of use from our old membranes which far exceeds the expected life of 5 years. The Aqua Boll filter which has replaced the sand pre filters is now certified by the state thanks to Gray and Osbourne. The RO is still running on a diesel generator so the amount of water produced in 2021 was ~60% of what we would normally produce. The PUD did not get us a new cable in 2021. The PUD has selected a site for the new cable and is now going through the permitting process but it still looks like 2023 at the earliest for a new cable. Until we get a new cable, we will be running the RO at a reduced amount.

In 2021 we are in compliance with all state requirements.

Detected Containments and Missed Samples

During 2021 all required samples were submitted and no samples exceeded regulatory limits. Besides the normal monthly tests for Arsenic, Coliform and E. Coli we performed Herbicide for the RO and Nitrate for both the wells and RO.

Arsenic Abatement Program

Because our wells have a level of naturally occurring arsenic which exceeds federal limits, we must treat the product of our fresh water wells to remove it. We do so by adding Ferric Chloride (iron) to our well water before it is filtered. The arsenic bonds with the iron and this iron is then removed via filtration. The average arsenic content of our treated well water during 2021 was 0.0068 Mg/ml. The maximum acceptable contaminate level is 0.01Mg/ml.

Our RO product has only a .001 trace of arsenic. When we combine that water with our fresh water well product the amalgamated water has an arsenic level of around .0056.

Water Use Efficiency

Washington State regulations require us to set conservation goals for our water consumption. To encourage conservation, we have a tiered usage billing structure. Tiered fees and continued emphasis on conservation are being used to drive down per hook-up usage.

The State has an unaccounted water goal for community water systems of 10% through leaks and unmeasured uses. This is the goal for larger water producers. We are a smaller water producer and as such are working on meeting a 20% goal

We will continue to search for and repair small leaks in our distribution system and we only install new services and make repairs using schedule 80 pipe instead of the lower quality schedule 40 pipe with which the system was initially installed. These and other improvements support our commitment to keeping our water system the best that it can be.

You can help conserve water as well.

Be sure that when you leave the island, you shut off the water system at the meter. Even the smallest of leaks when left for weeks or months can consume a huge amount of water. We have three types of water loss. They include: Authorized Unmetered Use (flushing stand pipes, fire department, road maintenance, main line repairs), Unauthorized Unmetered Use (use of standpipes for personal use), and Water Leaks. We are now keeping better track of Authorized Unmetered use such as keeping track of how much we refill the fire trucks, recording the amount

of water loss based on flows from repair work. The loss from leaks and unaccounted for sources was 1,167,652 gallons which accounts for 26% of total water produced which is the same amount as last year. The total amount of water produced was almost exactly the same as 2020 at 4,438,525 gallons and the amount of metered water was up 3.6% to 3,267,873 gallons.

Results of State Required Sampling

Maximum Contaminants Levels (MCL)'s are set at very stringent levels for your protection and are set to limit the probability of anyone suffering an adverse effect from contaminants.

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791). All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose 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 1-800-426-4791.

We test our system on a rotating schedule as determined by the WA DOH. Some years we have few requirements, others we have more requirements. In 2021 in addition to our monthly tests we performed the annual Nitrate tests for both wells and RO both were good. In 2021 we had the following additional test requirements: For the RO: Herbicides. All test results were within state required limits.

Your Water Operations staff works around the clock to provide top quality water to every residence. We ask that all our customers help us protect our fragile water sources, which are the heart of our community, our way of life and our children's future.

If you have any questions about this report or concerning your water utility, please contact Chris Inman, Operator at waterlab@hatisland.com or Kim Gleason, Island Manager, at 360-444-6611 or hioffice@hatisland.com between 8:00 AM and 4:00 PM during the work week. We want our valued customers to be informed about their water utility. If you want to learn more, please visit our community web site where we post the results of all our monthly biological and scheduled quality tests as well as information helpful in understanding how our water system works.

If you have concerns about the quality of our water feel free to attend any of our Board of Trustees meetings which are held on the 3rd Saturday of each month on Hat Island.