

2015 Drinking Water Quality Report



For the Calendar year 2015

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. Karl Arhart and Scott Gresli run and maintain the system on a part time basis and while Karl has worked with water quite a bit, his certifications have expired. Scott Gresli is currently working toward his Operators license. Therefore, we must employ a certified Contract Operator. Donovan Sheppard is our certified operator. He can be reached at 360-794-6999.

Sources of Water

Our water source is six 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 a gravity feed distribution system. Homes near the base of storage tanks are served by a pressure boosting system. All six 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 limited pump runs, our wells can only produce an average of around 5,000 gallons per day. Through careful use of the wells we have lowered the average salinity in the product of our fresh water wells from 110 ppm in 2006 to just under 80 ppm in 2013. 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. This is the reason why we do not have an unlimited water supply on the Island and you are asked to conserve.

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 6 wells which allows us to insure 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.

Some very good news for our RO plant. After a decade long battle with providing the plant with enough source water to properly function we have solved that problem. The new source system provides the plant with 85 GPM at 65 PSI, slightly above the original design standards. On June 28th the plant produced 48,000 gallons in a 24 hr. period, 6,000 gallons more than its original design standards.

Detected Containments and Missed Samples

During 2015 we missed no required samples and had no samples exceed regulatory limits.

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 2015 was 0.0056 Mg/ml. The maximum acceptable contaminate level is 0.01Mg/ml.

Our RO product has only a 0.001 trace of arsenic. When we combine that water with our fresh water well product the amalgamated water has an arsenic level of around 0.003.

Water Use Efficiency

Washington State regulations require us to set conservation goals for our water consumption. Systems that are not already metered are required to install meters. Those like ours that are metered are required to set goals to reduce per capita consumption. During 2011 the Board approved a new three tier rate system to encourage conservation. That structure went into effect in July 2011. These rates have had an impact and our average daily metered consumption has declined each year since the new rates were implemented.

The state requires us to loose no more than 10% through leaks and unmeasured uses. We believe there may be an undetected leak in the system due to increased distribution system leakage. We're not there yet; our three year running average is 1,299,268. This number is being investigated further. In May 2014 the Board authorized \$5,000 expenditure to install a systemic leak detection system, replace aging production meters, and install better telemetry at the storage tank in Div M. The new production meters have been installed. The leak detection meters and all the associated installation equipment have been purchased however lack of staff has prevented the installation of the system. Management will encourage the Board and Community to approve 1 additional full time maintenance position in the next budget process to accomplish this work and other much needed water maintenance work on Hat Island.

We 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.

You can help conserve water as well.

As an example, one island family catches all the water while warming up their morning showers and the sink to do dishes. They use this water for their coffee production, brushing their teeth and

watering their plants and garden. You can also ensure that you shut off the water system on your home whenever you are away from the island. Even the smallest of leaks when left for weeks or months can consume a huge amount of water.

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 a lot. 2015 was a very light year. This year we were required to collect samples on June 8, 2015 and July 9, 2015 to test for Inorganic Contaminants (Nitrates). Both tests were within State required testing levels.

We at Hat Island work around the clock to provide top quality water to every tap. 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 Sandy Bettencourt, 360-444-6611 or hioffice@hatisland.com between 7:30 AM and 3:00 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.