

Water Quality Monitoring

In 2020 a total of **1** sample was drawn directly from the Faulder well, **29** samples from the Uranium Treatment System and **30** samples from dedicated sample locations in the distribution system. Samples were analyzed by an accredited laboratory for Total Coliforms and *Escherichia coli* bacteria. All samples drawn in 2020 had no detections for *E.coli* however, there was **1** distribution sample that reported a positive for Total Coliforms.



In addition to the weekly bacteriological samples, field tests were conducted for temperature, pH, conductivity and turbidity.

Uranium Treatment Process

On a monthly basis, a sample is taken from the uranium treatment system and tested for total uranium to evaluate the effectiveness of the treatment process.

Unit	Average	Minimum	Maximum	Number of Results	Number of Results with Exceedances
mg/L	0.0158	0.0150	0.0164	11	0

2020—Treated Uranium Levels

The process for removing uranium from the Faulder well water involves passing the source water through an ion exchange media. This specialized ion exchange media targets uranium ions and replaces them with sodium ions. A portion of the total water pumped from the Faulder well is passed through the ion exchange media and is then blended with untreated well water. The finished product is water with a total uranium concentration less than the *Guidelines for Canadian Drinking Water Quality* Maximum Allowable Concentration of 0.02 mg/L (ppm). By treating only a portion of the source water as opposed to treating the entire flow extends the life of the media which results in lower operating costs.

Water System Notices

- No *Water Quality Advisories* or *Boil Water Notices* were issued in 2020 for the Faulder water system.



IHA's Role

The Interior Health Authority's team of drinking water officers are responsible for providing the oversight to ensure compliance and drinking water safety. The IHA is responsible for issuing Permits to Operate to drinking water systems. IHA has four levels of water notifications.

WATER QUALITY ADVISORY (WQA)

There is some level of risk associated with consuming the water, but a boil water notice is not needed. The risk is elevated for people with weakened immune systems.

BOIL WATER NOTICE (BWN)

There are organisms in the water that can make you sick. To safely consume the water, you must bring it to a rolling boil for at least 60 seconds, or use a safe alternate source of water.

DO NOT CONSUME (DNC)

There are harmful chemicals or other bad things in the water that can make you sick if you consume (swallow) it. You cannot make the water safe by boiling it. You can bath, shower, and water plants and gardens with the water.

DO NOT USE WATER (DNU)

There are known microbial, chemical, or radiological contaminants in the water and that any contact with the water, with the skin, lungs, or eyes can be dangerous. Do not turn on your tap for any reason and do not use your water. You **CANNOT** make the water safe by boiling it.

Standards for Potable Water

The *British Columbia Drinking Water Protection Act (DWPA)* and supporting Regulation along with the *Federal Guidelines for Canadian Drinking Water Quality (GCDWQ)* define parameters for potable water in BC. These include Aesthetic Objectives (AO) and Maximum Allowable Concentrations (MAC) for numerous water quality parameters.



Certified Water Operators

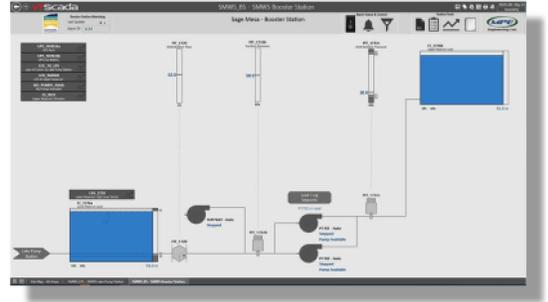
The British Columbia *Environmental Operators Certification Program (BC EOCP)* is responsible for the classification of water systems in BC. The EOCP is also responsible for certification of all water system Operators.

All RDOS Operators are certified through the *BC EOCP*. Operators may hold certification in the disciplines of Water Distribution and/or Water Treatment with 4 levels of certification achievable within each discipline.

Annually, RDOS Operators attend courses and seminars and complete online training required to maintain and augment their levels of certification.

Supervisory Control and Data Acquisition (SCADA) System

A SCADA system is an integral part of a modern water system. It is comprised of sensors, programmable controllers, communications and network devices installed at pump stations and treatment facilities. The SCADA system controls equipment such as pumps and monitors system operations while storing important data such as intake turbidity levels, pumping flow rates, and storage reservoir levels. The system also provides for efficiencies in operation and the response to system failures. This is achieved by the ability to monitor and view the system remotely through a software package along with the generation of alarms that will notify the system Operators when there is a problem or failure within a system.



In 2019 the RDOS had a consultant develop a SCADA Master Plan for all RDOS water systems. This plan will assist with upgrades to the existing SCADA network along with providing a detailed plan on how to move forward into the future in an efficient manner.

Potable Water – Faulder Well

A variety of tests are carried out in the water system on a weekly, monthly and annual basis. Annually the RDOS submits a sample of the untreated well water to an accredited lab for full comprehensive potable water testing. This comprehensive test includes physical parameters (e.g. color, turbidity, temperature, ultraviolet transmittance), chemical parameters (e.g. total metals including uranium and nutrients) and bacteriological quality. Changes in these parameters may result in challenges with the current treatment process, the need for water notifications for customers (i.e. *Boil Water Notice* or *Water Quality Advisory*) or the requirement for additional treatment processes to be implemented. In 2020, all of the tested parameters met the applicable potable water standards with the exception of uranium. These parameters are also trended annually and in 2020 there were no significant changes in any parameters.



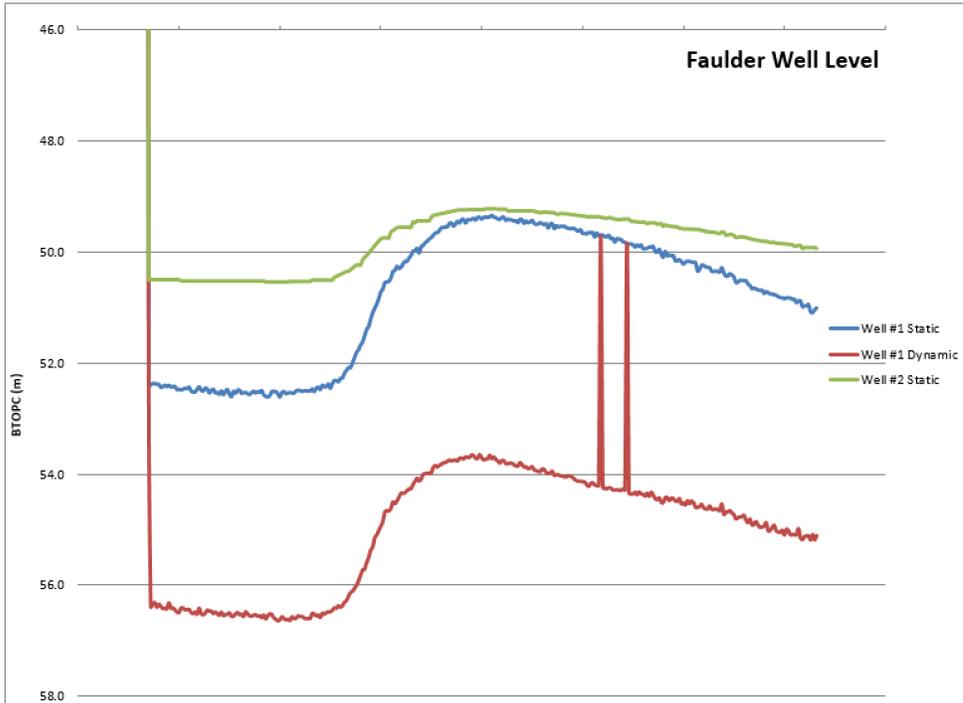
Plans for 2021

- Upgrades to the Supervisory Control and Data Acquisition (SCADA) system. This will include network upgrades and new software.



Faulder Well Level Monitoring

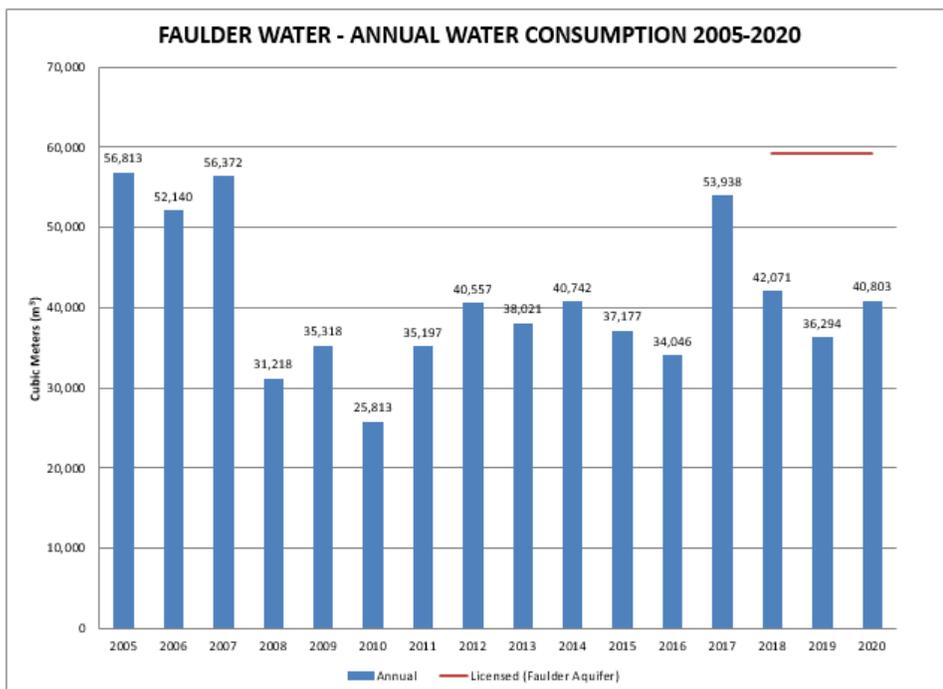
The RDOS monitors the Faulder well levels (New and Old well) on an ongoing basis through the SCADA (Supervisory Control and Data Acquisition) System. This is important for aquifers such as Faulder’s where water levels can vary considerably over time.



Faulder Aquifer Level—2019-2020

Faulder Water Usage

A total of 40,803 cubic meters of water was pumped from the Faulder well in 2020, up from 36,294 cubic meters in 2019.



Faulder Water Usage — 2005-2020

BC Groundwater Protection Regulation

The Ground Water Protection Regulation (GWPR) falls under the *British Columbia Water Sustainability Act*. The GWPR sets standards for the construction, maintenance and deactivation and decommissioning of wells in BC. The GWPR also requires well drillers and pump installers be registered to work in BC.

Well Level Monitoring

Well level monitoring is one important aspect in determining the “health” of an aquifer. From a water supplier’s perspective, the water level in an aquifer is very important. If the aquifer level drops too much the well may not be able to provide water to the system. The interactions between surface water and groundwater are continually being better understood. For example, an increase in the pumping rate of a well can affect the flow in a nearby creek just as the removal of water from a stream for irrigation could affect the level in a nearby aquifer. Such interactions can add to the complexity of recharge of water to an aquifer. Recharge can occur quickly or could take a number of years before a change is observed in the aquifer level.

Provincial Drought Levels vs. Water Restrictions

It can be confusing when Provincial Drought Levels are circulated in the media and appear to contradict local Water Restriction Stages. They are two different rating systems.

Provincial Drought Levels are based on 'environmental flow needs' in creeks and rivers. BC River's Forecast Centre monitors volumes of water and water levels in order to insure water levels are adequate to support fish as they move through their life cycle. Fish are indicators of the overall health of the creek ecosystem, especially in times of increasing water scarcity during a drought. The Province developed a system to rate Drought Levels, and the response actions required at each incremental stage.

Regional Water (sprinkling) Restrictions relate to the capacity of each individual water system to provide potable water to users. Restrictions are required in times of heavy use or water scarcity (drought) and may not be at the same stage for all water systems.

The RDOS's *Regional Water Use Regulation Bylaw* and *Regional Water Conservation Strategy* are used to regulate the water use within the nine water systems that the RDOS owns/operates.

Restrictions begin at *Stage Normal* which represents normal (average) conditions for a local area and are in effect year round unless a higher stage (Stages 1 to 4) are in effect.



Water Conservation

New for 2021

RESIDENTIAL Outdoor Water Use Restrictions

NO WATERING (with water efficiency)
NO SPRINKLING (between 10:00 AM and 6:00 PM)

NORMAL

3 Days / Week

MAKE WATER WORK for you!

- Water plants not pavement
- Low water plants save you money
- Wash the car on the lawn

www.rdos.bc.ca/restrictions
For more info, call Public Works 250.492.0237

WATER USE REGULATIONS in all RDOS water systems
year round unless notified

Hand held garden hose up to Stage 2 any day, anytime

NO watering on Mondays

STAGE NORMAL WATERING SCHEDULE:

EVEN numbered civic address **TUE THU SAT** 6-10am & 6-10pm

AUTOMATIC residential irrigation: 12:01am to 6am on your watering day

ODD numbered civic address **WED FRI SUN** 6-10am & 6-10pm

4 x 6 Magnet

These handy little reminders were provided to all property owners in RDOS owned or operated water systems. The hanger is attached to exterior hose bibs, and the magnets to any metal surface like fridges, filing cabinets, or metal garage doors. If your property is a rental, please insure they are delivered to tenants, and all outdoor irrigation is set to align with regulations.

MAKE WATER WORK FOR YOU

2 x 3 outdoor faucet (hose bib) hanger

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See reverse for sprinkling regulations

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www.rdos.bc.ca/restrictions



For the complete Water Use Restriction Stages visit: Water Restrictions

For more water wise tips visit : www.makewaterwork.ca

Water Quality Complaints

If you have a water quality complaint or concern or would like to request further information regarding any of the RDOS water systems please contact the following:

Public Works Department
RDOS Environmental Technologist
Toll Free: 1-877-610-3737
Phone: 250-490-4106
Email: info@rdos.bc.ca



Additional Resources

RDOS Water System Home Page
[Water Systems | RDOS](#)

Interior Health Authority Drinking Water Homepage
[Home \(interiorhealth.ca\)](#)

Federal Guidelines for Drinking Water Quality
[Water Quality - Reports and Publications - Canada.ca](#)

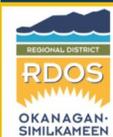
Water Connections

During regular business hours water related emergencies, questions regarding applications for water service and water service turn on/off requests can be directed to the following:

Public Works Department
Administrative Assistant
Toll Free: 1-877-610-3737
Phone: 250-490-4135
Email: info@rdos.bc.ca

Be Safe—Be Informed—Be Involved In Your Community

SIGN UP TO RECEIVE IMPORTANT RDOS WATER SYSTEM NOTIFICATIONS



To ensure the residents and property owners of the Regional District of Okanagan-Similkameen are safe, informed and up-to-date with community activities, the RDOS has implemented a mass communication service called *CivicReady*. This system allows the RDOS to communicate out routine and emergency messages through email, text and/or phone call.

To sign up and or learn more about *CivicReady* go to: www.rdos.bc.ca & look for the alarm button or sign up link on the right-hand side



Routine Notifications:

- Community Events
- Water & Sewer System Alerts
- Curbside Pick Up & Landfill Hours
- Regional Recreation
- Land Use Changes
- And More...

Emergency Notifications:

- EOC Updates
- Sandbag Pick-Up Locations
- ESS Locations
- Wildfire Updates
- Dangerous Animals in the Area

After-Hours Water Emergencies

For all after-hours water related emergencies please call:
Regional Dispatch
250-490-4141

Regional District of Okanagan-Similkameen
101 Martin St, Penticton,
BC V2A 5J9

T- 250.492.0237 TF- 1.877.610.3737

Web Site - www.rdos.bc.ca