The SCRD is committed to providing drinking water which exceeds regulatory requirements. We take pride in serving the needs of our community while meeting the challenges of water supply and protection, community outreach and education, water conservation, and new regulations.

Sunshine Coast Regional District

2020 Utility Services Annual Report

The following 2020 Utility Services Annual Report covers the period between January 1, 2020 and December 31, 2020.

Sunshine Coast Water Systems

Water Supply

The Sunshine Coast Regional District (SCRD) supplies water to approximately 23,000 residents from Langdale to Earls Cove, which are located within the traditional territories of the *shíshálh* and Skwxwu7mesh First Nations. Water is supplied for drinking, fire protection, recreation (pools and ice rinks), industry, and irrigation. This involves the operation and maintenance of the Langdale, Soames, Grantham's Landing, Eastbourne (Keats Island), Chapman Creek, South Pender Harbour, Cove Cay, Egmont and North Pender Harbour Water Systems.

Combined, the SCRD Water Systems consist of over 379 km of watermains, 16 storage reservoirs, 15 pump stations, 29 pressure reducing valve stations, 1145+ fire hydrants, 10 chlorination stations and approximately 11,555 water connections.

Regional Water

- Supplies over 90% of Sunshine Coast's water users within the regional water service area
- Systems within the regional water service area include Langdale, Granthams, Soames Point, Cove Cay, Egmont, and Chapman
- Sources include Chapman Lake, Edwards Lake and Gray Creek for the Chapman system, Waugh Lake for Egmont, Ruby Lake for Cove Cay with Langdale, Granthams, and Soames Point supplied by their own wells

North Pender Harbour Water

- Independent system, operated and maintained by the SCRD since 2007
- Source for this system is Garden Bay Lake
- Secondary source for this system is Hotel Lake, for emergency use only

South Pender Harbour Water

- Independent system, operated and maintained by the SCRD since 2008
- Source for this system is McNeill Lake which is supplied water from Harris Lake

Health and Safety

Emergency Response Plans

The SCRD has an Emergency Response Plan (ERP) for each water system. Under the *Drinking Water Protection Act*, the SCRD ensures the ERPs are updated and maintained to comply with our Operating Permit issued by Vancouver Coastal Health Authority (VCH) and to conform to the BC Emergency Response Management System framework.

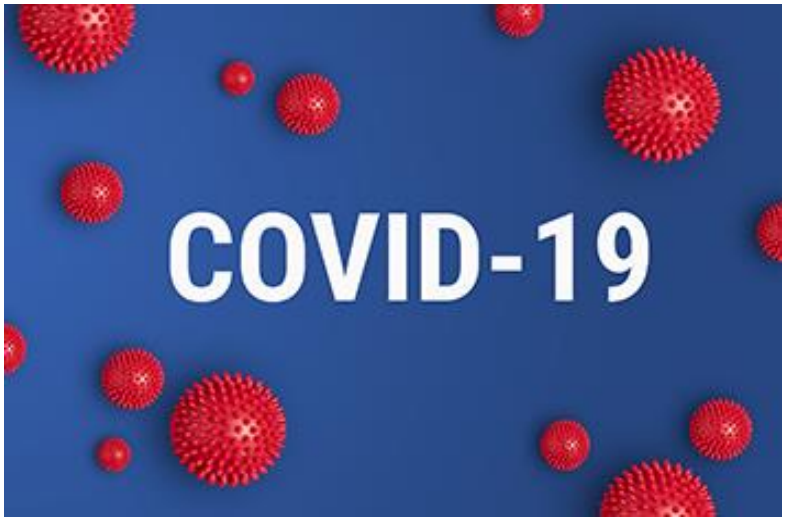
ERPs are used in the event of a water system emergency. The ERP documents are readily available to management, trained operators and health officers. They lay out the actions to be taken during and after specific emergencies.

In 2020, the SCRD updated the ERPs for all water systems and submitted them to VCH where they were reviewed and approved.

Covid-19 Response

2020 brought a unique challenge with Covid-19. As an essential service department, we responded by:

- Staggering shift starting times for crew
- Using dedicated vehicles and equipment
- Frequent sanitization
- Working remotely, when possible
- Securing chemical supply with suppliers
- Included in provincial operator's pool to receive assistance or assist other municipalities



Dam Safety Assessments

The SCRD is responsible for 3 major dams in the water systems:

- Chapman Lake Dam
- Edwards Lake Dam
- McNeil Lake Dam

Consultants completed documents for each dam on Dam Safety Review, Dam Emergency Plans, and Operation, Maintenance and Surveillance.

These documents will be used moving forward in the operation of the SCRD dams.

Water Quality Monitoring

Sampling

Bacteriological samples are taken weekly from sites throughout SCRD water systems.

Samples are analyzed for total coliforms and E.coli coliforms at a Provincial Laboratory in Vancouver with results sent to the SCRD Utility Services Division and the Vancouver Coastal Health Office.

A positive sample result of total coliforms indicates bacterial presence. A positive E.coli sample result indicates bacterial presence from human or animal fecal matter. A sampling error can contaminate samples causing positive coliform results. In the event of a positive sample result, technicians' re-sample the site to ensure water potability. The SCRD collects semi-annual samples which are analyzed for metals, physical, chemical and organic parameters and collects quarterly samples which are analyzed for disinfection byproducts which can be created when water is chlorinated.

2020 Results

All sample results from weekly, semi-annual and quarterly sampling from all systems are compiled and compared with the Guidelines for Canadian Drinking Water Quality. More detailed results can be found on the website at www.scrd.ca/quality.
Vancouver Coastal Health (VCH) conducted annual inspections and all the SCRD water facilities passed with no violations to their operating permits.

Sample Location	Samples Collected	Coliform Positives	E.coli Positives
Cove Cay	76	0	0
Eastbourne	118	0	0
Egmont	104	0	0
Chapman	648	1	0
Grantham's Landing	52	0	0
North Pender Harbour	195	0	0
Soames	78	1	0
South Pender Harbour	179	2	0
Langdale	78	0	0
Totals	**1528**	**4**	**0**

A total of 1528 total coliform and E. coli samples were collected throughout the Sunshine Coast water distribution systems. The frequency of sampling met the requirements for the permit conditions and the Drinking Water Protection Regulations. Of the 1528 samples tested 4 of them tested positive for total coliforms and 0 of them tested positive for E.coli. The 4 samples that tested positive for total coliforms were re-sampled and re-analyzed resulting in no coliform presence.

System Improvements

Ebbtide Street and Trail Avenue Watermain Installation

About 80 meters of watermain was installed to connect watermains in the Ebbtide Street and Trail Avenue area.

This eliminated a water system dead end and created a looped system.

South Pender Water Distribution System Upgrade

The 50mm PVC waterline along Chris Way and the lower section of Mark Way was upgraded to a 200mm Ductile Iron waterline.

A fire hydrant was installed at the intersection of Chris/Mark Way which now provides better fire protection to the area.

Chapman Creek Water Treatment Plant Onsite Generation of Sodium Hypochlorite Project

Since construction was completed in 2004, the Chapman Creek Water Treatment Plant has been using chlorine gas for disinfection.

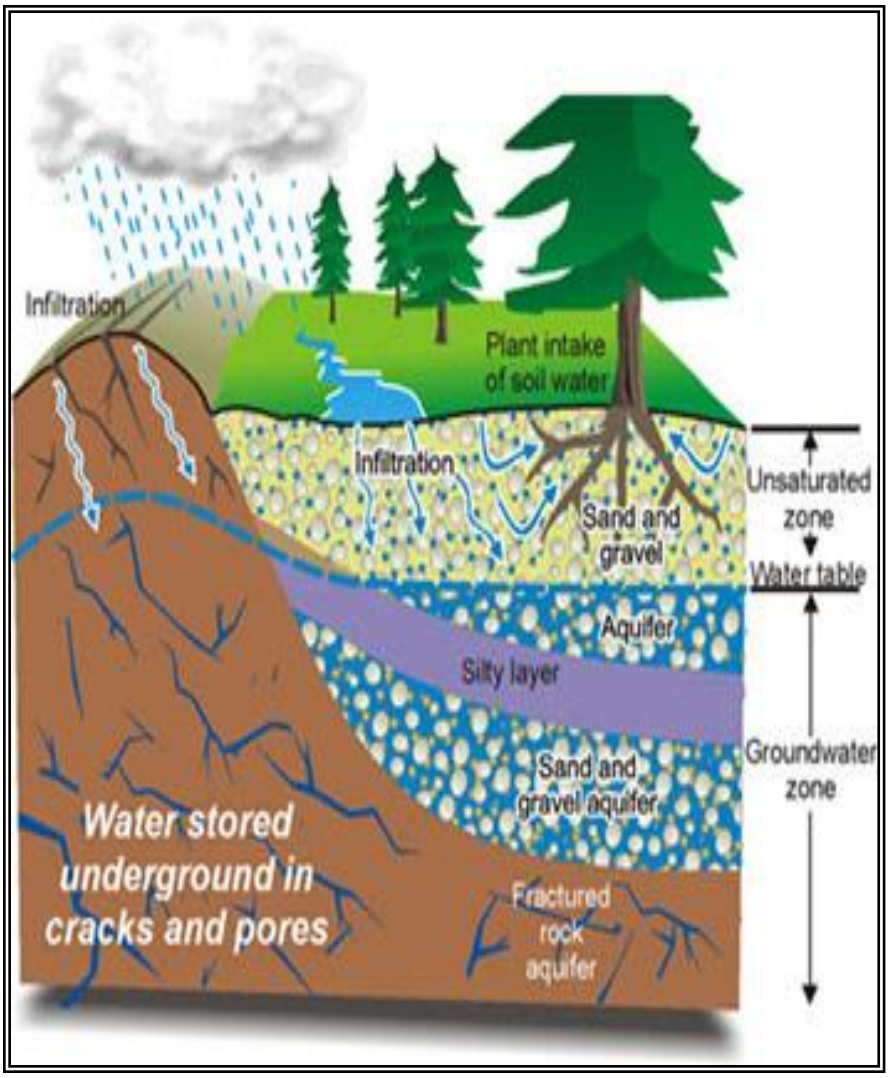
In 2020 the process began to design an onsite sodium hypochlorite generation system which will replace the current chlorine gas system. Once completed this will be the largest upgrade at the water plant since initial construction. This upgrade was needed to bring the water treatment plant up to current day standards and eliminate safety concerns with chlorine gas.

Groundwater Investigation

The Comprehensive Regional Water Plan completed in 2013 recommended that the SCRD undertake a groundwater investigation to determine the feasibility of supplying groundwater to meet part of the long-term water source requirements.

The Church Road Well Field project moved into the final engineering design phase. The project will result in the connection of three SCRD Water Systems: Granthams, Soames and the Chapman Water Systems. The intention of the project is to reduce risk of water supply shortages for all these systems under normal and emergency circumstances.

Phase II groundwater investigation projects drilled and tested 4 test wells throughout the south Sunshine Coast area in 2020, with analysis of the feasibility of connecting to the Chapman system to be reported on in early 2021.



Garden Bay UV Upgrade

The Garden Bay Water Treatment Plant utilizes Ultraviolet (UV) radiation as its main treatment process. UV treatment is extremely efficient and effective at targeting and destroying illness-causing microorganisms and is a key component of the disinfection system. The plant only employed a single UV module and best practice is to have multiple UV systems in place for redundancy in the event of a failure.

Installation of a new UV module improves overall UV treatment process and ensures a higher level of service and system reliability. The new UV reactor weighs 437 lbs. and had to be lifted up onto a mounting platform. A grated walkway and low ceiling height added difficulty to the installation.

Langdale Well and Pump Station Upgrade

The Langdale Well, drilled almost 30 meters down into the West Howe Sound aquifer, pumps water up to the Langdale Reservoir by automated control. It was constructed in 1971 and is the primary water supply source for the Langdale water system and BC Ferries. Since its original construction, the well, pump and motor have not been removed for servicing and there have been no significant improvements to the facility.

In June of 2020, an Invitation to Tender was issued for the construction of the Langdale Well and Pump Station improvements. This project will in part replace the aging pump and motor assembly with an energy efficient pump and motor assembly. There will also be improvements to the pump controls and pipe works to improve the efficiency of the pump station and improve access for the Operators. Additional work will be redeveloping the well and completing a draw-down test to ensure the well is operating at optimum capacity.

Eastbourne Water System Water Supply Study

The Eastbourne water system experiences water shortages every year. The system is comprised of several low production wells which have a long recharge time. Currently the water supply is managed by flow restrictors on service lines and cycling wells on and off to balance supply and demand. In 2020, a hydrogeology and engineering study was done on the Eastbourne water system. This study will help determine future water supply targets and deficits, analyze existing infrastructure and explore potential new sources to determine next steps in expanding water supply options.

Let’s Talk Water

Leaks

If water is leaking outside of private property or is coming out of the water service connection, contact the Emergency Water Answering Service at 1-866-291-4645. If water is leaking inside the property line it is the homeowner’s responsibility to repair the leak. The SCRD does not work on private property.

Water Discolouration

Water pressure and flow changes occurring from maintenance of the water distribution system including hydrant-use and watermain construction as well as watermain breaks can cause temporary water discolouration. If discolouration occurs, flushing cold water taps helps return water clarity. Normal conditions are typically restored within 24 hours. Scheduled flushing and maintenance is publicized in advance in order to provide early notification. Water quality concerns can be reported by calling the SCRD at 604-885-6895.

Want More Information?

Visit the SCRD Public Website and browse our Water Services pages	https://www.scrd.ca/Water
Visit the SCRD Let's Talk Water page	https://letstalk.scrd.ca/water
Check out information on the Water Supply Advisory Committee	https://www.scrd.ca/wasac
Call the SCRD Water Services Division	604-885-6895