

Sunshine Coast
Regional District

2018

**Utility Services
Annual Report**



About Us

The Sunshine Coast Regional District (SCRD) provides water supply services to approximately 23,000 residents from Langdale to Earl's Cove, which are located within the traditional territories of the *shíshálh* and Skwxwú7mesh First Nations. This includes operations and maintenance of the Langdale, Soames Point, Grantham's Landing, Eastbourne (Keats Island), Chapman / Gray Creek including the Chapman Creek Water Treatment Plant, the South Pender Harbour Water Treatment Plant, Cove Cay, Egmont and the North Pender Harbour Water Systems. These water supplies are also used for fire protection, industrial use and irrigation.

Chapman Water System is the largest water system and supplies over 90% of the Sunshine Coast's residents and businesses within the regional water services area. The Chapman Creek watershed is approximately 7150 hectares in size. The surface area of Chapman Lake is approximately 34 hectares.

North Pender Harbour Water System is an independent system, operated and maintained by the SCRCD since 2007. The main source for this system is Garden Bay Lake, with Hotel Lake as a secondary supply for emergency use only.

South Pender Harbour Water System is an independent system which has been operated and maintained by the SCRCD since 2008. The source for this system is McNeill Lake.

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 11,475 water connections.

Vancouver Coastal Health Operating Permit

The SCRCD is in compliance with the conditions of the operating permits. These include:

- ✓ Annual review and update of the Emergency Response Plan.
- ✓ Bacteriological sampling frequency is semi-monthly from 55 sites for a total of 1549 samples this year.
- ✓ Provide and make public, within six months of the end of the calendar year, an Annual Report.
- ✓ Well Protection Plan for each system.



QUALITY FIRST

Read on for the SCRCD's 2018 Utility Services Annual Report covering the period between January 1, 2018 and December 31, 2018.

The SCRCD is highly committed to delivering top quality drinking water. Meeting the challenges of source water supply and protection, community outreach and education, new regulations, and water conservation while continuing to serve the needs of our customers continue to be SCRCD priority.

We hope you find the information provided in this report informative and helpful.

Emergency Response Plans

The SCRD has Emergency Response Plans (ERP) for all of its water systems. Under the *Drinking Water Protection Act*, the SCRD ensures that the ERPs are updated and maintained to comply with the Vancouver Coastal Health Authority (VCH) and to conform to the BC Emergency Response Management System framework.

In 2018 the SCRD updated the ERPs for all of the water systems and submitted them to VCH where they were reviewed and approved.

ERPs are used in the event of an emergency within a water system and the ERP documents are readily available to trained water system operators and health officers.

ERPs provide the necessary actions to be taken during and after specific emergencies.



WHERE DOES OUR WATER COME FROM?

Fifteen percent of Sunshine Coast residents get their water from lakes in the Egmont and Pender Harbour areas and groundwater in the Gibsons area. The other eighty five percent of residents get water from the Chapman Watershed, which includes Chapman Lake and Edwards Lake. Most of the Sunshine Coast is a dry ecosystem. These lakes are the exceptions in the wet forest zones.

Chapman Lake and Edwards Lake are located in the traditional territory of the *shíshálh* Nation. In 1978 the SCRD built a dam at Chapman Lake. Another dam was constructed at Edwards Lake in 1991 to help store water for the dry summer season when Chapman Creek is low and sometimes dry. In 1995, the Tetrahedron Provincial Park was formed and protected these headwaters.

Water from Chapman and Edwards Lakes travels for half a day, over 16 kilometers, down Chapman Creek before reaching the water treatment plant. Once the water is treated, it spreads out to 330 kilometers of water mains and 11 reservoirs.

PROTECTING YOUR WATER

In accordance with the operating permits as issued by Vancouver Coastal Health Authority the SCRD developed a Well Protection Plans (WPP) in 2016. The WPP identifies hazards that may threaten the quality of groundwater supply sources, ranks the potential hazards according to risk and suggests actions to mitigate risks.

Following the recommendations outlined in the WPP the SCRD has made improvements in the maintenance, safety, and operation of SCRD groundwater systems including Langdale, Chaster, Soames Point, Grantham's Landing and Eastbourne (Keats Island) water supply sources.

Updates and Upgrades on Watermains and Water Metering

With funding from the Clean Water and Wastewater Fund grant program, 2.9km of new watermains in North and South Pender Harbour have been installed. North Pender Harbour water system upgrades included watermains along Garden Bay Road and Claydon Road totaling just over 1.3 km of pipe. The South Pender Harbour water distribution system received 1.6 km of upgraded watermain along Francis Peninsula Road.

Also in 2018 SCRD crews installed 575m of watermain along Mason Road upgrading an isolated section of asbestos watermain. Henry Road watermain was replaced from Sunshine Coast Highway to Reed Road and Little Lane was upgraded to a larger diameter pipe, work was completed by SCRD employees.

The rural phase of water meter installations is complete. Water meters are installed on water services in Egmont, Cove Cay, North Pender Harbour, South Pender Harbour, Soames Point, Grantham's Landing, Langdale, Roberts Creek and Zone 3 in Gibsons.

The final phase of water metering involves installing water meters at every SCRD water service in the Sechelt area. This is the largest of the water service areas. Water service locating in Sechelt has already begun and will continue as funding permits.

As of January 2019, since the start of the metering project, 1,511 leaks have been resolved saving over 5,300,000 liters per day of treated drinking water.



WATER QUALITY CONCERNS

SCRD water customers can report water quality concerns by calling 604-885-6806.

Activities such as maintenance of the distribution system, hydrant flushing, construction and water main breaks, can cause discolouration of the water. The discolouration is temporary and indicates sediment has been disturbed in the water main. Water clarity can be restored by flushing cold water taps. Normal conditions are typically achieved within 24 hours.

SCRD water quality results are reported through the SCRD's website. Results can be found here: <http://www.scrd.ca/Quality>.

COVE CAY PUMP STATION UPGRADE

In 2018 an upgrade was completed at the Cove Cay Pump Station. New piping in the building was an asset for plumbing in the replacement control valve. Other upgrades included a new pump priming set up and a Ruby Lake intake line check valve.



PLEDGE TO REDUCE WATER USE

The SCRD is working with restaurants to promote and practice water conservation in 2019. With 3 simple steps each registered restaurant will help the entire coast save water all year and especially over the busy summer months. The steps include reviewing the facilities 2018 water usage and setting a 2019 water use goal, then making improvements in water efficiency use and promoting a culture of conservation. Look for the Pledge to Reduce Water Use displayed at participating restaurants.

PLEDGE TO REDUCE WATER USE IMAGE

SOAMES POINT WELL STATION AND WATERMAIN UPGRADE

The watermain from the Soames Point Well was reconfigured to accommodate dedicated reservoir fill and distribution supply waterlines. A new building provides a location to have a permanent set up for sodium hypochlorite injection and automated controls on the treatment process. 2018 site improvements also included power, piping and monitoring equipment.

WATER TIPS & TRICKS

1 drip every second adds up to almost 20 Liters a day.

Put food colouring in your toilet tank. If it appears in the bowl within an hour your toilet is leaking.

Always use a broom to clean walkways, driveways, decks, and porches rather than a hose.

An hour of sprinkling uses as much water as 25 toilet flushes, 5 loads of laundry, and 5 dishwasher loads combined.

Water vegetable gardens in the morning, near the roots, and by hand; encouraging deep roots.

Chapman Lake Expansion Project

George Heyman, Minister of Environment and Climate Change Strategy, evaluated the Chapman Lake expansion project and after careful consideration, will not move forward with a park boundary amendment in Tetrahedron Provincial Park.

At this time, the SCRD's proposed expansion of the community water supply infrastructure in the park will not proceed.

The goal of the Chapman Lake Infrastructure Improvement Project was to access five additional metres of water in the Chapman Lake.



Emergency Siphon system

In 2018 an emergency siphon system was deployed to ensure the associated water supply could be maintained. The siphon system is designed as an emergency measure and cannot be relied on as a long term measure for an increased drawdown of the lake.

Groundwater Investigation

The groundwater investigation project is underway in phase 2 of 4. This project is aimed at developing additional water sources to supplement the Regional water supply from Chapman Creek watershed.

In phase 1, four sites were selected based on the highest probability of yielding a volume of water significant enough to justify the development costs. The sites are located at Mahan Road, Gray Creek, Soames/Granthams and Dusty Road.

Test wells have been drilled on the identified sites and tested for maximum yield, water quality, sustainable production, and potential impacts on other groundwater users.

During phase 3 the focus is on water licensing applications, mandatory assessments and cost estimates. With application approval from the Crown estimated in 2021, Phase 4, consisting of the detailed design, construction and commissioning of the selected site(s), is proposed to be completed in 2022.

For up to date information on the groundwater investigation project visit: www.scrd.ca/ground-water-investigation

RAW WATER RESERVOIR(S)

The development of a single or multiple Raw Water Reservoirs is under consideration to address the Regional Water System's storage capacity deficit. The siting, design, permitting and construction of these reservoirs will require a complex, multi-phased project.

The Raw Water Reservoir is built upon the Comprehensive Regional Water Plan's elements to meet the community's water needs now and in the future.

Potential Raw Water Reservoir sites include 2 alpine lakes near the Tetrahedron Provincial Park and 2 central coast sites with enough elevation to gravity feed into the water system.

Each site was assessed in a feasibility study and scored on criteria related to technical practicality, economics, environmental impacts, and regulatory requirements.

WATER QUALITY MONITORING

SAMPLING

Throughout each month water samples are taken from various points throughout the water systems. The samples are tested for total coliforms and E.coli coliforms. The test results are sent to the SCRD Utility Services Division and Vancouver Coastal Health Office. The presence of Total Coliforms indicates bacterial contamination; E.coli coliforms indicate bacterial contamination from human or animal waste.

2018 RESULTS

A total of 1549 total coliform and E.coli samples were collected throughout the Sunshine Coast water systems. The quantity and frequency of sampling exceeded the requirements for permit conditions and met the Drinking Water Protection Regulations. The Eastbourne water system experienced coliform positive samples in a low use water main at a time when water was unavailable to flush the system. A boil water advisory was issued. Chlorine disinfection was increased and samples were taken regularly throughout the event. Sample site conditions and low water condition flushing are expected to be the culprits causing the coliform positives in the Grantham's Landing and North Pender Harbour water systems. These samples along with the other positive tests were resampled and no coliforms were found.

In 2018, Vancouver Coastal Health (VCH) conducted annual inspections and the SCRD passed with no violations to the operating permits.

The SCRD also collected quarterly water samples for potability which includes parameters on chemicals, minerals and disinfection byproducts. More detailed results can be found on the SCRD website at www.scrd.ca/quality.



2018 Water Quality Sampling Results

Sample Location	Samples Collected	Coliform Positives	E.coli Positives
Cove Cay	80	1	0
Eastbourne	136	4	0
Egmont	103	0	0
Chapman	622	1	0
Grantham's Landing	55	1	0
North Pender Harbour	209	2	0
Soames	80	0	0
South Pender Harbour	184	0	0
Langdale	80	1	0
Total	1549	10	0



Employee Training

Each year water utility staff participate in education and training to keep up to speed in the water industry and comply with the Environmental Operators Certification Program requirements. Regular training occurs on topics listed below:

- Water treatment and distribution courses
- Confined space entry and rescue courses
- Fall protection courses
- Level I First aid courses

