



## Comprehensive Regional Water Plan Implementation

The Chapman water system supplies water to 85% of Sunshine Coast Regional District (SCRD) water users. It relies primarily on Chapman Lake and Edwards Lake. During the summer, it is supplemented by Chaster Well and Gray Creek.

Adopted in 2013, the Comprehensive Regional Water Plan (CRWP) identified a water supply deficit in the Chapman water system, in particular during dry summers. The plan outlines a strategy to address this deficit by balancing demand management and supply expansion.

### Drought and Climate Change

Climate change is decreasing summer precipitation and making the start of fall rains less predictable. Stage 4 (Severe) water restrictions were implemented in 2015 and 2017.

In 2017 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.

### Environmental Flow Needs

In 2016, under the *Water Sustainability Act*, the Province implemented an Environmental Flow Needs (EFN) requirement of 200 liters per second to meet the needs of fish in Chapman Creek. This change represents a significant impact on the Chapman Lake water supply, furthering the deficit of water storage that was identified in the CRWP.

### Comprehensive Regional Water Plan Projects

Four projects are outlined in the CRWP to address the water supply deficit. The first three projects focus on expanding supply in the Chapman water system while the fourth is intended to reduce water demand. The CRWP reviewed several options and concluded that the following were the most feasible, cost effective, and had the least environmental impacts.

#### Project 1 - Chapman Lake Supply Expansion

The goal of the Chapman Lake Supply Expansion project is to access five additional meters of water in Chapman Lake. The current channel and weir allow access to three meters of the 30 meters deep lake. The project will create roughly 1 million additional cubic meters of water accessibility, roughly doubling the current Chapman Lake supply. This will provide additional water to support municipal supply, environmental flows for fish and ecosystems, and fire protection during periods of drought.

Estimated timeline:

- Ministry of Environment and Climate Change Strategy (BC Parks) Legislative amendment to Tetrahedron Park: Spring 2019
- Park Use Permit (BC Parks) and Water License (Ministry of Forests, Lands, Natural Resource Operations and Rural Development): Winter 2019
- Outlet pipe construction: Summer 2019
- Commissioning: Fall 2019

## **Project 2 - Groundwater Investigation**

The goal of the groundwater investigation project is to develop additional groundwater wells to significantly supplement the supply from Chapman Creek. Four sites were identified with the highest probability of yielding a volume of water significant enough to justify development costs. The sites are located at Mahan Road, Bridge at Gray Creek, Soames Point, and Dusty Road.

In 2018 test wells will be drilled on the identified sites and subsequently tested for maximum yield, water quality and sustainable yield. Depending on these results, the SCRD could develop one or more production wells on one or more of these sites subject to meeting the licensing requirements under the *Water Sustainability Act*.

Estimated timeline:

- Drill four test wells and conduct tests: 2018
- Develop wells identified at Phase 2: Summer 2019-2020
- Water Licenses: 2020-2022
- Commissioning: 2021-2022

## **Project 3 - Raw Water Reservoir**

The goal of the raw water reservoir is to create a long term option to meet the region's water demand needs. Obtaining property rights to the land was identified as an action for 2021 but the feasibility will be confirmed in 2018. According to the CRWP the water reservoir project will target a storage reservoir 10 to 15 meters deep with a surface area of approximately 40,000-75,000m<sup>2</sup>. Since the approval of the CRWP in 2013, suggestions have been made to extend the size of a reservoir to accommodate for factors such as climate change.

Estimated timeline:

- Feasibility Study: 2018-2019
- Land Acquisition or Land Tenure completed: 2022-2023
- Water Licence: 2023-2024
- Engineering design and survey: 2024-2025
- Construction: 2025-2026
- Commissioning: 2026-2027

## **Project 4 - Universal Water Metering**

Universal water metering will help the SCRD to detect leaks in the water supply infrastructure and to increase awareness about water conservation. Water meters are currently installed on all properties serviced by the SCRD except those in the District of Sechelt and shíshálh Nation, which are scheduled to be installed by early 2019. It is expected that the installation of meters will ultimately result in a 20% to 30% reduction in water demand.

The SCRD is developing a rebate program to assist SCRD water users to install rainwater harvesting cisterns to further reduce the water demand.

## **Summary**

In 2013, the SCRD identified a water supply deficit in the Chapman water supply system which provides drinking water to approximately 85% of SCRD water users. Addressing the water supply deficit is currently one of the top priorities for the SCRD. The SCRD is simultaneously moving forward with all four projects identified in the CWRP: Chapman Lake Expansion Project, Groundwater Investigation, Raw Water Reservoir and Universal Water Metering.

Resources:

<http://www.scrd.ca/chapman-lake-supply-expansion>

<http://www.scrd.ca/Comprehensive-Regional-Water-Plan>

<http://www.scrd.ca/ground-water-investigation>

<http://www.scrd.ca/Water-Metering>