

# Update on Groundwater



THIS REPORT IS PREPARED FOR YOU by the water management teams within the Ministry of Environment and Climate Change Strategy (ENV) and the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNR).

## IN THE JUNE 2021 ISSUE:

- Provincial Government Groundwater Program Regional Update
- Provincial Groundwater Observation Well Network Update (PGOWN)
- Well Decommissioning Reporting Requirements and GWELLS Record Submissions
- Groundwater Wells and Aquifers (GWELLS) – Update
- Groundwater Staff Contact List

## REPORT NON-COMPLIANCE

- Have you noticed a well that does not meet the construction standards of the Groundwater Protection Regulation?
- Know of someone who is drilling a well or installing a well pump without being registered?

**RAPP**  
Report All  
Poachers and  
Polluters

24 Hr Hotline:  
**1-877-952-RAPP**  
Cellular Dial #7277  
(On Telus Network)

## CONTACT US

The contact information for various groundwater staff across the province is available in every newsletter. We look forward to industry reaching out to us directly with questions.

## Provincial Groundwater Program Regional Update – West Coast Region

FLNR West Coast Region (the Region) is pleased to provide an update of groundwater-related activities that were carried out in 2020.

### *Groundwater Protection Regulation Compliance*

Over the past year, changes to work activities related to Covid-19 response limited the ability to undertake proactive compliance projects. Our team continues to respond to inquiries regarding compliance with the *Water Sustainability Act* and Groundwater Protection Regulation and to address complaints received completing well inspections, with support from Natural Resource Officers. We also often partner with Island Health Environmental Health Officers to address questions and compliance of local water purveyors and small water systems. Wellhead

protection and maintenance issues, control of artesian flowing wells, and well operation causing saltwater intrusion continue to be common concerns.

### *Authorizations*

Groundwater Authorizations in the Region from March 1, 2016 to May 4, 2021

- Existing Use GW Licence Applications - 920
- Existing Use GW Licence Decisions - 118
- New Use GW Licence Applications - 121
- New Use DW Licence Decisions - 51

All existing non-domestic groundwater users must apply for their groundwater license before March 1, 2022 to retain your historic priority date and volume and receive a waiver of the application fee. Failure to apply by the deadline is likely to result in a loss of license priority, the requirement to apply as a new water user, and in areas of known water scarcity water rights may not be granted.

### *Groundwater Science*

The Region has completed several groundwater science projects in the past year including:

- Mapping of saltwater intrusion vulnerability and risk for coastal B.C., including Gulf Islands, Vancouver Island, Mainland Coast and Haida Gwaii
- Assessment of hydraulic connectivity between surface and groundwater in Black Creek, Oyster River watersheds
- Water use and management in the Koksilah River watershed
- Technical studies related to Koksilah water sustainability plan scoping project (see below).



Photo credit: G. Henderson. Mill Bay 2018

Reports from these projects can be found on the BC Water Sciences Series website (<https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-science-data/water-science-series>), and revised aquifer mapping can be viewed on iMap BC or downloaded from the DataBC catalogue: <https://catalogue.data.gov.bc.ca/dataset>. It may take some time for all reports and datasets to be published.

### **Drought Management**

Streams across the West Coast region naturally experience low-flow conditions in summer. Surface and groundwater use can exacerbate this, and flows can fall low enough which along with rising water temperatures can harm fish and aquatic ecosystems. West Coast water authorizations team currently conducts low flow monitoring of fisheries sensitive ecosystems in several east coast Vancouver Island streams (e.g. Koksilah, Chemainus) and reports on current conditions on the West Coast Stream Watch website, viewable on the BC Drought Information Portal along with a summary of provincial drought levels updated throughout the summer period (<https://governmentofbc.maps.arcgis.com/apps/MapSeries/index.html?appid=838d533d8062411c820eef50b08f7ebc>).

### **Provincial Groundwater Observation Well Network**

West Coast Region currently has 83 active wells in the Observation Well Network. Groundwater level data are viewable on the Groundwater Level Interactive web-map (<https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/groundwater-wells-aquifers/groundwater-observation-well-network/groundwater-level-data-interactive-map>) and the Real Time Water Data Portal (<https://aqrt.nrs.gov.bc.ca/>).

The newest well in the network Comox (Williams Beach) was drilled in 2019 in partnership with K’omoks First Nation and has been monitored over the last year.

One well was removed from the network in 2021: OW065 in Sidney (Victorian International Airport), which was returned to the landowner on request and decommissioned.

Throughout the dry season, groundwater level percentiles (current state compared to historical average) are published on the BC Drought Information Portal (<https://www.arcgis.com/apps/MapSeries/index.html?appid=838d533d8062411c820eef50b08f7ebc>).

### **Koksilah Water Sustainability Plan Scoping**

On February 7, 2020 Cowichan Tribes’ Chief Seymour and FLNR’s Minister Donaldson signed an Interim Letter of

#### **HAVE SUGGESTIONS FOR IMPROVEMENTS?**

Do you have ideas on how the application can be improved? Email [gwells@gov.bc.ca](mailto:gwells@gov.bc.ca)

Agreement outlining how Cowichan Tribes and FLNR will work together in partnership to ensure water sustainability in the Koksilah Watershed. Section Heads from Water Protection (Jessica Doyle) and Water Authorizations (Cali Melnechenko) are on the Steering Committee which is also comprised of Cowichan Tribes representatives. Over the past year work continued on the Water Sustainability Plan Scoping project. Several preliminary studies have been completed for Cowichan Tribes and the Steering Committee to understand the concerns in the watershed, and to evaluate water supply options. Recently completed work includes:

- Koksilah Hydrological Analysis
- External Engagement Report

In addition, FLNR and Ministry of Agriculture also commissioned a study to support long term water sustainability planning in the Koksilah:

- Koksilah Water Supply Options and Feasibility (including Aquifer Storage and Recovery Feasibility Assessment)

Much of this technical work and further information about the Koksilah water sustainability project is available on the Koksilah Scoping website:

<https://www.koksilahwater.ca/resources>.

## **Provincial Groundwater Observation Well Network (PGOWN) Update**

This month, as celebrations continue for the 60<sup>th</sup> anniversary of the Provincial Groundwater Observation Well Network we look back to the early days of the network with this submission from Al Kohut.

Mr. Kohut started work with the Groundwater Section in 1975 and was supervising Bill Hodge and John Petrie at the time.



Their enthusiasm for anything to do with groundwater was contagious.

Al Kohut was involved in the direction of the network between 1975 and 1989 as a Groundwater Engineer and then as Manager of the Groundwater Section until 2001.

*“By 1975 the observation well network was well established under the direction of Ed Livingston and then John Foweraker. The network [was] comprised active wells throughout the province that were obtained in conjunction with various water supply investigations and groundwater research investigations between the province and the Federal government. Water level data was collected by local citizen observers who sent the monthly water level readings and Steven’s recorder charts to Victoria for processing.*

*Bill Hodge, a young technician, was hired in Victoria to look after all aspects of the network including site maintenance, observer liaison, data compilation and processing. At that time the Stevens month-end charts were checked, xeroxed, and pasted on large white boards to produce a yearly graph or a several year graph that could be photographed for reproduction.*

*In the late 70’s, Bill Hodge was advised, much to his chagrin, that the charts were going to be computerized and that his job would now involve writing groundwater assessment reports for the province, starting with the Gulf Islands. Bill spent the next 25 years for the province writing many important groundwater reports and eventually became a Professional Geoscientist and ran his own groundwater consulting firm for many years.*

*Another person hired in 1974, was a young New Zealander geologist named John Petrie. John was very enthusiastic about the network and recommended that the Groundwater Section needed to have a drilling budget to enable establishment of two to three new observation wells each year. The idea was endorsed by Peter Brady, the Director of the Water Investigations Branch at the time and a substantial budget was dedicated specifically for observation well drilling. This led to more strategic program for establishing new observation wells”.*

In the next newsletter, we will continue to celebrate by sharing more historical information about the Provincial Groundwater Observation Well Network.

### Do you have questions about the PGOWN?

Contact [groundwater@gov.bc.ca](mailto:groundwater@gov.bc.ca)

Learn more about the Provincial Groundwater Observation Well Network by using the interactive map available at:

<https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/groundwater-wells-aquifers/groundwater-observation-well-network/groundwater-level-data-interactive-map>.

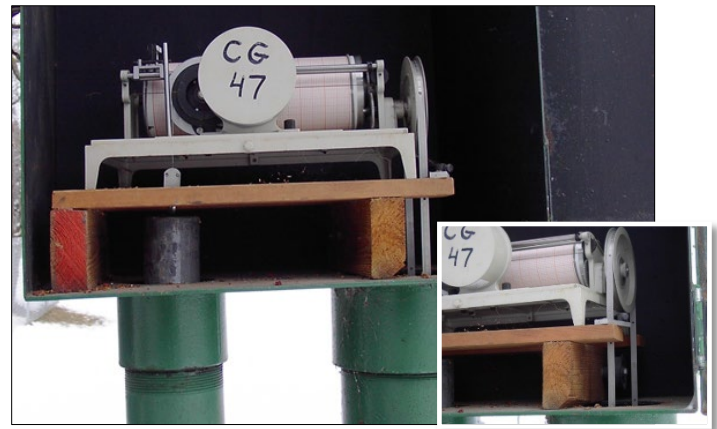


Photo credit: R. Grimm. Steven’s Chart Recorder in Observation Well #261, Williams Lake (Dog Creek).

## Well Decommissioning Reporting Submission Requirements

Provincial regulations require unused wells to be decommissioned, and if the well is greater than 15 ft deep, it must be completed by a qualified Well Driller.

Water supply wells, flowing artesian wells, permanent dewatering wells, recharge/injection wells (drilled/bored), and closed loop geexchange wells must be submitted to the comptroller and well owner within 90 days of decommissioning by the person responsible for decommissioning.

Submission to the comptroller can be made digitally through the GWELLS application, or by mailing paper copies.

Schedule 4 of the Groundwater Protection Regulation (GWPR) details the information required when submitting well decommissioning reports.

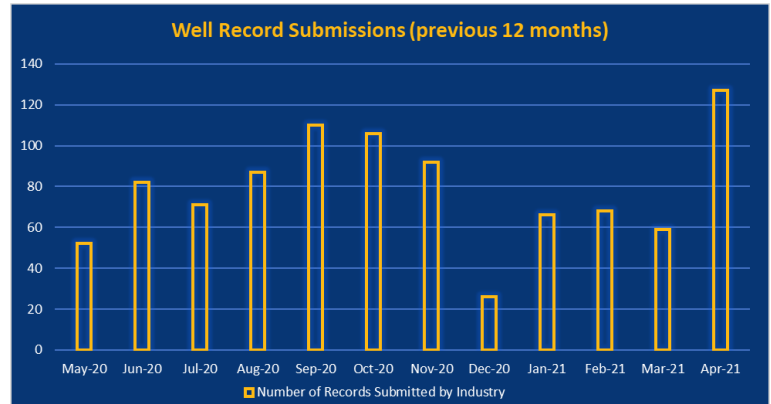
### The reporting requirements include:

- Well owner name and mailing address
- Location of the property the well is on described by its site address, legal description or parcel, identifier number (PID)
- GPS coordinates of the well location (UTMs or lat/long)
- Well identification plate number (if available)
- WTN (if available)
- the class, and category or subclass of the well
- hole diameter
- well depth
- drilling method (if known)
- the diameter and material of the casing or liner, if any
- the reason for decommissioning
- the method of decommissioning
- the details of decommissioning, including the depths, types and amounts of sealant and backfill materials, and any remaining casing
- the name, address, telephone number and, registration number of the person responsible
- for decommissioning the well
- the starting and completion dates of the work, and
- if any, a copy of alternative specifications relating to the well, including the engineer's acceptance and the terms and conditions.

## Groundwater Wells and Aquifers (GWELLS) Application

There are currently over 40 industry members with access to the GWELLS application, including well drillers, well pump installers and consultants: submitting on average 80 electronic well records per month.

Have you encountered a bug? Do you have ideas on how we can improve GWELLS? Send your suggestions to [gwells@gov.bc.ca](mailto:gwells@gov.bc.ca)



## Contact Information for Groundwater Staff with Statutory Designation

Office	Name	Statutory Designation	Phone	Email	Ministry
West Coast (Nanaimo)	Graeme Henderson	Officer	250-751-7119	<a href="mailto:Graeme.Henderson@gov.bc.ca">Graeme.Henderson@gov.bc.ca</a>	FLNR
	Sylvia Barroso, P. Geo.	Assistant Water Manager	250-751-3265	<a href="mailto:Sylvia.Barroso@gov.bc.ca">Sylvia.Barroso@gov.bc.ca</a>	
	David van Everdingen, P. Geo.	- (Regional Hydrogeologist)	250 739-8503	<a href="mailto:David.vanEverdingen@gov.bc.ca">David.vanEverdingen@gov.bc.ca</a>	
	Jessica Doyle, P. Geo.	Assistant Water Manager	778-693-3035	<a href="mailto:Jessica.Doyle@gov.bc.ca">Jessica.Doyle@gov.bc.ca</a>	
South Coast (Surrey)	Emma Webster, P. Geo.	Officer	778-572-2160	<a href="mailto:Emma.Webster@gov.bc.ca">Emma.Webster@gov.bc.ca</a>	
	Michele Lepitre, P. Geo.	Assistant Water Manager	778-572-2168	<a href="mailto:Michele.Lepitre@gov.bc.ca">Michele.Lepitre@gov.bc.ca</a>	
	Shirley Wang, P. Geo.	Assistant Water Manager	778-572-2167	<a href="mailto:Shirley.Wang@gov.bc.ca">Shirley.Wang@gov.bc.ca</a>	
South Area (Penticton)	Skye Thomson, P. Geo.	Assistant Water Manager	778-622-6907	<a href="mailto:Skye.Thomson@gov.bc.ca">Skye.Thomson@gov.bc.ca</a>	
	John Pogson, P. Geo.	Assistant Water Manager	778-622-6876	<a href="mailto:John.Pogson@gov.bc.ca">John.Pogson@gov.bc.ca</a>	
	Nicole Pyett, P. Geo.	Assistant Water Manager	778-622-6974	<a href="mailto:Nicole.Pyett@gov.bc.ca">Nicole.Pyett@gov.bc.ca</a>	
	Jeff Corrie	- (Groundwater Technician)	778-622-6973	<a href="mailto:Jeff.Corrie@gov.bc.ca">Jeff.Corrie@gov.bc.ca</a>	
South Area (Vernon)	David Thomson, P. Geo.	Assistant Water Manager	778-943-6924	<a href="mailto:David.Thomson@gov.bc.ca">David.Thomson@gov.bc.ca</a>	
South Area (Kamloops)	Laurie Lyons	Officer	250-312-7262	<a href="mailto:Laurie.Lyons@gov.bc.ca">Laurie.Lyons@gov.bc.ca</a>	
North Area (Smithers)	Johanna Wick, P. Geo.	Assistant Water Manager	778-693-2671	<a href="mailto:Johanna.Wick@gov.bc.ca">Johanna.Wick@gov.bc.ca</a>	
North Area (Prince George)	Ed Bryson, P. Geo.	Officer	778-693-3177	<a href="mailto:Stuart.Bryson@gov.bc.ca">Stuart.Bryson@gov.bc.ca</a>	
Victoria	Amy Sloma, P. Eng.	Deputy Comptroller	778-698-4866	<a href="mailto:Amy.Sloma@gov.bc.ca">Amy.Sloma@gov.bc.ca</a>	ENV
	Leia Fougere, P. Eng.	Officer (Sr. GW Data Specialist)	236-478-3730	<a href="mailto:Leia.Fougere@gov.bc.ca">Leia.Fougere@gov.bc.ca</a>	
	Uelun Tuvshinjargal	Officer (GW Data Specialist)	236-478-0448	<a href="mailto:Uelun.Tuvshinjargal@gov.bc.ca">Uelun.Tuvshinjargal@gov.bc.ca</a>	

For general enquiries, contact [Groundwater@gov.bc.ca](mailto:Groundwater@gov.bc.ca)

