

Update on Groundwater



THIS REPORT IS PREPARED FOR YOU by the water management teams within the Ministry of Land, Water and Resource Stewardship (LWRS), the Ministry of Environment and Climate Change Strategy (ENV), and the Ministry of Forests (FOR).

IN THE JUNE 2022 ISSUE:

- Announcement of the Ministry of Land, Water and Resource Stewardship
- Groundwater Wells and Aquifers (GWELLS)
- Provincial Government Groundwater Program Regional Update – West Coast
- Provincial Groundwater Observation Well Network Update (PGOWN)
- 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.

Announcement of the Ministry of Land, Water and Resource Stewardship

This spring the British Columbia (B.C.) Provincial Government announced the launch of the new **Ministry of Land, Water and Resource Stewardship** (LWRS) under the leadership of **Minister Josie Osborne**. This restructuring of the natural resource sector follows more than a year of planning and engagement. It empowers the new LWRS ministry to be accountable for integrated land and natural resource management and oversee improved stewardship of B.C.'s land, water and resources. LWRS will provide provincial leadership on water policy and strategies, including the co-ordination of protecting drinking water sources, Coastal Marine Strategy, Watershed Security Strategy and Fund, and Wild Salmon Strategy.

A cornerstone of the LWRS mandate is to ensure that water and watersheds are respected and valued. Clean water and healthy watersheds are crucial to the well being of our ecosystems and communities. In April, Premier Horgan demonstrated this commitment to safeguarding B.C.'s water with a **Budget 2022 investment** of an additional \$30 million toward watershed security projects.

Many government staff who work on water are now with the new ministry to provide

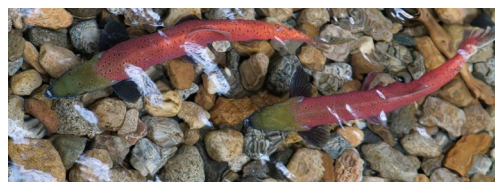


Photo source: BC Wild Salmon Advisory 2018.
Options for a Made in BC Wild Salmon Strategy

policy and science leadership of our watersheds and aquifers. Members of GeoExchange BC will continue to connect and engage with groundwater staff and our colleagues within LWRS and other ministries who retain specific roles around managing groundwater. The Ministry of Forests (MOF), which was previously the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD), will continue to administer authorizations and statutory decisions related to groundwater use. The reorganization will support stronger collaborations between the Province, other levels of governments (including First Nations), stakeholders, partners and the public.

The restructuring is a necessary and natural evolution of land, water and resource management in B.C. that will build a new vision for land, water, and resource stewardship with First Nations. The restructuring will support advancing meaningful reconciliation with Indigenous Peoples, growing the economy and ensuring a sustainable environment. At this turning point, we want to thank all the water professionals working in B.C., who simultaneously work to protect and steward our water and watersheds. We are looking forward to continuing and strengthening relationships with all our stakeholders and partners on water.

Groundwater Wells and Aquifers (GWELLS) Application

GWELLS is an application that supports the efficient collection, storage and disclosure of groundwater well and aquifer data and information, including a register of authorized well drillers and well pump installers.

GWELLS Continued

With a vast user base, it is of utmost importance that well records are entered into GWELLS correctly and in a timely manner. Good quality data enables robust water resource management decisions, efficient adjudication of water authorizations, increased regulatory compliance and, ultimately, improves our understanding of groundwater resources in the province.

- On average, over 2,000 users access GWELLS each month to find groundwater and well data.

The **Groundwater Protection Regulation** (GWPR) requires well construction, alteration and decommission reports to be submitted by a qualified Well Driller or Well Pump Installer within 90 days after completing the work. **Schedule 6** of the GWPR indicates which records are submitted for each subclass of well and **Schedule 3** of the GWPR prescribes the minimum reporting requirements for a well construction record.

- On average, GWELLS receives approximately 200 new well records per month, by both industry and staff.

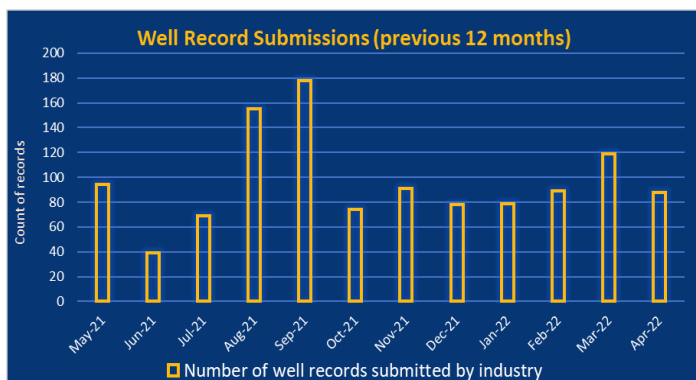
When submitting a well report electronically to GWELLS, **please attach and upload any original well logs, field notes, sketches and/or additional supplementary documents.** Any additional information regarding the well can make a significant difference in the quality of the data in GWELLS. Drillers' original hand-written reports act as an essential supplement to the well record. Many users including drillers, pump installers, consultants, academia, NGOs and government staff use the original documents.

- On average over 3,500 original well records are accessed per month through GWELLS.

If you have well reports that need to be added to GWELLS, please mail them to:

Groundwater Data Specialist
Water Protection & Sustainability Branch
Ministry of Land, Water & Resource Stewardship
PO Box 9362 Stn Prov Govt
Victoria, BC, V8W 9M2

If you notice any data discrepancies, please email: groundwater@gov.bc.ca. Do you have ideas on how the application can be improved? Email gwells@gov.bc.ca.



Provincial Groundwater Program Regional Update – West Coast Region

The Ministry of Forests West Coast Region is pleased to provide an update on groundwater-related activities carried out in 2021.

Groundwater Science

New and ongoing groundwater science projects:

1. Sea Water Intrusion Vulnerability Mapping

Aquifer Vulnerability to Sea Water Intrusion layers for coastal B.C. are now available as spatial layers in iMap and B.C. data catalogue. This new coverage includes the entire BC coast and was modelled as part of the **2021 GIS Modelling of Sea Water Intrusion Risk Project** completed by Tim Sivak and Mike Wei.

2. Mill Bay Operational Water Budget

Mill Bay, located between Victoria and Duncan on southern Vancouver Island, is a community of high groundwater demand for domestic and non-domestic purposes. Work continues on a water balance study started in 2021, focused on understanding water availability concerns and to assist with groundwater licensing and allocation decisions in this area.

Reports from groundwater science projects can be found on the **BC Water Sciences Series** website or Ecocat. Maps and published geospatial datasets can be found on **iMapBC** or downloaded from the **DataBC Catalogue**.

Groundwater Protection Regulation Compliance

Water protection staff involved in groundwater and surface water programs (works in a stream, dike and dam safety) work closely with the Natural Resource Officers to address compliance concerns received from direct inquiries, and complaints to the **Report Natural Resource Violations** system. The most common groundwater concerns continue to be related to wellhead protection and maintenance, control of artesian flowing wells and well operation causing saltwater intrusion.



West Coast Authorizations

March 1, 2022 marked the end of the transition period for non-domestic groundwater users who began use of groundwater before February 29, 2016 to apply for an Existing Use Groundwater license. As the deadline approached, outreach staff in regional offices and headquarters worked tirelessly to communicate with potentially affected water users, answer questions and assist applicants. Now that this important deadline has passed, water authorizations teams are developing strategies to efficiently review and process the significant number of applications received. For more on groundwater licensing requirements, see [Front Counter BC](#).

West Coast Groundwater Applications and Decisions from March 1, 2016 to May 4, 2022:

- Existing Use Groundwater Licence: Applications = 1,800, Reviews in Progress = 190, and Decisions = 100
- New Use Groundwater Licence: Applications = 165, and Decisions = 65
- New and Existing Use Groundwater Amendments, Abandonments, and Cancellations: Decisions = 10

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 to harm fish and aquatic ecosystems. West Coast water authorizations team conducts low flow monitoring of several streams with sensitive ecosystems on the east coast of Vancouver Island (e.g. Koksilah, Chemainus). Reported conditions are updated throughout the summer period and are viewable on the [BC Drought Information Portal](#), along with a summary of provincial drought levels.

West Coast 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 and the [Real Time Water Data Portal](#).

Work has continued to upgrade more PGOWN wells to satellite telemetry. In remote areas, adding telemetry enables more rapid reporting of aquifer conditions during periods of drought. Throughout the dry season, groundwater level percentiles (current state compared to historical average) are published on the [BC Drought Information Portal](#).

Koksilah Water Sustainability Plan Scoping

Since 2020, Cowichan Tribes and the Province (formerly FLNRORD, now MOF and LWRS) have worked together on scoping a water sustainability plan in the Koksilah Watershed. In summer 2021, an Environmental Flow Needs Assessment and Meso-Habitat study were completed, while Koksilah Connections Program brought community monitors together with students and researchers at the University of Victoria. In July 2021, the Steering Committee [Summary and](#)

[Recommendations Report](#) laid the foundations for the next phase of plan development. In January 2022, a Ministerial Order was issued, designating the Xwulqw'selu – Koksilah River watershed for the purpose of developing a Water Sustainability Plan (WSP)—a first for B.C.!

The latest news on the Koksilah water sustainability project is available on the [Koksilah Water](#) website.

Provincial Groundwater Observation Well Network (PGOWN) Update

Another year, another chapter in the Provincial Groundwater Observation Well Network (PGOWN). In the past fiscal year (April 2021 – March 2022), the network added two new observation wells. These included a newly drilled well in the Okanagan ([OW506](#) south of Vaseux Lake) and in the Fraser Valley ([OW503](#) in Chilliwack). Both wells were added to provide monitoring of unconfined sand and gravel aquifers with high demand and to better understand the interaction between the aquifers and the overlying water bodies, which are potentially in hydraulic connection. One additional new observation well was planned for Langley, but due to supply chain issues impacting the availability of PVC well casing, this well could not be drilled on time. It will hopefully be completed later this year.

As we start our new fiscal year, there are a number of proposed new observation wells that will help the Province continue to expand this vital network and provide reliable public groundwater level data. In addition, there are plans to upgrade several more existing PGOWN stations to telemetry to allow for 'live' groundwater level data, which is critical for drought and flood monitoring, and can also improve data quality due to a reduction in potential data gaps. Currently, around 60% of PGOWN stations are equipped with telemetry (as opposed to manual sites which require field technicians to visit them and download the data). Details on the locations of the proposed new PGOWN sites, as well as the number of existing stations that will be upgraded to telemetry, will be provided once funding is confirmed.



Completed wellhead at OW503 in Chilliwack during March 2022 drilling. Photo credit Ministry of Forests.



Drilling at OW506 in the Okanagan in November 2021.
Photo credit Ministry of Forests.

Do you have questions about the PGOWN?

Contact 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>.

Contact Information for Groundwater Staff with Statutory Designation

Office	Name	Statutory Designation	Phone	Email	Ministry
West Coast (Nanaimo)	Jessica Doyle, P. Geo.	Assistant Water Manager	778-693-3035	Jessica.Doyle@gov.bc.ca	MOF
	Sylvia Barroso, P. Geo.	Assistant Water Manager	250-751-3265	Sylvia.Barroso@gov.bc.ca	
	David van Everdingen, P. Geo.	(Regional Hydrogeologist)	250 739-8503	David.vanEverdingen@gov.bc.ca	
	Graeme Henderson	Officer	250-751-7119	Graeme.Henderson@gov.bc.ca	
South Coast (Surrey)	Michele Lepitre, P. Geo.	Assistant Water Manager	778-572-2168	Michele.Lepitre@gov.bc.ca	
	Shirley Wang, P. Geo.	Assistant Water Manager	778-572-2167	Shirley.Wang@gov.bc.ca	
South Area (Penticton)	Skye Thomson, P. Geo.	Assistant Water Manager	778-622-6907	Skye.Thomson@gov.bc.ca	
	Nicole Pyett, P. Geo.	Assistant Water Manager	778-622-6974	Nicole.Pyett@gov.bc.ca	
	John Pogson, P. Geo.	Assistant Water Manager	778-622-6876	John.Pogson@gov.bc.ca	
South Area (Vernon)	David Thomson, P. Geo.	Assistant Water Manager	778-943-6924	David.Thomson@gov.bc.ca	
South Area (Kamloops)	Melissa Wade, P. Geo.	Assistant Water Manager	778-362-4714	Melissa.Wade@gov.bc.ca	
	Laurie Lyons	Officer	250-312-7262	Laurie.Lyons@gov.bc.ca	
North Area (Prince George)	Jun Yin, P. Geo.	Assistant Water Manager	778-693-3015	Jun.Yin@gov.bc.ca	
	Ed Bryson, P. Geo.	Officer	778-693-3177	Stuart.Bryson@gov.bc.ca	
Victoria	Amy Sloma, P. Eng.	Deputy Comptroller	778-698-4866	Amy.Sloma@gov.bc.ca	LWRS
	Carmen Riddel	(Sr. GW Data Specialist)	778-405-3156	Carmen.Riddel@gov.bc.ca	
	Uelun Tuvshinjargal	Officer (GW Data Specialist)	236-478-0448	Uelun.Tuvshinjargal@gov.bc.ca	

For general enquiries, contact Groundwater@gov.bc.ca



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