

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 (FLNRORD).

IN THE December 2021 ISSUE:

- Groundwater Licensing
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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.

Groundwater Licensing: Less than 90 Days Left to Apply

March 1, 2022 is the deadline to apply for a water licence for “**existing groundwater users**” - those who were using groundwater from a well or dugout **on or before February 29, 2016 for non-domestic purposes**, such as irrigation, commercial or industrial use. A water licence is not required for a household well or groundwater used for domestic purposes, such as watering lawns and gardens.

Water is a precious and limited resource. Groundwater licensing was introduced in 2016 to better protect water security and safety in light of growing demands and a changing climate. Licensing groundwater helps protect aquifers and streams as well as the businesses and livelihoods that depend on reliable access to groundwater.

Missing the March 1, 2022 deadline could have serious consequences for your water use. Existing groundwater users who have not applied by March 1, 2022 will be unauthorized and must stop using groundwater immediately and until a licence is issued. Those who miss the deadline will be treated as a “new user” and will lose recognition of their historical date of first use. That historical date is important because when water supply is low and there is not enough to meet all the demands, the licence with the earliest date on a source gets first right to use the available water, followed by the second date, and so on. New applicants might also be refused licences in water-stressed areas. Missing the deadline could also be costly. Fines may apply for using groundwater without a licence, a one-time application fee may be required, and there may be costs for additional studies to support an application.

To help the online application process go smoothly and faster, here are the key pieces of information to have ready: well location, depth and construction, property legal description, evidence of when groundwater was first used, history of use from the well, and other information about water use and works.

Do you prefer talking to someone before applying? One-on-one assistance is available for existing users who need support with their online application. Please contact FrontCounter BC at 1-877-855-3222 or email FrontCounterBC@gov.bc.ca for further assistance.

To apply online for non-domestic well use or to register a domestic well

- [Apply for a licence online](#)
- [How to Apply YouTube video](#): a step-by-step tutorial on how to apply for an existing use groundwater application online
- [Register a domestic well](#): domestic wells do not require licences but you are encouraged to register your well for free so your water use can be protected

More Information:

- [Questions and Answers: Licensing Groundwater in B.C.](#)
- [Questions and Answers: Livestock Watering and Dugouts in B.C.](#)
- [Information Bulletins: BC Gov News](#)

Contact Us:

Contact FrontCounter BC: 1-877-855-3222, FrontCounterBC@gov.bc.ca, <https://portal.nrs.gov.bc.ca/web/client/contact>



Drilling of OW498, from 2020/2021 Groundwater Compendium
 Photo credit: B. Jackson, Mission Point Park, Sechelt.

2020/2021 Groundwater Compendium

The Province of British Columbia recently released the Compendium of Provincial Groundwater Science and Monitoring Projects: 2020-21 (<https://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=59338>).

The primary goal of the provincial groundwater science program is to increase a shared understanding of the groundwater resources in British Columbia. As the Province moves forward with the implementation of groundwater licensing under the Water Sustainability Act (WSA), there is an even greater need to improve the level of scientific knowledge of aquifers, groundwater availability and the interactions between surface water and groundwater in a transparent and accessible manner. This shared knowledge is critical to support the sustainable management of groundwater and to support science-based decision making.

This annual compendium is published under the *Water Science Series* to bring together a compilation of short summaries of the groundwater science and monitoring projects supported by the province during the 2020-21 fiscal year. The intent is to communicate to a wide audience the nature of the projects undertaken and to provide a quick overview of the project results. Links to key personnel and additional reporting are provided within each summary for anyone who might require more detailed information

HAVE SUGGESTIONS FOR IMPROVEMENTS?

Do you have ideas on how the application can be improved? Email gwells@gov.bc.ca

Provincial Groundwater Program Regional Update – North Natural Resource Area

We are pleased to provide an update on groundwater activities that are being carried out by groundwater staff in the North Area of FLNRORD. The North Area is made up of three Regions (Skeena, Omineca, and Northeast) with a small groundwater team working across the three Regions. The North Area groundwater team continues to focus on water authorizations, particularly existing use groundwater users brought into the licensing regime with the introduction of the WSA in 2016. Efforts are also ongoing to increase groundwater monitoring and conduct groundwater research relevant to water management in the north. Lastly, the team supports Natural Resource Officers conducting groundwater related enforcement.

Groundwater Licensing Update

As of October 1st, 2021, the North Area has received 883 existing groundwater use applications and 583 licences have been granted. Efforts to improve local internal processes have been ongoing through 2021 and we have significantly increased the number of existing use groundwater applications processed. Groundwater authorizations have been integrated with surface water in the eLicensing licence database, such that groundwater and surface water are managed as a single resource.

Observation Wells

The North Area drilled two new Provincial Groundwater Observation Well Network (PGOWN) observations wells in 2021. The first (well 501) was drilled into aquifer 1085 in Kitimat, while the second (well 502) was drilled into aquifer 800 in Valemount. Two previously drilled observation wells in



Fort Nelson are active and in the process of being included in the PGOWN network. A third existing well near Dawson Creek is being investigated for possible future inclusion.

Groundwater Science Studies

Field programs continue to be slow due to pandemic restrictions and respect for northern communities. Understanding groundwater surface water interactions is a priority with effort being put to the Upper Bulkley Groundwater Interaction Project and the Valemount Project.

The Upper Bulkley Groundwater Interaction Project aims to increase our understanding the of local groundwater surface water interactions to help inform future water management decisions. This year focused on piezometers and seepage meter data collection in locations identified by thermal imagery. The intent is to do one more year of data collection on the Upper Bulkley. We have also continued to collect water level data from volunteer wells and will continue over the next year.

The Valemount project uses the chemistry and isotopic signatures ($\delta^{18}\text{O}$ & $\delta^2\text{H}$) of groundwater and surface water to identify potential water interactions between Kinbasket Lake, the Upper Fraser River, and the Valemount valley aquifer. The project is continuing to develop and foster partnerships with the Geological Survey of Canada (GSC) for a potential geophysics survey in the valley. Data-analysis and reporting is currently underway.

Aquifer Mapping

Vanderhoof and Houston area mapping has been completed and is available through the Water Science Series on EcoCat. Updated aquifer polygons are also available through iMap BC. Updated mapping is currently being undertaken in the Fort St John area.

<https://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=59008>

Compliance

The North Area continues to pursue compliance with the Water Sustainability Act as we become aware of issues. This includes ensuring drilling is being performed by registered drillers, and that well construction – particularly surface seals – meet the requirements of the Groundwater Protection Regulation

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>

Well Alteration Reports

Provincial regulations require well alterations to be completed by a qualified Well Driller or Well Pump Installer. Well alteration reports for water supply wells, flowing artesian wells, permanent dewatering wells, recharge/injection wells (drilled/bored), and closed loop geoexchange wells must be submitted to the comptroller and the well owner within 90 days of alteration by the person responsible for completing the works.

When submitting a well alteration report, please include some pre-alteration well specifications in the comment section. Adding well alteration details (e.g., short description of the work/alteration, well depth prior and after alteration etc.) can make a significant difference in the quality of the data in GWELLS.

The reporting requirements from Schedule 3 of the Groundwater Protection Regulation (GWPR) include:

- well owner name and mailing address.
- address, legal description, or parcel identifier number.
- GPS coordinates of the well location.
- description of well location within property.
- Well identification plate number (attach a new one, if there is none attached).
- Well tag number (if available).
- the class, and category or subclass of the well.
- hole diameter.
- well depth (if deepened, please include both the original well depth, and altered depth).
- drilling method.
- the diameter and material of the casing or liner, if any (original casing details if known).
- a description of the geological materials encountered during alteration, including the depth at which the materials are encountered and whether they are water-bearing.
- the name, address, telephone number and, registration number of the person responsible for altering 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.

Provincial Groundwater Observation Well Network (PGOWN) Update

This past year we celebrated the 60th Anniversary of the PGOWN by recognizing the continuation of this important network over the past 6 decades, reading accounts from former Water Manager Al Kohut, and learning about the various monitoring equipment used in the network over the years.

PGOWN update cont.

The network operations have evolved from gathering the publicly available groundwater level readings via water observers collecting monthly manual water levels, recording the level on a paper card then mailing the card to provincial staff in Victoria; to collecting hourly water level readings with deployed pressure transducers and transmitting the data via satellite telemetry to government databases.

Looking forward to 2022, the 61st year of network operations, the PGOWN program will continue to evolve and provide groundwater data while increasing groundwater knowledge across the province.



Observation Well #2 in Abbotsford, included in the network since the 1960s. Photo credit: B. Jackson

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	FLNRORD
	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)	Emma Webster, P. Geo.	Officer	778-572-2160	Emma.Webster@gov.bc.ca	
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	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)	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	
North Area (Smithers)	Johanna Wick, P. Geo.	Assistant Water Manager	778-693-2671	Johanna.Wick@gov.bc.ca	
Victoria	Amy Sloma, P. Eng.	Deputy Comptroller	778-698-4866	Amy.Sloma@gov.bc.ca	ENV
	Leia Fougere, P. Eng.	Officer (Sr. GW Data Specialist)	236-478-3730	Leia.Fougere@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

