



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 & Rural Development (FLNRORD)*.

In the March 2020 issue:

- Registering as a Well Driller and Pump Installer
- Groundwater Wells and Aquifers (GWELLS) - Update
- Provincial Government Groundwater Program Regional Update
- 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?



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

Registering as a Well Driller and Pump Installer

Drilling wells and installing well pumps are restricted activities and in most cases must be performed by a registered well driller or a registered well pump installer.

To be a registered well driller or registered well pump installer under the *Water Sustainability Act (WSA)*, you must:

- be at least 19 years old,
- certified by a recognized authority, and
- listed on the provincial registries.

If you are not already listed on the provincial registries, then you need to complete the registration form available at https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-wells/application_for_registration_well_driller_and_well_pump_installer.pdf.

There is no fee to become registered!

If you are not registered with the province, you are not legally permitted to perform most well drilling or pump installation activities in B.C. However, you can work as an unregistered well driller or well pump installer under the direct supervision of a registered well driller, registered well pump installer, or a professional with a competency in hydrogeology or geotechnical engineering. If you are unregistered and work without direct supervision, you are in contravention of the WSA and may be subject to enforcement procedures (WSA Section 48-51).



Groundwater Wells and Aquifers (GWELLS) - Update

Updated maps for groundwater wells and aquifers

As requested from user input, we are pleased to announce the launch of the updated Groundwater Wells and Aquifers spatial layers – now available through DataBC and other applications such as iMapBC and the BC Water Resources Atlas.

Key updates include

- Artesian wells are now automatically displayed within the groundwater wells – all layer with a pink halo.
- Layer name has been update to Groundwater Wells (from Water Wells).
- Overall improved display of key groundwater well and aquifer point and polygon features.

We are seeking your help to address issues!

After our launch, it was identified that there are **potential impacts** to users who download our data directly from DataBC and who have **established automatic scripts**.



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Groundwater Wells and Aquifers (GWELLS) - Update Continued

Neither the GWELLS team nor DataBC actively tracks these users, so we are unable to quantify how many users may be affected. How can you help mitigate this impact?

- Forward this communication to known users of this application or dataset
- Update your scripts to reflect the new spatial layer and dataset
- Find a complete [groundwater wells](#) or [aquifer](#) dataset through GWELLS (excel and csv files are available for download)

Submit your well records online

The B.C. government is moving towards online submission of *well construction, alteration, and decommission reports*.

Benefits of submitting your reports online include:

- faster and more accurate data entry of well records;
- quick access to well records for clients and proof of compliance with regulations;
- promotion of your company by pointing clients to previously submitted well records, showcasing your registration as well drillers and well pump installers with the Province; and,
- improved access to well and groundwater information for everyone, including following artesian well data for better resource management.

Get access in three easy steps!

1. Visit the [GWELLS BCeID registration page](#) to obtain either a Basic BCeID account or Business BCeID account.
Note, if you already have a Basic or Business BCeID account, you do not need to create a new one to access GWELLS.
2. After obtaining your BCeID, go to GWELLS and select the login button (top right of the application screen).
3. Once you have logged in, email gwells@gov.bc.ca to request access for your BCeID user account.

Once access has been granted, you will be able to enter and submit groundwater well reports through GWELLS.

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 – South Coast Region

We are pleased to provide a brief update on some of the activities that have been carried out by the regional groundwater staff in the South Coast Region of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) since our last update in March 2019.

Groundwater Protection Regulation Compliance

Joint inspections of flowing artesian wells in the Lower Fraser Valley will be conducted with Natural Resource officers in conjunction with the study on mapping and understanding mitigating risk of flowing artesian wells (more information below). The inspections are tentatively scheduled for March with reporting to follow. Training will be planned for Natural Resource Officers in the Sunshine Coast area, with additional inspections in spring and summer.

Provincial Groundwater Program Regional Update – South Coast Region Continued

In addition, staff continues to focus effort on public education and outreach of the *Water Sustainability Act* and Groundwater Protection Regulation.

Authorizations

As of early January 2020, approximately 870 groundwater applications have been received in the South Coast Region, with 84% existing use licence applications, and about 150 applications have been processed.

By working together with people that are part of the application process such as applicants and professionals, we have been taking the learnings and feedbacks provided during the past four years to make improvements to the review process, and take steps to better understand and manage our precious water resource.



Groundwater Science

The Groundwater Science Program has provided funding for several projects:

- Aquifer classification and mapping in Chilliwack, Hope and Sunshine Coast have been completed, and reports are now available.
 - (Chilliwack) http://a100.gov.bc.ca/appsdata/acat/documents/r57642/1_1572633119459_2631937048.pdf
 - (Hope & Sunshine Coast) http://a100.gov.bc.ca/appsdata/acat/documents/r56453/307071-01251-00-WW-REP-0003_R0_1554497878576_4497569756.pdf
- A two-year project for the Nicomekl and Serpentine watersheds (jointly funded by the Groundwater Science Program and FLNRORD) to determine environmental flow needs and update the aquifer mapping and to build an integrated surface water groundwater budget model for the two watersheds. Reports will be available soon.
- A multi-year study to develop a more comprehensive understanding of where there is greater risk of flowing artesian wells is being completed. Phase 2 (developing an understanding of why flowing artesian wells occur where they do) is in progress, and the report for phase one (preliminary geostatistical analysis on the occurrence of flowing artesian wells) is available on the Water Science Series: http://a100.gov.bc.ca/appsdata/acat/documents/r52918/52918final_1524001009590_4000071833.pdf

Additional information on Provincial groundwater science and monitoring projects can be found in the 2018-19 compendium (http://a100.gov.bc.ca/appsdata/acat/documents/r57660/1_1573162061432_3161692767.pdf).



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Provincial Groundwater Program Regional Update – South Coast Region Continued

South Coast Provincial Groundwater Observation Network Updates

Ministry of Forests, Lands, Natural Resource Operations and Rural Development and partners continue to work together to enhance the Province Groundwater Observation Well Network for the collection and understanding of long-term groundwater level and quality data. New observation wells will be added to aquifers such as Aquifer 20 (Columbia Valley) and Aquifer 26 (Whonnock, Maple Ridge), and collected data will be publicly available at:

Groundwater Level Data Interactive Map:

<https://governmentofbc.maps.arcgis.com/apps/webappviewer/index.html?id=b53cb0bf3f6848e79d66ffd09b74f00d>

Real-Time Water Data:

<https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-science-data/water-data-tools/real-time-water-data-reporting>

Provincial Groundwater Observation Well Network (PGOWN) Update

The Provincial Groundwater Observation Well Network (PGOWN) is celebrating 58 years!

As part of our celebrations, we will be including network trivia in the BCGWA newsletter updates. The two trivia questions for this newsletter are:

1. *Where is the most westerly active observation well located, and when was it included in the network?*
2. *Where is the deepest active observation well located, and what is the total depth?*

(read to the end of this update for the answers)

The PGOWN is undergoing a network review which was initiated in January 2019 and this phase of the review will be completed by March 31, 2020. The previous network review was completed in 2009 and since then there have been numerous changes in B. C. including the implementation of groundwater licencing, an increased use of provincial observation wells to assist with drought and flood forecasting, amplified demand for groundwater science across the province and impacts from climate change.

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>.

PGOWN Trivia answers:

1. *The most westerly active observation well is #200 in Dease Lake, which is monitoring surficial aquifer 828 and was included in the network in 1973.*
2. *The deepest active provincial observation well is #117, located in Armstrong, with a total depth of 1,892 ft.*

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Contact Information for Groundwater Staff with Statutory Designation

Office	Name	Statutory Designation	Phone	Email	Ministry
West Coast (Nanaimo)	Pat Lapcevic, P. Geo.	Assistant Water Manager	250-751-3149	Pat.Lapcevic@gov.bc.ca	FLNRORD
	Graeme Henderson	Officer	250-751-7119	Graeme.Henderson@gov.bc.ca	
	Sylvia Barroso, P. Geo.	Assistant Water Manager	250-751-3265	Sylvia.Barroso@gov.bc.ca	
	Jessica Doyle, P. Geo.	Assistant Water Manager	778-693-3035	Jessica.Doyle@gov.bc.ca	
	Nicole Fulcher	Groundwater Protection Officer	250-751-3266	Nicole.Fulcher@gov.bc.ca	
South Coast (Surrey)	Emma Webster, P. Geo.	Officer	778-572-2160	Emma.Webster@gov.bc.ca	FLNRORD
	Michele Lepitre, P. Geo.	Assistant Water Manager	778-572-2168	Michée.Lepitre@gov.bc.ca	
	Shirley Wang, P. Geo.	Officer	778-572-2167	Shirley.Wang@gov.bc.ca	
South Area (Penticton)	Skye Thomson, P. Geo.	Assistant Water Manager	250-490-8276	Skye.Thomson@gov.bc.ca	FLNRORD
	Twyla Legault	Officer	250-490-8287	Twyla.Legault@gov.bc.ca	
	John Pogson, P. Geo.	Assistant Water Manager	250-490-8220	John.Pogson@gov.bc.ca	
	Arthur Vanjecek	Groundwater Protection Officer	250-480-8267	Arthur.Vanjecek@gov.bc.ca	
South Area (Vernon)	David Thomson, P. Geo.	Assistant Water Manager	250-260-4641	David.Thomson@gov.bc.ca	FLNRORD
South Area (Kamloops)	Laurie Lyons	Officer	250-371-6280	Laurie.Lyons@gov.bc.ca	FLNRORD
	Melissa Wade, P. Geo.	Assistant Water Manager	250-371-6206	Melissa.Wade@gov.bc.ca	
North Area (Prince George)	Jun Yin, P. Geo.	Assistant Water Manager	778-693-3015	Jun.Yin@gov.bc.ca	FLNRORD
North Area (Smithers)	Johanna Wick, P. Geo.	Assistant Water Manager	778-693-2671	Johanna.Wick@gov.bc.ca	FLNRORD
Victoria	Amy Sloma, P. Eng.	Deputy Comptroller	778-698-4866	Amy.Sloma@gov.bc.ca	ENV
	Lindsay Macfarlane	Officer (Sr. GW Data Specialist)	250-953-3408	Lindsay.Macfarlane@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