

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 SEPTEMBER 2022 ISSUE:

- Provincial Groundwater Program Regional Update – South Natural Resource Area
- Provincial Groundwater Observation Well Network (PGOWN) Update
- Groundwater Wells and Aquifers (GWELLS) Application 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 – South Natural Resource Area

We are pleased to provide an update on groundwater activities that are being carried out by the regional groundwater staff in the South Natural Resource Area of the Ministry of Forests (FOR)¹. The South Area includes the Cariboo, Thompson-Okanagan and Kootenay-Boundary Regions (in orange below).



Groundwater Science

Drought Support

South Area Groundwater Science is supporting the Provincial drought response through numerous site- and watershed-scale projects. Primarily focused within the Kootenay-Boundary and the Thompson-Okanagan Regions, this work informs the application of regulatory tools to manage water use in times of scarcity. To date, there have been significantly fewer water scarcity concerns in 2022 than in 2021 when the Province needed to take the extraordinary measures of issuing

four *Water Sustainability Act* Fish Population Protection Orders across the province, including three Orders in the South Area (Salmon River, Bessette Creek and the West Kettle River). Drought monitoring information is available through the B.C. Drought Information Portal:

<https://governmentofbc.maps.arcgis.com/apps/MapSeries/index.html?appid=838d533d8062411c820eef50b08f7ebc>

Assessment of Groundwater – Surface Water Interactions on the Vaseux Creek Alluvial Fan, Oliver, BC

In partnership with the Okanagan Nation Alliance (ONA), this research project focuses on groundwater/stream interactions across an alluvial fan to inform water management decisions, efforts to conserve important fish species, and drought response activities. Year 2 objectives include further collection of surface water level, flow, and chemistry information from seven surface water monitoring sites, collection of groundwater level and water chemistry information from nine groundwater monitoring locations, and further development and testing of the site conceptual model. A summary of Year 1 efforts will be available shortly in the 2021-22 Compendium of Provincial Groundwater Science and Monitoring Projects:

<https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-science-data/water-science-series>

¹Please note, regional groundwater science and water allocations staff continue to be located within the Ministry of Forests following the recent reorganization of the Natural Resource Ministries.

Provincial Groundwater Program Regional Update – South Natural Resource Area Continued

Hullcar (Clcahl) Aquifer Monitoring

Groundwater level monitoring and water quality sampling continues across the network of shallow groundwater monitoring wells constructed in the Hullcar (Clcahl) Valley area. The Splitsin First Nation is currently working with the Province to update a Memorandum of Understanding, and redefine the project scope and objectives. Project reporting and supplemental information is available on the Provincial Hullcar Aquifer Information page:

<https://www2.gov.bc.ca/gov/content/environment/air-land-water/site-permitting-compliance/hullcar-aquifer>

Groundwater Monitoring

Real-time groundwater monitoring sites included in the Provincial Groundwater Observation Well Network (PGOWN) are now receiving datalogger upgrades to ensure the continued availability of high-quality groundwater monitoring data. South Area is switching over to the new system at a rate of approximately ten wells per year.

Groundwater Protection and Regulatory Compliance

South Area staff continue to work with well owners to bring older flowing wells into compliance with the *Water Sustainability Act*. Outreach to companies advertising pumps and pump installation has led to an increased interest in Qualified Well Pump Installer registration and training. Groundwater Protection Officers are undertaking joint water supply well inspections with Interior Health Environmental Health Officers. Water shortage complaints are being addressed jointly by multiple departments, Natural Resource Officers, Water Officers and Groundwater Protection Officers. Groundwater Science and Compliance and Enforcement teams will be completing cross-training exercises throughout the summer and fall to strengthen provincial responses to groundwater protection issues.

Staffing Changes

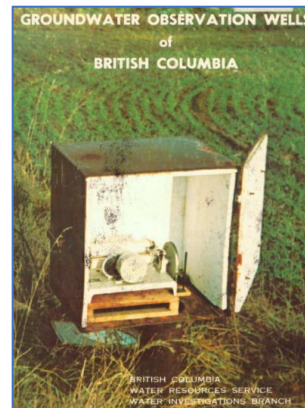
Harm Demon has rejoined the team for a temporary assignment as a Groundwater Protection Officer out of the Vernon office. Harm brings experience from his previous time in this position and as well as from his more recent work with the Okanagan Shuswap District Water Allocation team. Dana Barclay joins our team for a summer co-op position in the Penticton office. She has recently completed her first year of the Water Engineering Technology program at Okanagan College and has been a big help working on our observation well network.

Provincial Groundwater Observation Well Network (PGOWN) Update

The expansion of the PGOWN continues! There are plans to add several wells to the network later this year, including throughout the South Natural Resource Area (Canyon near Creston, Tulameen, and Deep Creek in Armstrong), one on the Sunshine Coast and one in the Lower Mainland. There are also plans to upgrade several existing manual PGOWN stations to allow for 'live' data (as discussed in the regional update), although installation of that equipment may be delayed until later in the fiscal year due to potential supply-chain issues with the necessary monitoring equipment.

Ensuring data quality and continued expansion of the network to meet the demand for greater coverage are some of our top priorities. With that, we are happy to announce that this program has received additional support through the Province's Climate Preparedness and Adaptation Strategy (CPAS). This funding will provide for additional staff, drilling, and upgrading of existing stations.

As mentioned in previous newsletters, the PGOWN is now over 60 years old, meaning that some of our oldest wells are starting to show their age. Staff are investigating how to best evaluate and address the problem of aging infrastructure. Results of this research will be available later in the year, but thus far appear to indicate that our oldest wells are still producing accurate groundwater level data. However, older wells will eventually need to be replaced or decommissioned and the guidance for evaluating such wells is currently under discussion.



Groundwater Observation Wells of British Columbia report cover, BC Water Investigations Branch, 1974.

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>

Groundwater Wells and Aquifers (GWELLS) Application Update

Aquifers

NEW AQUIFER FACTSHEETS AVAILABLE!

Factsheets have been updated for most the province’s mapped aquifers. To access a factsheet, visit the [Aquifer Search page in GWELLS](#), search for an aquifer of interest, navigate to the Aquifer Summary page and find the factsheet (if available) listed under *Documentation*.

Key information included in the factsheets:

- Aquifer and well statistics
- Plots showing summaries of reported well measurements including well yield, depth to water and well depth
- Observation well information, including groundwater levels, long-term trends and groundwater chemistry

Well Records

REMINDER to DRILLERS AND PUMP INSTALLERS
All records for water supply wells drilled after February 29, 2016 must be submitted to the Comptroller within 90 days of drilling.

Submit your well records online – Get access in three easy steps!

- Visit the GWELLS BCeID registration page to obtain either a Basic 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.
- After obtaining your BCeID, go to GWELLS and select the login button (top right of the application screen).
- Once you have logged in, email gwells@gov.bc.ca to request access for your BCeID user account.

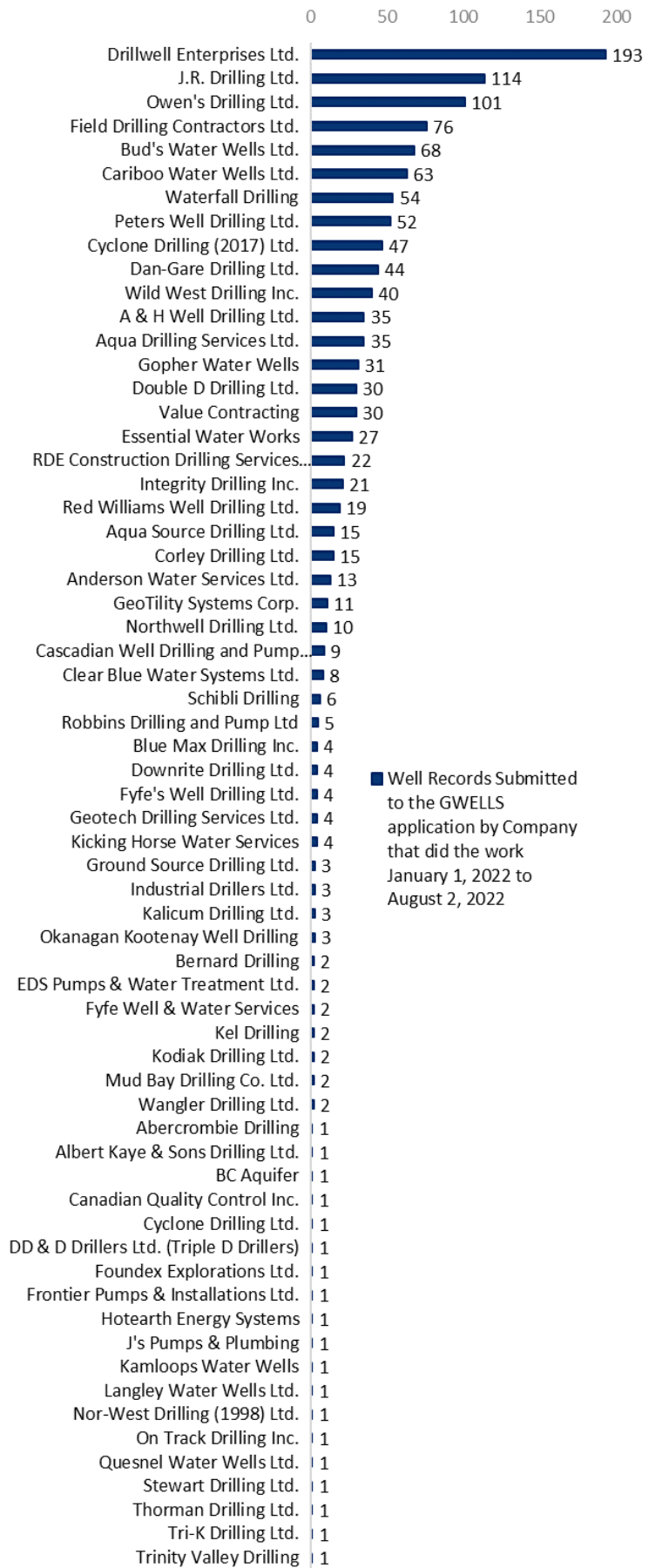
Once access has been granted, you will be able to enter and submit groundwater well reports through GWELLS.

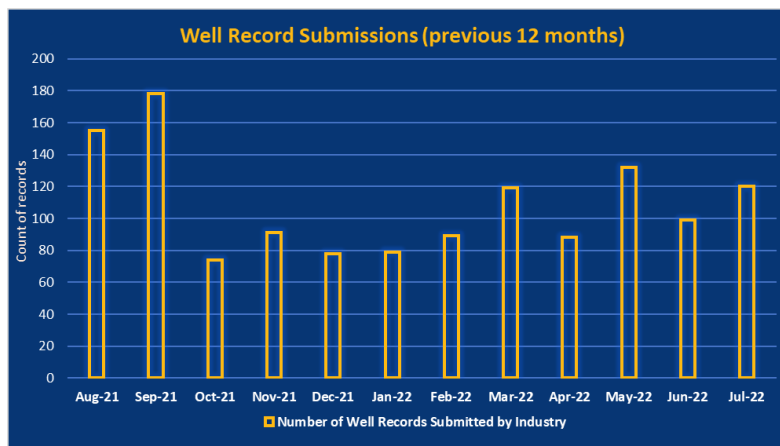
The following plot shows the number of well records submitted to GWELLS thus far in 2022 (current as of August 2) by Company that did the work.

Note: these numbers do not represent wells drilled or those submitted to the Comptroller, but those entered into the GWELLS application during this time period.

SOMETHING ISN'T WORK PROPERLY?
 Have you identified a bug or outage in the GWELLS application? Email gwells@gov.bc.ca

Number of Well Records Submitted to GWELLS by Company





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	FOR
	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	
	Nicole Fulcher	Officer	250-739-8339	Nicole.Fulcher@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	
	Harm Demon	Assistant Water Manager	778-943-6876	Harm.Demon@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.	Assistant Water Manager	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	Officer (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