



Groundwater Matters

December 2018



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Presidents Report – December 2018

As the year comes to a close, it seems to be the same old story with everyone I speak to: four weeks to the Holidays and eight weeks of work to do before they arrive. During this busy time I hope everyone continues to work safely and is planning to take some well deserved time off with their family and friends.

At the BCGWA our team is busy making arrangements for next year's annual conference which will again be held in Langley. The event was a huge success last year and we are hoping to build on that again this year. Our new General Manager Dave Mercer has been making in-roads with his efforts to bring new members into our Association and has had some success attracting new members on the client side which is great.

Engagement with the Province on issues that affect us as groundwater practitioners continues, and there have been several meetings in the last few months. The Flowing Artesian Well Working Group met on the island recently, and Kathy has prepared an article on the outcome of that which is in this newsletter. The Province is continuing to make improvements to the GWELLS database and has reached out again for our input on continued improvements, and may be reaching out to our membership for more specific input. I encourage you to provide your two cents, and if you aren't already using GWELLS to help plan out your jobs you should check it out. One of the nicest new features is that there is now a link to a scan of the original well logs for many wells, and often there is additional info such as a map of the well location and scans of background info such as excerpts from the well completion report and old pumping test data.

The Regional meetings across the province wrapped up in November and I was able to attend the meeting in Prince George this year. One issue that was raised at that meeting that I think would be of interest to all contractors out there related to PST and the fact that many contractors may not be applying and handling PST correctly on their books. BCGWA Director at Large Lloyd Ingram shared his experience with this and will be contributing an article describing it in our Spring newsletter. I made a presentation at the regional meeting on the aquifer contamination issue that occurred in the Hullcar Valley, and made a similar presentation to the Water Supply Association in Nelson in October.

Another key issue coming down the pipe is the upcoming end of the three-year transitional period for existing groundwater users to apply for their groundwater licences. This three-year window ends on March 1, 2019, and there are significant implications related to this for our clients. Any existing users that do not apply before March 2019 will lose the priority date associated with their groundwater use, and will be treated in the same manner as new-users when they do get around to applying for their licence. I have mentioned this before, but the uptake on existing use licensing has not been great, with only an estimated 15-20% of existing users applying for their water rights. As result, the BCGWA Executive has approved a letter we will be submitting to the Province advocating for an extension to the application deadline. In addition, we are advocating for more and broader outreach to get the message out to groundwater users about why they should be licensing their wells. Simply extending the deadline and not doing anything new or different to increase participation won't get the job done. A copy of the letter we sent to the Province is included in this newsletter and is downloadable from our website.

Happy Holidays!

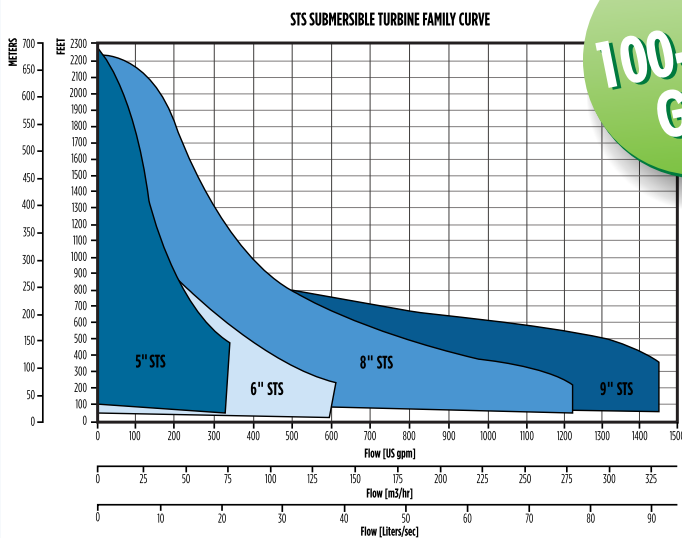
Ryan Rhodes, P.Geo

President, B.C. Groundwater Association



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General Manager's Report – December 2018

The last few months have certainly been a whirlwind of activity for me personally, and a busy time for the BCGWA as well! And now here we are, Christmas is right around the corner and it will be a new year before we know it. Let's take a few moments to look back at the last quarter and look forward to 2019 as well.

I'd like to begin by thanking the BCGWA executive for providing me with the opportunity to work with the Association as your new general manager. It is a vote of confidence that I do not take lightly. I firmly believe in the mandate of our Association and have utmost respect for the collective experience and knowledge of our members. I look forward to meeting and listening to each of you as together we maintain the foundation of the BCGWA while we aim to increase our voice in the groundwater industry and in our communities.

I hope you'll join me in thanking our previous General Manager, Kathy Tixier, for her leadership and tireless efforts over the past 3 years. As I begin to dig into all that is required in running the Association, I'm amazed at Kathy's organization and depth of knowledge, and what she has managed to accomplish with limited resources. The BCGWA has benefitted greatly from her efforts and we should all be grateful.

In addition, I would personally like to thank Kathy for her guidance and assistance as I have come on-board and have begun to familiarize myself with our multifaceted Association. I am incredibly appreciative of the time she has carved out for me, especially in light of her family circumstances. The transition between general managers has been relatively seamless, and this would not have been possible without her. Thank you, Kathy!

Since the last newsletter, a primary focus for me and the BCGWA was hosting the four regional meetings. A review of the meetings comes later in this newsletter, but I'd like to mention here that one of my goals for the meetings was to meet as many members as possible, and to listen to your comments and concerns regarding the Association. I appreciate the feedback I received and continue to reach out to members who were unable to attend the meetings. The BCGWA faces some challenges, and the key to meeting them will be effective communication. Our communication becomes the foundation for concrete action that best represents our membership as a whole.

Mark your calendars for the 2019 Trade Show and Convention!

And speaking of feedback, we have incorporated a lot of what we have heard from members into planning our 2019 Trade Show, Convention and AGM, to be held in Langley on April 10 and 11. We are very pleased to confirm that we will be hosting the 2019 NGWA McElhiney Lecturer Gary Hix who will speak on the topic "Drilling Markets Change – So Must We". In keeping with this, our convention theme will be "Changing Landscapes" and the challenges our members face in a changing world. For more information on the program we have developed for this year's conference, see the announcement elsewhere in this newsletter.

Thanks again to everyone for a great year, and I'm looking forward to my first full year with the BCGWA!

Dave Mercer

General Manager, B.C. Groundwater Association



Mark your calendars!
2019 BCGWA Trade Show
Convention and AGM

2019 Highlights:

- ★ **Keynote Speaker Gary Hix, 2019 NGWA McElhiney Lecturer - "Drilling markets change – so must we"**
- ★ **2 – Day Well Drillers Course**
- ★ **Flowing Artesian Well Panel Discussion**
- ★ **Trade Show Open House and Silent Auction**
- ★ **President's Gala Banquet**
- ★ **Tuesday Evening Meet and Greet Social**



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\$650+tx (early bird)
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 (includes lunch & trade show)

April 10 & 11, 2019

Coast Langley Hotel & Convention Center, Langley BC (special room rates for BCGWA members)

Registration opens on-line at www.bcgwa.org January 1, 2019



PRELIMINARY EVENTS CALENDAR



DATE	DAY	TIME	LOCATION	DESCRIPTION
April 9	Tuesday	7:00 pm - 10:00 pm	Foyer	Early Registration Desk Open
		7:00 pm - 10:00 pm	Trade Show Area	Trade Show Set-Up and Meet 'n Greet
DAY 1 April 10	Wednesday	7:30 am - 3:00 pm	Foyer	Registration Desk Open
		7:30 am - 11:30 am	Trade Show Area	Trade Show
		7:30 am - 8:30 am	Trade Show Area	AGM Attendees Breakfast
		8:30 am - 11:30 am	Breakout Rm	BCGWA Annual General Meeting (AGM)
		10:00 am - 10:30 am	Trade Show Area	Coffee Break
		8:30 am - 4:00 pm	Classroom	Well Drillers' Course
		12:00 pm - 1:00 pm	Trade Show Area	Lunch with Keynote Speaker, Gary Hix
		1:30 - 4:00 pm	Trade Show Area	Trade Show plus Trade and M&S Talks
		1:00 pm - 4:00 pm	Breakout Rm	Technical and Regulatory Talks
		1:00 pm - 4:00 pm	Breakout Rm	Engagement Sessions (tentative)
		2:30 pm - 3:00 pm	Trade Show Area	Coffee Break
		4:00 pm - 6:00 pm	Trade Show Area	Trade Show Open House and Silent Auction
		7:00 pm - 11:00 pm	Banquet	President's Gala Banquet with Entertainment
DAY 2 April 11	Thursday	7:30 am - 11:30 am	Reg	Registration Desk Open
		8:00 am - 9:00 am	Trade Show Area	Buffet Breakfast
		9:30 am - 11:30 am	Trade Show Area	Trade Show plus Trade & M&S Talks
		9:00 am - 11:30 am	Classroom	Well Drillers' Course
		9:00 am - 11:30 am	Breakout Rm	Technical and Regulatory Talks
		9:00 am - 11:30 pm	Breakout Rm	Engagement Sessions (tentative)
		10:30 am - 11:00 am	Trade Show Area	Coffee Break
		12:00 pm - 1:00 pm	Trade Show Area	Lunch
		1:00 pm - 2:00 pm	Trade Show Area	Panel Discussion on Flowing Artesian Wells
		2:00 pm - 2:30 pm	Talks	Technical and Regulatory Talks
		2:00 pm - 5:00 pm	Trade Show Area	Trade Show Take-Down

Licensing Groundwater in B.C.

If you are using groundwater (from a well or dugout) for non-domestic uses you are legally required to submit a licence application.

A licence is required by law and will:

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- *Protect your usage from new users and future developments and;*
- *Help protect your access to water in times of water scarcity.*

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2018 FALL REGIONAL MEETING HIGHLIGHTS

by Dave Mercer, BCGWA General Manager

My first official activity as your new general manager was to chair the Fall Regional Meetings. This was a great opportunity for me to meet many of you and become more familiar with association matters. Thank you to all who took the time to come out to listen to the talks and mingle with industry peers. And special thanks to our speakers for delivering talks on a wide variety of subjects. Copies of the presentations are available in the Member area of our website. Here are some highlights:

CARIBOO Region, Prince George, October 13

We had a good mix of member types attend our Prince George meeting, including water well and geotechnical drillers, pump suppliers and installers, and consultants. The meeting began with a buffet lunch, followed by the general manager's address. I did my best to embarrass myself by showing field photos from a variety of drill sites dating back to my ancient past, then moved on to BCGWA business from the past year. The presentation looked back on successes from the 2018 Trade Show and Convention, with a look forward to making 2019's even better. Other topics included the status of our logo registration, status of our grant application for ITA vetting services, and an update on progress by the Flowing Artesian Well Working Group (FAWWG).

Up next was Jun Yin, Regional Hydrogeologist with FLNRORD, who provided a regional groundwater protection and licensing update. FLNRORD prepared a single slide deck for all four of our meetings so that the information presented would be consistent throughout the province. Topics covered included updates on groundwater science, groundwater data and information, groundwater compliance, and groundwater licensing. Each presentation also included some region-specific highlights. Jun spoke about two groundwater/surface water interaction projects, a UBC research project on natural gas migration and the installation of two observation wells in Fort Nelson.

Ryan Rhodes of Western Water Associates then presented a very informative case study on groundwater contamination of the Steele Springs water supply, followed by a discussion related to groundwater licensing.

The final hour of the meeting was dedicated to open discussion, and needless to say licensing was at the forefront of many attendee's minds. The main points of conversation revolved around the length of time required for licensing approvals (in some cases pushing 2 years), as well as what appears to be a lack of compliance among water users applying for licenses. Existing users have a very important deadline of March 2019 or they lose their priority date associated with groundwater use.

There was also lengthy discussion around PST audits. A supplier in Northern BC was audited, which has led to other associated businesses, including some of our members, also being audited. All of our members need to be up to date on PST requirements, as will be discussed in an article in our next newsletter.

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KOOTENAY'S AND OKANAGAN VALLEY Region, Vernon, October 19

Attendance was not as high as expected for our Vernon meeting, although we had a good representation of membership including water well and geotechnical drillers, pump suppliers and installers, equipment manufacturers and suppliers, and consultants. There was some discussion around whether a Saturday would be better than a Friday for attendees. We will look into this further in anticipation of our 2019 meeting.

Harm Demon, Groundwater Protection Officer, presented on behalf of FLNRORD. Ward van Proosdij of Associated Environmental Consultants followed with a presentation that looked into California's SGMA (Sustainable Groundwater Management Act) and BC's WSA (Water Sustainability Act) – commonalities and lessons learned.

Open discussion was held after a coffee break, and Ward's presentation generated a lot of interest, particularly with respect to the amount of funding that is approved in California and the related resources that are available. Licensing was again discussed at length.

VANCOUVER ISLAND Region, Parksville, October 27

Attendance was not as high as previous years for our Parksville meeting, with fewer water well and geotechnical drillers, and pump suppliers and installers as expected. We hope to do a better job of reminding members of the meeting next year and making sure we have food and content that will draw in as many of our members as possible!

Sylvia Barroso and David Robinson presented on behalf of FLNRORD. In addition to the standard slide deck, they discussed regional issues including drought response in Koksilah, Chemainus, appeals (Merville water bottling) and compliance and enforcement efforts.

Chris Dutnall, owner and operator of Wellmaster Pumps and ABC Water Systems, provided a very timely health & safety focused presentation titled Pump Installers: Whose Got Your Back? He used his more than three decades of wellfield experience to help identify opportunities where our membership can improve our knowledge and dedication to safety.

Our open discussion period began with Mike Wei leading an in-depth look into the current state of licensing compliance under the new WSA. The discussion went into much greater detail than there is room to summarize here, but Mike's main point was that he feels the deadline for existing users under the WSA needs to be extended and a better outreach program needs to be put in place to inform water users of the need to comply. More on that elsewhere in this newsletter. Chris Dutnall's presentation also generated much conversation around better training for our members, particularly as it relates to H&S, and what role the BCGWA can play in providing training.

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DOWN TO EARTH BUSINESS

FRASER VALLEY Region, Langley, November 3

I was happy to be a new face at our annual director's breakfast at Denny's prior to the Langley meeting. The directors took it surprisingly easy on the new guy, with only a little good natured ribbing. I can assure you that it was far easier than my first day as a geologist working with a drill crew in the field!

The meeting was well attended despite it being a miserable rainy day. Michele Lepitre presented on behalf of FLNRORD, and provided a lot of information updating us on activities in the South Coast Region. She discussed recently updated aquifer characterization and mapping projects and several groundwater/surface water interaction studies. She also provided an update on PGOWN (the Provincial Groundwater Well Network) and groundwater compliance and licensing.

Diana Allen, head of the groundwater resources research group at SFU, presented on a new artesian aquifer risk mapping project in the Fraser Valley and Okanagan Regions. Diana's student, MSc candidate Brynne Johnson who will be focused on the project, was also in attendance. The purpose of the project is to expand the knowledge of the risk of flowing artesian wells in BC, and disseminate that knowledge to decision-makers, practitioners and the general public through the development of a more comprehensive understanding of the factors controlling where flowing artesian wells may exist and where there is greater risk for flowing artesian wells, and by examining how current policies and regulatory requirements regarding flowing artesian wells might be enhanced.

Diana also led off our discussion period by reiterating Mike Wei's concerns from our Parksville meeting regarding licensing. The discussions continued on to multiple other topics including training courses, the 2019 convention, PST audits and providing feedback to FLNRORD.



Thank you again to everyone who came out to our regional meetings this year, and a special thank you to our speakers and those who helped organize!



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The British Columbia Ground Water Association
1334 Riverside Road, Abbotsford
British Columbia, V2S 8J2, Canada

Date: November 21, 2018

To: Honourable Doug Donaldson and
Minister of FLNRORD
PO BOX 9049, STN PROV GOVT
Victoria, BC V8W9E2

Honourable George Heyman
Minister of Environment and CCS
PO Box 9063, STN PROV GOVT
Victoria, BC V8W9E2

Subject: Lack of compliance with groundwater licensing under the Water Sustainability Act

Dear Sirs,

The British Columbia Ground Water Association (BCGWA) is dedicated to the protection, promotion and responsible development of ground water resources in BC. As such we support ground water licensing for British Columbia and were pleased to see legislation in this regard come into force in 2016. We are writing to you to express our concerns with respect to what we understand is a lack of compliance with groundwater licensing under the new Water Sustainability Act (WSA).

The BCGWA works closely with MFLNRORD and MOE to advance the interests of those engaged in the ground water industry for their own and public interest. It is on behalf of our members who work in the groundwater industry, as well as the public, that we express our concerns.

Our understanding is that only about 10 – 15% of the expected applications from existing ground water users in BC have been received, despite the end of the three-year existing user transitional period coming to an end in March 2019. In addition, we have observed that compliance for licensing of new groundwater uses also appears to be low. The consequences of non-compliance for water users are significant, particularly for existing users who miss the upcoming March 1 deadline. It is our understanding that under such a scenario, existing groundwater users will lose the priority date associated with their groundwater use and will have to apply for water rights the same way new users will, which is a more onerous process with more potential for water licence applications to be denied. It is our opinion that the public has not been effectively informed of the benefits of licensing or the consequences of non-compliance.


At the same time, non-compliance by water users also directly affects members of the BCGWA. Our members drill wells, install pumps and provide professional consulting services for ground water users. With such a high non-compliance rate our members will be faced with a choice of either providing services to illegal users or potentially going out of business.

It is for these reasons that the BCGWA strongly recommends that you consider extending the March 1, 2019 deadline. We are in support of implementing ground water licensing for BC. However, we believe that there is not enough time remaining for the vast majority of existing ground water users to get on board with the program, which not only puts them and our members at risk, but also potentially puts the entire licensing program at risk.

Moreover, simply extending the deadline is not enough. Current efforts to inform water users of their legal requirements under the WSA have been insufficient and maintaining the status quo for an extended period is not likely to change that. We recommend that you plan and implement a more vigorous communication strategy to accompany a deadline extension. Direct outreach to all reported, non-domestic ground water users is likely required, coupled with a broader outreach campaign in media. Better communication should lead to higher compliance and thus a much more successful deployment of a program that benefits all British Columbians.

Thank you for your consideration of this matter. We would be pleased to offer more comments if you require and look forward to continued collaboration with MFLNRORD and MOE to protect our ground water resources.

Best regards,



Dave Mercer, PGeo

General Manager

British Columbia Ground Water Association



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FLOWING ARTESIAN WELLS WORKING GROUP (FAWWG)

– AN UPDATE

By Kathy Tixier, FAWWG Chair

It has been a year and a half since the Association sent a letter to the Ministry voicing our concern around the placement of responsibility for controlling artesian flow at the time of well construction on well drillers and professionals. Refer to Section 52 of the [Water Sustainability Act](#).

This responsibility is not entirely new, nor is it entirely unreasonable. The legislation is designed to protect the resource, public safety, and the environment. What is new is our growing awareness of how litigious and costly these scenarios can be. The Chetwynd, Beechwood, Coldstream, and Westwold wells reminded us of that. In some cases, the driller paid over \$100,000 out-of-pocket for labour and materials and legal and professional fees to decommission the well or permanently divert the flow, without any means of financial recourse. In another case, the driller simply left the country.

Needless to say, our members are concerned. What if a 'big one' happened to me? How vulnerable are my personal assets and/or my business if I were involved in a high cost uncontrolled flowing artesian well scenario?

The Association's first response to this dilemma was to try to achieve clarity on what 'person responsible' actually means, and how it could be enforced. Refer Section 48 of the [WSA](#). We have raised this question at our regional meetings and at our conventions, and in face-to-face meetings with the Ministry, the most recent of which took place in Victoria on October 26.

What we have learned is that 'person responsible' means the *individual* professional, driller, or person on whose behalf the activity was performed, not their *company or corporate entity*. That being said,

there may be more than one person responsible, and the person(s) responsible do not necessarily need to have been on-site at the time flowing conditions were encountered. Furthermore, being named responsible under the WSA does not necessarily mean that person is responsible financially. That may depend on other statutes (e.g. contract law, employment law). In other words, there is no clear answer to the financial liability piece - only that it depends largely on the facts of the case and the determination reached by statutory decision maker.

What came clear in our recent meeting is that the Province are working hard on the preventative front, by:

- Issuing or updating seven new [flowing well advisories](#) in areas of known artesian flow across BC;
- Commissioning a fact-finding study on historical high profile flowing wells and the commonalities between them;
- Reminding the geotechnical/environmental and geoexchange drilling community that reporting of flowing wells is mandatory;
- Funding research by Diana Allan and her team at Simon Fraser University to map artesian risk across the province (currently underway);
- Updating the [flowing artesian wells information pamphlet](#) (in progress); and
- Engaging with us on this topic on a regular basis.

Similarly, the Province are asking us to do what we can to be prepared. This may include:

- Conducting a pre-drilling assessment before constructing a well. At a minimum, have a look on the [Water Resources Atlas](#) for wells in the vicinity that could be flowing artesian (continuously or seasonally);



- Ensuring that there is a signed contract in place outlining the scope of work, the preparatory steps taken, and who is responsible for paying for unforeseen expenses like controlling artesian flow;
- Considering purchasing artesian flow break-out insurance (Capri has a policy). Coverage is limited to \$50,000, but could take the edge off on most unexpected flowing well closure/control scenarios;
- Always installing a minimum 2-inch thick (2 casing sizes larger) surface seal, period. One-inch seals are intended to stop the downward movement of surface-sourced contaminants into an aquifer, not the upward movement of artesian flow out of an aquifer;
- If artesian conditions are possible, convincing the well owner to install a more robust well seal (a thicker, heavier, longer surface seal is your best form of insurance); and
- Considering teaming up with a professional engineer or geoscientist with competency in hydrogeology.

Our main ask to the Province, and in particular to the statutory decision maker, is to be reasonable when enforcing the WSA. Give groundwater practitioners the incentive to do the right thing,

rather than walk away from or not report flowing wells. Most drillers share the perspective that they are hired as agents of the well owner to make an improvement to their property. The well owner enjoys the benefits that come with the well, and must also be willing to assume the risk, if done in an informed manner. Such is the case when a well turns out to be dry, or doesn't yield enough water.

We all know that not all flowing artesian wells can be predicted all of the time (who can predict the static water level in a well with certainty?). Hence, we need to feel secure that if the 'big one' does arise unexpectedly, that the government have our backs. Such is the expectation in any unforeseen unfortunate natural event (flood, forest fire, etc.)

For this reason, we wish to continue talking about what can be done on the *reactive* front. What emergency funds exist, or can be created to pay for the next 'big one'? Such a fund would enable involved parties to work *collaboratively* together on a solution from the get-go, rather than waste time and money arguing about who should foot the bill.

Our members are resourceful, capable, people who care about the resource and know how to get the job done. Therefore, we recommend that the Association move forward on empowering them to do it. Feel free to join in on the conversation by contacting myself at tixiereng@gmail.com.





Update on Groundwater

This report is prepared for you by the water management teams within the *Ministry of Environment and Climate Change Strategy* and the *Ministry of Forests, Lands, Natural Resource Operations, and Rural Development*.

In this November 2018 issue:

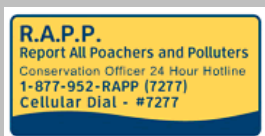
- Did you know...?
- Approaching licensing deadline - existing users
- Regional groundwater program update
- New GWELLS development
- Contact list of groundwater staff

Contact Us

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

Report Non-Compliance

Notice a well that does not meet the construction standards of the Groundwater Protection Regulation? Or know of someone who is drilling a well or installing a well pump without being registered?



Report it anonymously through the Provincial R.A.P.P. line.

Did you know...?

Well Record Submission Requirements for Geotechnical and Geoexchange Wells:

The Groundwater Protection Regulation requires submission of reports for the construction, alteration and decommissioning of geotechnical wells (boreholes) and geoexchange wells within 90 days of completing work and that you retain a copy for at least 10 years. Requirements are as follows:

Well type	Submission requirement
Geotechnical Wells	submit a report to the well owner for every geotechnical well that is constructed, altered or decommissioned
Geoexchange Wells - Open Loop	submit a report to the comptroller and well owner for every well that is constructed, altered or decommissioned
Geoexchange Wells - Closed Loop	submit one well construction report per geoexchange system to the comptroller, and one report for every well in that system to the well owner
Any flowing Artesian Well	submit a report to the comptroller and well owner for every flowing artesian well that is constructed, altered or decommissioned

Water sampling requirements:

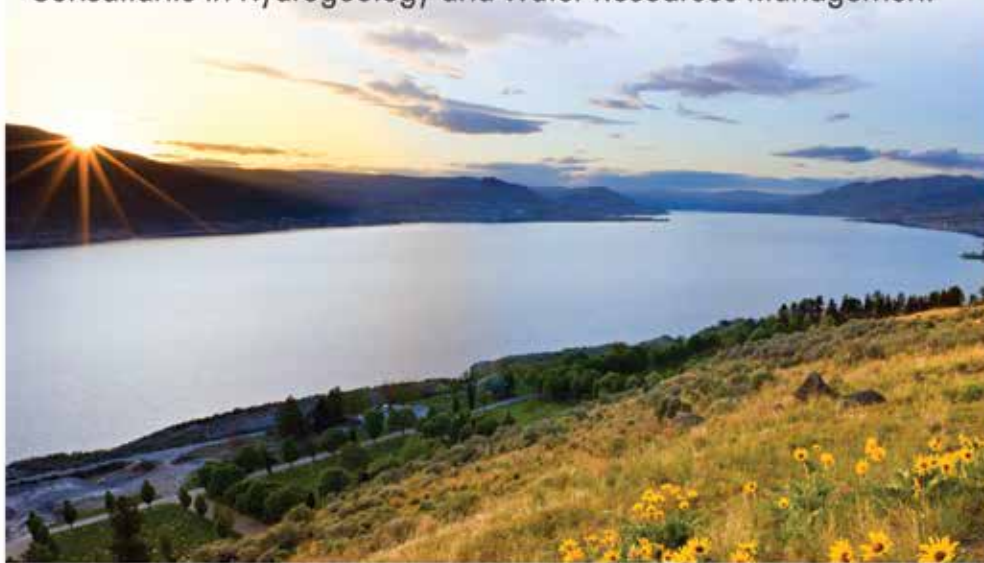
To clarify an enquiry regarding Section 63 of the Water Sustainability Act (WSA): this section of the WSA specifies that the person responsible for drilling or altering a well must collect a water sample and submit it for analysis. However, this section of the WSA is not currently enabled by a regulation. Until regulations specifying this requirement come into effect, it is not necessary to collect and submit water samples to the Ministry.

Transitioning Users for Groundwater Licensing – Deadline Approaching

The *Water Sustainability Act* (WSA) came into force February 29, 2016 and with this new legislation there was a requirement that non-domestic groundwater users be licensed to lawfully use water. For an estimated 20,000 non-domestic users who were using groundwater on or before February 29, 2016 there was a three year transition period during which they would have the opportunity to apply for a water licence and receive a date of precedence for their licence that reflects their historic use.

Just a few months remain until the close of the three-year transition period on March 1, 2019. Transitioning historic groundwater users receive a number of benefits by applying before this deadline. Specifically they can receive a date of precedence for their licence that reflects their historic use, continue to use water lawfully after applying until a licence decision is made, and apply without paying an application fee.

Transitioning users continued on next page



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Update on Groundwater

Transitioning users continued from previous page

Existing groundwater users who have not applied before the March 1, 2019 deadline will be unable to continue to lawfully use groundwater unless they first obtain a licence. Furthermore, transitioning groundwater users who do apply after the deadline will be considered as new applicants, which means they cannot have their historic licence date of precedence recognized and the effect on environmental flow needs of any hydraulically connected streams must be considered, which can require technical assessments that can be costly for the applicant.

Applications for a groundwater licence can be made online at <http://www.frontcounterbc.gov.bc.ca>. For questions or additional information groundwater users can contact FrontCounter BC Toll free: 1-877-855-3222, from outside North America: ++1-778-372-0729 (Monday to Friday, 8:30am-4:30pm) or by email FrontCounterBC@gov.bc.ca

Drillers and pump installers are strongly encouraged to share this important information with their clients when performing work on existing water wells. This will help to ensure the public is informed about the necessity to apply for a groundwater license, the many benefits of early application, and the approaching transitioning application deadline.

Provincial Government Groundwater Program Regional Update – North Area

The *Water Sustainability Act* (WSA) was brought into force on February 29, 2016 to ensure a sustainable supply of fresh, clean water that meets the needs of B.C. residents today and in the future. As many have heard, existing groundwater users are exempt from paying the licencing application fees until March 1, 2019, however there are still many users that are not aware of the new requirements. In order to introduce the WSA and assist public in the licence application, North area staff hosted a series of open house sessions in three regions:

Skeena

In the Skeena Region approximately 550 letters were sent out via the Provincial initiative at the beginning of October. The letters included information about groundwater licencing and dates for three open houses that were held in Burns Lake, Smithers, and Terrace;

all three sessions were held on the week of October 22nd. Since these open houses 7 existing groundwater applications were received and a number of applications are still in progress. The open houses gave space to answer questions and provide clarity around the new requirements of groundwater licencing.

Omineca

A total of 210 letters were sent to Northern Health Contacts within the Omineca region on August 30th, 2018. We held six open houses within the Omineca (Prince George (x2), Vanderhoof, Fort St. James, McBride, and Valemount); all six were held between September 18th and September 27th. Between September 3rd and October 26th a total of 26 existing groundwater applications were submitted. These 26 applications account for 54% of the existing groundwater applications that have been received in the Omineca for 2018.

Northeast

In early October, letters on the groundwater licencing deadline and upcoming open house events were sent out to potential groundwater users in the Northeast. Open house events were held in late October in Fort St. Dawson Creek, and Fort Nelson to help attendees apply for existing-use groundwater licences. The Fort St. John and Dawson Creek events were well attended. The biggest issues discussed were dugouts, livestock watering, and water sales. These outreach efforts resulted in a hundreds of enquiries and at least 10 submitted applications; we are continuing to follow-up with

Regional update continued on next page

Update on Groundwater

Regional update continued from previous page

General

Overall, letters and open houses increased the awareness of the WSA and brought in nearly 50 existing groundwater applications. North area authorization staff in all three regions are processing these applications.

In addition to the outreach, we continue to improve our knowledge of regional groundwater resources through research and monitoring. This year, we initiated the Upper Bulkley Groundwater Interaction Project that will help to improve our understanding of connectivity, natural groundwater fluctuations, and the implications of large users (e.g., municipal supply well). We are currently completing the desk-top analysis and moving to the field investigation. The completion of the project will help inform authorizations to make scientifically sound decisions.



In Northeast BC, two new observation wells were drilled in October to monitor a shallow fluvial aquifer near the Fort Nelson River and a deep buried valley aquifer near the Muskwa River. These locations were targeted because both aquifers types are commonly found in the Fort Nelson area, as identified in a recently published study (Water Science Series 2018-01: *Liard and Petitot Sub Basins Transboundary Groundwater Resources Assessment*). Both wells will provide real time groundwater level data to the government and public. Water quality monitoring will address the concerns in an area where natural gas development is active.

Groundwater Wells and Aquifers (GWELLS) – Project Update

Aquifer data and information is now available through the Groundwater Wells and Aquifers (GWELLS) application. You can now easily search for aquifer data and information and over time, documents or reports related to an aquifer will be made available through the aquifer summary page – making it easier to find relevant information to an aquifer. Aquifer information can be accessed at <https://apps.nrs.gov.bc.ca/gwells/aquifers/> by searching using the aquifer name or number.

Through consultation with the Aquifer Framework working group, program area staff, and users, certain fields are being retired to help standardize data collection and improve data quality and accuracy. Fields that are not included in GWELLS include:

- Aquifer Classification
- Ranking value
- Quantity concerns
- Adjoining mapsheet

GWELLS update continued on next page

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Update on Groundwater

GWELLS update continued from previous page

A survey will be added to the aquifer search page to get users' input on the changes made and to help guide future system development in relation to aquifer data and information.

If you have any questions regarding the project or would like to be involved in future research or testing, please contact Lindsay Macfarlane at Lindsay.Macfarlane@gov.bc.ca.

Well Record Submission

Well records can be submitted electronically (EWELLS) or by mail to the Ministry of Environment & Climate Change Strategy. Electronic submission of well records will replace paper submission to allow for more efficient processing and to help make information more accessible. Paper records will now only be accepted on a Ministry form.

- EWELLS: <https://a100.gov.bc.ca/ext/ewells/>
- Mail: **Ministry of Environment & Climate Change Strategy, PO Box 9362 STN PROV GOVT, Victoria BC V8W 9M2.**

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	
	Harm Demon	Officer	250-751-3266	Harm.Demon@gov.bc.ca	
South Coast (Surrey)	Mike Simpson, P.Geo	Assistant Water Manager	604-586-2809	Mike.Simpson@gov.bc.ca	
	Bryan Jackson, P.Geo	Officer	604-586-2801	Bryan.Jackson@gov.bc.ca	
	Michele Lepitre, P.Geo	Assistant Water Manager	604-586-4413	Michae.Lepitre@gov.bc.ca	
	Emily Elsliger	Officer	604-586-2802	Emily.Elsiger@gov.bc.ca	
South Area (Penticton)	Skye Thomson, P. Geo.	Assistant Water Manager	250-490-8276	Skye.Thomson@gov.bc.ca	
	Nicole Pyett, P. Geo.	Assistant Water Manager	250-490-2285	Nicole.Pyett@gov.bc.ca	
	Twyla Legault, P. Eng.	Officer	250-490-8287	Twyla.Legault@gov.bc.ca	
	John Pogson, P.Geo.	Officer	250-490-8220	John.Pogson@gov.bc.ca	
South Area (Vernon)	David Thomson, P. Geo	Assistant Water Manager	250-260-4641	David.Thomson@gov.bc.ca	
South Area (Kamloops)	Laurie Lyons	Officer	250-371-6280	Laurie.Lyons@gov.bc.ca	
North Area (Prince George)	Jun Yin, P. Geo.	Assistant Water Manager	778-693-3015	Jun.Yin@gov.bc.ca	
North Area (Smithers)	Barry Watson	Officer	250-847-7329	Barry.Watson@gov.bc.ca	
Victoria	Amy Sloma, P. Eng.	Deputy Comptroller	250-356-5062	Amy.Sloma@gov.bc.ca	ENV
	Lindsay Macfarlane	Officer (Sr. GW Data Specialist)	250-953-3408	Lindsay.Macfarlane@gov.bc.ca	

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



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