From: Daniel Watterson [mailto:dan@wattersongeoscience.com]
Sent: Friday, November 15, 2013 3:10 PM
To: Living Water Smart ENV:EX
Subject: Water Sustainability Act

Hello:

Thank you for providing the opportunity to comment on this very important legislation. My comments are as follows:

1) The Act apparently does not address injection of waters into aquifers. This is a key oversight as without proper knowledge and regulation of this activity, water injection could cause significant effects on adjacent or overlying groundwater and surface waters, especially where the injected water is contaminated. The Act and regulations should be updated to include this activity

2) Open-loop geoexchange wells should be specifically included within the scope of the Act and regulations. Although these systems conceptually result in no net loss of groundwater, due the potential for poor drilling, well construction and operating practices, they may significantly affect the local aquifer and surfaces water resource. Therefore, drilling and operating these wells should be considered like any other water supply well or system.

3) As a working groundwater professional, the primary barrier to provide adequate and cost-effective services to my clients is a significant lack of geologic and hydrogeologic information in an area because many drilling and well records have not been provided to the government, and those that have been provided commonly lack any significant information. Because of this situation, it is very common for clients to experience significantly increased costs because although there may be many wells in an area, no information about subsurface conditions is available. In essence, many clients have to pay to collect data that should already be available in the public records.

Further to this, the regulations should therefore require collection of information about all drilling activities including water well, geotechnical, environmental, mining-related, and open or closed-loop geoexchange holes and wells. All of these drilling and well installation activities have the potential to significantly affect ground and surface water resources. An online drilling registry should be established, where permits for each type of drilling can be obtained for a small fee. Basic information about each hole could be provided after the holes are completed, such as purpose, location, depth, geology, well construction details, static water levels and estimate well production rates. The information should be publically available and will significantly help with understanding and managing the groundwater resource. Fees generated from this system could be used to support the system, populate the geologic and hydrogeologic database, support water sustainability studies, aquifer mapping projects, etc.

4) Deep saline wells should not be exempted from licensing and reporting requirements. Geologic and hydrogeologic information obtained from theses holes should become part of the public record and to provide a knowledge base if shallow groundwater is affected long after industry has left the site.

5) Domestic wells constructed in sand and gravel deposits within a short distance of surface water should be considered as surface water sources and licensed accordingly. The distance could correspond to those recommended in BC's *Groundwater Under the Influence of Surface Water* guidance.

6) Box 10 in the Act Legislative Proposal document states that deep saline groundwater is "assumed" to be disconnected from shallower groundwater and surface water. This is a bad assumption and very well may not be true. Large volume users should be required to demonstrate prior to use that water withdrawal and injection will not affect overlying non-saline aquifers and surface water.

7) The MoE currently relies on a complaint-based method to ensure compliance with the regulations. For a number of reasons this approach has not worked well. The new regulations developed to implement the Act should increase compliance and enforcement so that temptations to "skirt" the requirements are lessened, the province's hydrogeological knowledge base is improved and environmental protection and public safety are enhanced.

8) I support the recommendations proposed in the 2010 Policy Paper on the Water Act Moderniztion provided by the BCGWA.

9) Regulations developed to implement the Act should include specific dates to meet milestones; it is very easy for politics of the day to result in postponed or delayed implementation of new rules. The sooner all parts of the Act are put into practice, the better off BC's groundwater resources, the environment and public health will be.

Regards

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