

Reporting on the State of Aquifers in BC

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Summary

Groundwater resources and aquifers can be hard to understand and assess. It is difficult to fully understand the state of a resource that is buried beneath the surface, and for the most part, remains unseen. A lot of what we know about the state of an aquifer comes from well log reports, pumping tests and water level monitoring and water quality testing. More detailed scientific studies may also be available for some aquifers which may be relevant to the broader understanding of the groundwater resource. Unfortunately, pulling together the available information and data is no easy task. Information about BC's provincial aquifers is spread out between numerous government agencies and databases. Creating a tool that synthesizes the key groundwater information from the various data sources on an aquifer based platform has been a priority since the implementation of groundwater licensing under the Water Sustainability Act in February, 2016. Pulling together the available information into a centralized interface will reduce the time and effort required to review and adjudicate groundwater license applications and will ultimately support the sustainable allocation of water resources.

Method

The province initiated a project that used scripting and an automated approach to retrieve, clean-up, analyze and summarize groundwater information from several of the existing databases. In the first phase of the project, aquifer factsheets were autogenerated for nearly all 1300 provincially mapped aquifers for a nominal cost.

The second phase of the project has focused on the release of the Aquifer Summary interactive tab within the Groundwater Wells and Aquifers (GWELLS) application. The Aquifer Summary tab provides streamlined access to information related to an aquifer to help support water allocation decisions and improve our knowledge of aquifers within BC. The web based application allows users to easily find information related to an aquifer. The type of information available includes:

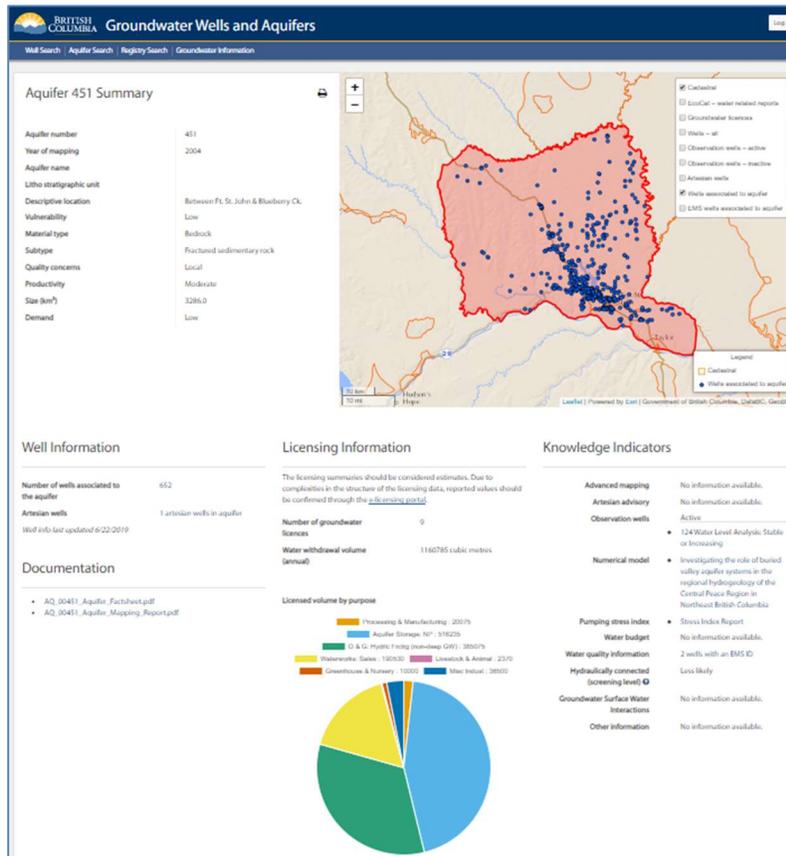
- Number of wells associated to an aquifer
- Licensing information, including the number of groundwater licenses issued within an aquifer and estimated licence volumes
- Documentation related to aquifer mapping reports and aquifer factsheets

- Links to other available resources, including artesian advisories, numerical models, and water budgets

Observations

Some of the challenges that the project has encountered so far have been related to data integrity, information privacy, incompatible databases, and coming up with standardized methods that are appropriate for the various scales and varying levels of available knowledge of the nearly 1300 provincial aquifers.

Additive Information



References

GWELLS application: <https://apps.nrs.gov.bc.ca/>