

Green Scene: Appreciating our Water

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Clear-flowing Scott Creek enters the sometimes turbid Coquitlam River. *Ian McArthur photo.*

Spring might be more on your mind right now than World Water Day which takes place every March 22 since it was first declared by the United Nations twenty years ago. This year, the UN has declared the focus of World Water Day should be on co-operating to share water use. Given that fresh water is a scarce resource in many parts of the world, co-operating to share its use and maximize its benefits only makes sense. We also need to ensure that water is not polluted and degraded by human use.

It has often been said that Canada is a water-rich nation with about two thirds of the world's supply of fresh water. However, this is a bit of an over-statement given that much of this water is really fossil water left over as a legacy of the ice ages; it consists of glacial meltwater or is still frozen as ice. Canada's share of renewable fresh water accounts for about 6 - 9% of the world's supply - less than the portion found in Brazil, Russia or China. Of our renewable water supply, we currently use only 2% for residential, agricultural or industrial uses and store another 4% behind dams to generate electricity. However, most of this renewable water supply is located far from population centres; 60% of it flows north into the Arctic Ocean or Hudson's Bay. Thus, we are not quite as water-rich as some people think. In particular, the prairie provinces and the interior of BC often experience periods of drought with insufficient water for agriculture.

Fresh water is one of the services provided by nature through the hydrological cycle. Our mountains in BC act as water towers that capture and store water, mostly in the form of snow, and slowly release it over the warmer and drier months to support downstream ecosystems. Like most animals, we could survive only a few days without a drink of water. We also rely on water to support the agricultural endeavors that feed us.

To my mind, the highest and best use of water is to sustain ecosystems including the fish that live in our streams and rivers. Water withdrawals to provide people with drinking water and allow for irrigation to support farming should always be balanced against such ecosystem needs. Instead, when water is licensed for use by the provincial government, the needs of people are typically given the highest priority. In fact, the province follows an archaic system where the first water licence granted takes priority over all others in a time of scarcity. What's worse, there are streams in the dry belt of BC where most of the water is allocated for people and agriculture with essentially nothing left for fish and wildlife. A few years ago, there was a provincial initiative to improve our Water Act; unfortunately, this process seems to have become stalled and forgotten.

A greater challenge with water allocation comes with meeting the needs of industry which can have huge appetites for water. Often, industrial processes generate large quantities of polluted water. For example, in Alberta's tar sands, the extraction of oil requires 1.5 - 4 barrels of water for every barrel of oil produced. Some of the water used by the tar sand industry is withdrawn from the lower Athabaska River where reduced summer flows as a result of climate change could soon be threatening the survival of fish – along with all pollutants which leach back into the river from the tar sands. Tar sands mining activities have created highly toxic tailing ponds which now cover 175 square kilometers of land. What's worse, these tailing ponds are estimated to be leaking as much as 12 million liters a day into the surrounding land and rivers. Too often, the attitude of industry is to use lakes and rivers like a garbage dump. Their solution to pollution is dilution. The problem is that someone is inevitably living downstream.

The situation is not much better in northeastern BC, where fracking activities to extract natural gas also require huge amounts of water which become contaminated with petrochemicals used for extraction. In fact, a study in 2011 indicated water permits issued for fracking amounted to more than twice the water used in the Greater Victoria area by residents and businesses. In late 2012, a petition was circulated in the Fort Nelson area to oppose the granting of water licenses for fracking which would allow industry to extract and pollute billions of liters of water from the Fort Nelson River.

Without a doubt, water is one of our most precious resources. While we are fortunate to have what appears to be an ample supply in Canada, I do sometimes wonder if we have the collective wisdom to manage it well and keep our rivers flowing clear and unpolluted.