



Many Canadians mistakenly believe that the country has endless freshwater supplies. While it is true that Canada has almost 20% of the world's freshwater supply, only a small fraction of that is *renewable*. With increasing adverse effects of climate change – particularly in Canadian Arctic region, Canada faces major challenges with freshwater quantity and quality.

Not all freshwater is usable

Freshwater from precipitation (rain and snow) is an integral part of the hydrological cycle of water and it is considered a renewable resource. The hydrological cycle is repeated annually, running off the land forming streams and rivers, eventually finding their ways to seas and oceans.

Lakes, wells and reservoirs, on the other hand, are considered non-renewable resources because it takes longer times for their supplies to be replenished.

Renewable water resources from precipitation runoff are the true measure of freshwater availability. If consumption exceeds available renewable freshwater resources, it becomes unsustainable and threatens availability of freshwater in the future.

Unfortunately, even renewable freshwater resources are not always accessible. For instance, Canada has 7% of the world's total renewable freshwater supplies. While this figure is quite generous for its 32 million inhabitants, more than half of this water drains northward to the Arctic Ocean and Hudson Bay. As a result, it is not available for 85% of Canadians who live along the country's southern border.

The Prairies

The Prairie Provinces of Manitoba, Saskatchewan and Alberta are particularly susceptible to freshwater supply problems due to low precipitation levels. Such areas, Alberta in particular, were able to thrive by unsustainable consumption of freshwater from aquifers and rivers draining from melting glaciers in the Rocky Mountains. Historically, this region has experienced severe drought episodes for many centuries. Although the 20th century was a particularly wet period, scientists predict that the 21st century will not be favorable and will further diminish freshwater supplies.

Recognizing the Challenge

Canadians must recognize the looming threat to our freshwater supply and abandon the myth of abundant freshwater supplies because it is simply not true.

Water conservation efforts on individual and collective basis are very crucial to control our current unsustainable consumption rates (which is about twice the per-capita use of Europeans). Otherwise we risk serious water crisis for future generations.

