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SCIENCE VIDEO

Does Canada need to conserve it's water?

Canadians know the importance of our freshwater supply, but by understanding how we use it and where it goes, we can use our supply even more responsibly.

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From snow-dusted glaciers to thundering rivers to vast expanses of mirror-surfaced lakes, Canada is a country with abundant freshwater. But, with the world facing a freshwater crisis, Canadians have the increased responsibility of being the guardians of 20 percent of the planet's precious freshwater resources. By knowing where our water comes from in Canada and where it goes, we can use it even more responsibly—setting an example for the rest of the world in the process.

Where does our water come from?

Like anywhere else in the world, Canada's water follows a hydrological cycle: it falls in various forms of precipitation, and runs off the land as streams and rivers before flowing into the ocean, evaporating and starting again. However, in some areas, water has a longer cycling time, either locked up in glaciers or slowly seeping through layers of rock to collect in underground reservoirs known as aquifers.

How much of our water can we actually use?

Water that flows into rivers from rain and snowmelt is considered a renewable supply because it's replenished on a yearly basis, although seasonal averages are affected by factors such as climate change. Non-renewable freshwater is usually groundwater that collected hundreds, if not thousands, of years ago when an arid region was considerably wetter. These resources can take a lifetime to renew, and so overuse could see them too easily depleted. Of Canada's 20 percent of global freshwater resources, only around 7 percent is

considered renewable, and most of that drains north toward Hudson Bay and the Arctic Ocean—away from the 85 percent of Canadians that live along the southern border. But, considering that Canada's inhabitants make up half a percent of the world's population, this is still a plentiful supply if used wisely.

Where does Canada's freshwater go?

At around 9 percent of Canada's total freshwater use, households account for the third highest consumption, after thermal-electric power generation and manufacturing. Domestically, up until 2005 Canada was quite a thirsty nation with Canadians using around 330 liters of water each day—twice as much as the average European. Today improvements in the water efficiency of household appliances mean Canadians now only use around 250 liters per person each day. This is fantastic progress that we can further improve upon, especially in places like the bathroom since over half of our daily water intake goes toward activities like washing and cleaning—just flushing the toilet uses the equivalent of 200 bottles of water!

What can we do to save our water?

Despite a slightly higher than average consumption, we still only use around one percent of our annually renewable water, and we have opportunities to use even less of it. Metering helps households to monitor their water usage, and some provinces have introduced plumbing codes that now require new buildings to be more water conserving.

Why is it important that we do?

Although Canada has abundant renewable freshwater, how much water each region receives varies based on location, drought, or demand. In urban populations especially, increasing demand, climate change, and the high cost of replacing aging infrastructure will likely make sustainable water management more difficult in future. Canada does recycle its freshwater, but on a small scale in isolated areas, and largely for agricultural use in areas like British Columbia and the Prairies. So, as municipal water supplies decrease or degrade in the future, water reuse in Canada will likely have to increase; in the meantime, the easiest and best answer may simply be to use less water.

Canada can lead by example

As responsible water stewards, we can take further action to show the rest of the world how to conserve and sustainably use water. Fitting faucets with aerators and installing modern, dual-flush toilets help to achieve the same results with much less water, while simple habit changes like only washing full loads of clothes and turning the tap off while brushing teeth also result in substantial savings. And it all adds up—just reducing time spent showering by two minutes can save around 2,600 liters of water per month, and not pre-rinsing dishes before loading the dishwasher saves up to 75 liters per load.

These are small, water-conscious choices that each of us can make every single day. And, if a water-rich country like Canada continues to reduce its consumption, the rest of the world will likely agree that they should, too.

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