

FLUSHING THE FUTURE?

■ A UVic research group is warning of dire consequences if Canadians don't seriously curb their consumption of waters. Thomas Winterhoff reports

The massive power blackout that plunged millions of people in the eastern United States and Canada into chaos and darkness in August highlighted the critical weaknesses and inherent dangers of an antiquated and seriously flawed power grid.

But a University of Victoria researcher says that the problem that occurred this summer was also a harbinger of what can happen when any large utility infrastructure system reaches a point where its own inadequacies can bring it to a breaking point.

Oliver Brandes suggests that Canada's water supply systems could be facing a similar crisis in the years ahead if local, regional and national decision-makers don't change the way they think about our water resources and institute new policies to deal with the growing threat.

"Hopefully it won't be a crisis (that prompts it), like the power outage in Ontario," he says. "Certainly the consequences of a 'water outage' are far more severe than something similar for power..."

With an electrical blackout, he adds, affected residents may have to sit in the dark for a couple of nights. But if they don't have water for three days, the problem could potentially be much more serious.

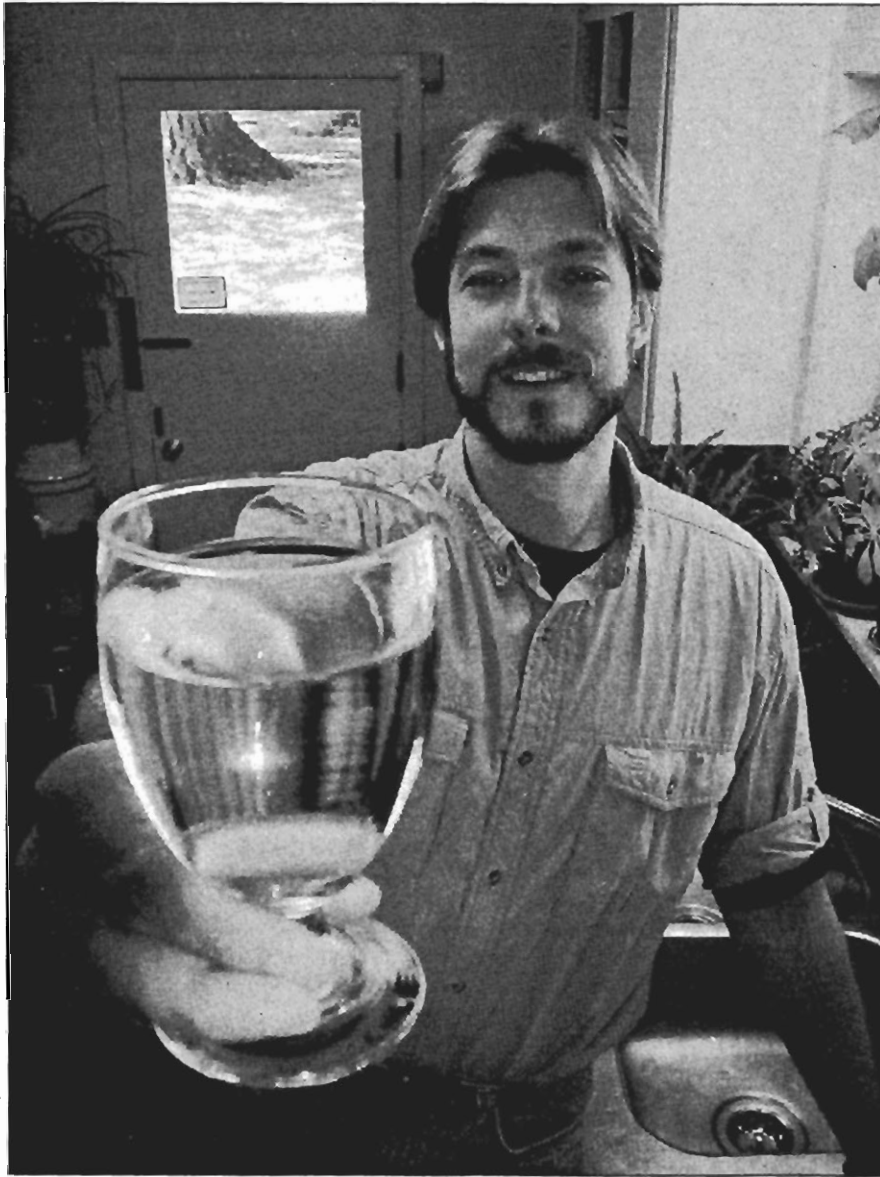


PHOTO COURTESY OF UVIC COMMUNICATIONS

Oliver Brandes wants Canadians to take its water more seriously. For more information on the POLIS project, log onto the Internet at www.polisproject.org. The *Flushing the Future? Examining Urban Water Use in Canada* report can be downloaded at www.waterdsm.org.

"We have the potential to really be a 'world water leader' in how we approach the issue and, beyond that, to really reduce consumption..." he points out, suggesting that Canada could learn a great deal from some of the practices being used elsewhere in the world.

The POLIS group is advocating a strong shift in priorities on the part of Canadian water consumers and all levels of government, in order to better reflect the fact that water is a vital global resource and should not be taken for granted anywhere. "But what we also want to try to do is look within Canada to show the huge variance (between regions) and to show how (there is) potential to reduce water usage without necessarily impacting people's lifestyles," he notes.

The methods that could be used to do that vary greatly in terms of the scope, cost

and technology required. From complex infrastructure changes to relatively simple solutions — such as replacing huge expanses of lawn with drought-resistant native plants or using toilets that greatly reduce the amount of fresh water used for each flush — there are plenty of things Canadians can do to lower water consumption levels.

Currently, about 40 per cent of all fresh water being used domestically gets flushed down the loo. Whereas jurisdictions like Australia and Singapore rou-

Working alongside principle investigator Dr. Michael M'Gonigle, Brandes is a key member of UVic's POLIS Project on Ecological Governance — a scientific think-tank involving researchers from the university's faculty of environmental studies and the faculty of law. The group has recently released a comprehensive report on Canada's current water use patterns, entitled *Flushing the Future? Examining Urban Water Use in Canada*.

The two-year project aims to analyze the demands being placed on the nation's urban water systems and to recommend ways to address current or projected deficiencies.

Brandes likens the project's three-step process to that of a medical check-up: an examination, a diagnosis and a prescription designed to address the system's ills. The recently released report concentrates on the examination portion of that check-up.

"It's meant to be an overview," the POLIS research associate says. "It's meant to take a look at water in Canada in the global context and (with global) significance — always with an eye to the urban environment."

One of the things the document uncovered was a remarkably wide range in per-capita water consumption in various Canadian towns and cities. The residents of Charlottetown, Prince Edward Island, used only 156 litres per person per day, while the denizens of St. John's, Newfoundland, used an average of 659 litres per day. Greater Victoria had a per-capita usage of 340 litres per day — close to the national average for the 20 cities surveyed.

Water gluttons

In terms of the rest of the world, Canada is a water glutton, consuming an average of 343 litres of fresh water per person every day within the residential sector. That's more than double the consumption rate of most European nations and far in excess of many other nations around the globe.

"That's what we want to draw out in the report," Brandes explains, "basically, that Canada is a hugely intensive water user. We use on the order of two to five times as much water as many other developed nations. I think a huge proportion of that is quite literally wasted, hence the title (of the report)."

Part of the reason why Canadians use so much water and why there is such diversity in water usage rates amongst urban users is that (in this country, at least) water is both plentiful and cheap. Consequently, there is little incentive for most Canadians to make serious attempts to conserve water.

"We really don't know how much water we use and we don't know where it's going," Brandes states. "We don't know where the leakage is, because it's simply not an important issue. It will be, once we have a water 'outage' or a water crisis."

Often, it's only when drought conditions hit (as happened in the Capital Region last year and in Greater Vancouver this summer), that many urban residents are forced to think about the amount of water they use and make adjustments to their behaviour to adapt to the changing conditions.

Brandes says there is a need to create "models for sustainability" in Canada that would also have applications well beyond our borders.

"The message (of the report) is that we need to take water seriously as an issue and that means all the way through various levels of government — meaning a homogeneous and more united approach."

Oliver Brandes

change, water pricing reform and innovative approaches to reuse and recycle water.

"The message (of the report) is that we need to take water seriously as an issue," Brandes notes, "and that means all the way through various levels of government — meaning a homogeneous and more united approach."

Brandes acknowledges that politicians who advocate radical changes to any given municipality's water pricing structure may run the risk of committing "virtual political suicide". However, by not reviewing how (and how much) we pay for our water, the odds of potentially innovative solutions coming to the forefront of the water planning process is greatly reduced.

"I'm not sure that we have an easy answer at this point, but I think that there's a role for all levels (of government to play)," he says.

Decision-makers, the POLIS report suggests, need to take water issues more seriously and begin working on solutions for the future.

Before we simply increase the available supply of water, Brandes notes, we have to ask ourselves if we have done everything possible (and practical) to: mitigate and control demand; promote conservation; bring in the best available technology; and to create an environment that will allow the best water-saving technologies to be developed.

"We are approaching that cliff or that precipice where we can no longer expand. In our case, the Sooke watershed is limited..." Brandes explains. "If we keep with our current mindset, in 2013 — which really isn't that far away — we will be dealing with that issue."

tinely use fixtures that only consume two or four litres per flush, the average toilet in B.C. is probably in the range of 13 litres per flush, with some running as high as 20 litres.

Technology exists to conserve

It's not as though the technology needed to conserve water doesn't already exist, says Brandes. It's more a question of community and political leaders planning ahead for the future, for a time when we may have less flexibility and fewer financial resources to change the nature of our water delivery systems.

The efficient management of urban water use in the short and medium term will most likely involve a combination of public education, regulatory