

# **Water in Canada: Myths and Realities**

Harry Swain





afford consulting engineers on call, or microbiologists, or even the most elementary field testing of water quality?

Part of the answer lies with the complacency of many Canadians. We believe nature is benign and that natural waters are inherently safe. In consequence we indulge our municipal politicians in local empire-building. For many municipalities, the waterworks are their biggest enterprises, and the ability to appoint one's political friends to the governing body can be rewarding in several ways. When threatened with consolidation, or even the idea of contracting out to an organization with manifest technical and operational skills, they tend to wrap themselves in the flag of local particularism and decry the loss of local control. This is certainly the case in Ontario, which has at least five times as many water providers as it ought to have. In B.C., we believe that if it's worth doing a thing badly, we should set new world records. We have a third of Ontario's population but about fifteen times as many water providers—about 4,000. All across the country, pusillanimous provincial politicians indulge their municipal confrères by running risks with public health, crossing their fingers that the next Walkerton happens on somebody else's watch.

So yes, unfortunately, there are many places in BC and across the country where the prudent traveler, unequipped with the relevant antibodies, might want to boil the water, or subsidize the plastics industry.

### ***Water treatment's no good, but sewage is just fine***

During the Walkerton Inquiry, the noted Quebec microbiologist Pierre Payment observed that Lake Ontario was a bathtub whose waters circulated slowly counter-clockwise, and that both intakes and outfalls tended to be about 10 meters down. In other words we go out of our way to source our drinking water from the ring in the bathtub.

The problem with sewage treatment in Canada is not so much the standards, though they are deficient in at least one important way, but because enforcement stinks. In a word, the provincial enforcers do not want to cause difficulties for the poor darling municipalities—partly on political grounds, and partly because the cost would just blow back on them anyway. Note that if wastewater7 Tc-19..15 TD0 Tcnada is

trace chemicals. Few scientists want to go on the record with this, however, as they value a quiet life.

The federal and provincial governments have been wrestling for some years with an update to sewage treatment standards. It is this movement that has resulted in nonsensical orders to Victoria, for instance. But the new—really, restated old—standards do not deal with the newer chemical problems. One suspects that this has much more to do with provincial departments of finance wanting to minimize costs than it does with any deep concern for aquatic environments or even public health. It never ceases to amaze me that politicians and media who are quick to jump on any perceived conflict of interest among political figures continue to ignore the huge, systematic conflict in the setting of water and wastewater standards. Which leads to the next myth:

### *Our regulators are on top of this*

The cheque is in the mail, and I'll still love you in the morning. If in general we have spotty enforcement of our existing regulations, at least our larger and better utilities have pretty rigorous internal quality control procedures, and we have a distinguished professional association of which ACWWA is part which is continually working through such important ways as courses, publications, and a move toward accreditation to improve performance. Rather it is the standard-setting process itself I'd like to draw your attention to.

Here's how it's supposed to work. Health Canada convenes a federal-provincial-territorial committee of officials to draft standards, based on the Department's review of the global scientific effort. MAC (maximum allowable contaminant) levels are proposed and published for discussion. The eventual scientific consensus is codified in guidelines, which in turn are all but universally adopted as regulations by the (mostly provincial) bodies that are responsible for water quality. The whole expert process is removed from the partisan political arena, and the standards that result reduce risks to the public to as low a level as practicable. Since treatment costs are low, this is a very low level of risk indeed.

Now here's how it actually works. Mid-level bureaucrats from environment or like ministries are assigned to the committee. They may have expertise in one or more aspects of water treatment, but they are more likely to be middle managers whose technical training, if any, is neither recent nor deep. They are given little guidance from home office except for the basic one: don't do anything that is likely to have a measurable fiscal impact on the province or its creatures the municipalities. They are thus guided more by cost than rational equimarginality of risk in setting their standards. The consequence is that we have ridiculously high standards from some rare contaminants coupled with a reluctance to make filtration a mandatory part of the treatment chain. It was this longstanding failure, pushed behind closed doors by provinces whose names

biological effect is noted. A threshold is set at, say, one or two magnitudes lower, just to be safe. Then another magnitude or two is subtracted for interspecies difference, and maybe another for size differences. The idea is to set a limit for human consumption such that, if a person were to drink two liters of water contaminated at this level for seventy years, she would have a 1 in 100,000 greater chance of developing a neoplasm.

Now this is what I call theological standard-setting. It cannot be measured. There is no way you could pick out an extra case of cancer in a population of 100,000 even if you had seventy years to wait. The standard exists as a statement of faith only. We can afford these heavenly, these faith-based standards only because they so rarely come into play, and therefore cost very little. Of course, to ensure they do not come into play, we are careful not to measure Becquerels per liter of  $U_{235}$

*The real problem with our coastal waters is DFO*

This is tempting, as the Department that put an end to the Atlantic cod and is busy doing its holy work with the Pacific salmon, vies closely with Heritage Canada as the goofiest department in the whole federal government. This is true even though DFO is a big player in the Bedford Institute, one of the few federal glories in the water world. But tempting as it is to malign a department that requires putting a potty on my sailboat while Victoria gaily flushes straight to sea, the truly guilty party in our coastal waters and beyond is carbonaceous humanity in general.

The bottom line is that even with all the new attention to water matters in recent years, we are still in thrall to old myths. We are not, in public policy terms, driven by empirical evidence. We seem to be ignoring the big issues like ocean acidification, preferring to focus on bogus ones like American predation or the cost of doing things right. We believe, with unexamined inconsistency, that we have all the water in the world as well as looming shortages. We ignore the most powerful tool in the policy kit—pricing—and assume that some change in the machinery of government, such as a national water strategy led by Ottawa on dubious constitutional grounds, or a declaration that water is a human right, will fix things.

I don't think the machinery is the problem. We have lots of organizations, in the federal and provincial governments and in the universities, which are doing excellent work and could take on new work commensurate with the scale of the issues. What we lack is an informed and demanding population, which is the only thing that will force attention and resources from the political classes. I think professional organizations like the CWWA and its constituents should take on a larger and more insistent role in the public arena, based on the kinds of serious analyses of which they are uniquely capable.

Thank you for your attention. Realizing that one or two of the things I've said may be mildly contentious, I would welcome the correction of my views.